ARTICLE 727 — INSTRUMENTATION TRAY CABLE: TYPE ITC

3-502 Log #208 NEC-P03 **Final Action: Reject**
(Article 727)

Submitter: David Wechsler, The Dow Chemical Company
Comment on Proposal No: 3-217
Recommendation: Insert "or" following the end of the first sentence of the listing, and change the first line number from (1) to (2) as indicated below:

I thank the Panel for their continued support for retaining Article 727 and for the truthful, concise, and straightforward panel statement offered.

I would also ask the Panel if they would support a panel statement, their agreement with a correct interpretation of the Articles ITC, vs 725 PLTC as explained. No text changes are being requested; only the majority Panel opinion.

Substantiation: The Panel is asked to consider the construction aspects of Type ITC cable. There is an interpretation that the construction of Type PLTC and ITC, especially with regard to the use of a foamed cable construction, that Type ITC cable cannot be made from this construction because ITC is not a "power-limited" cable. Presumably PLTC is an example of a "power-limited" cable. Clearly the words, "power" and "limited" appear in the name of the Type PLTC cable. But does this make the cable "power-limited?" If one carefully examines the NEC texts, especially those from the 1996 NEC cycle, one can see that the cable construction insulation ratings for types ITC and PLTC were the same; both are 300 volts. (See paragraph 727.6 and 725.71(E)). Additionally, voltage and current limitations for Article 725 class 2, Class 3, and PLTC cables were relocated to the NEC Appendix back in the 1993 NEC cycle when the members of Panel 16 then concluded that it was not possible for "users" to build a Class 2 or Class 3 power source under Article 725, and that the information contained in that table was for listing purposes only. This table, then and now in its relocated area, indicate that the maximum voltage for PLTC is found for Class 3 "Over 100 and through 150" and is shown as being 150 volts and the maximum current found and not subject to other considerations is 5 amperes. (See Chapter 9, Tables 11 a or 11 b). This was the same basis established for ITC as reflected in 727-5. Note that in Article 727, this was not 150 volts at 5 amperes as some have thought the wording under 727-5 reflects, but the not to exceed conditions of a maximum of 150 volts or the maximum of 5 amperes. So while it is clear that PLTC does have NEC requirements regarding the applied voltage and current, so does nearly every other cable within the NEC. PLTC is called PLTC because it was founded as a needed tray cable, but it was for an entirely different type of electrical circuit; a signaling/control circuit. This application was a low voltage application, but not a low voltage as being under 600 volts like TC, but even lower. It also was not the 600-volt class of Class I signaling circuits as identified in Article 725. Additionally, it was not the "door bell" Class 2 circuit of Article 725 either. However, the alignment with Type TC and cable tray use, and a concept of a Class I signaling circuit that was "power-limited" by name, but with "lower voltage" signals became the basis for the naming of Type PLTC as it did. Lastly, in comparing the NEC cable construction requirements of types PLTC (725.71(E) and ITC (727.2, 727.5, and 727.6), they will be found to be the same (NEC 1996). So it seems not only very odd that a cable construction that is suitable as being a listed PLTC, cannot exist as Type ITC under the identical signaling conditions, as one prominent listing US - OSHA recognized NRTL organization suggests and applies, when the original ITC proposal was effectively the use of PLTC in a new chapter with a new marking.

The action of the Panel is being sought to reaffirm, by a Panel statement, the Panel's support of the position based upon the original 1996 ITC proposal of Type ITC as a cable construction equivalent to that of Type PLTC, but within its own Article, Article 727.

Panel Meeting Action: Reject
Panel Statement: No specific location was provided to place the word "or." CMP 3 does not wish to edit a rejected proposal and will decide on the suitability of comments furnished with specific words for considerations and will not use the ROP and ROC process to make interpretive statements on information that may or may not provide proper and complete information.

In addition, while the substantiation does provide historical information on the origin of ITC cables and circuits with its similarity to Class 3 systems in Article 725, the reason ITC has its own article is to provide total separation to ensure there is no mixing of the two systems. As stated in the substantiation, the maximum amperage permitted for an ITC circuit is 5 amps with a maximum 150 volts for the circuit. With a Class 3 circuit, the maximum voltage permitted is also 150 volts; however, the current limitation is a maximum of 1 ampere. The PLTC cables could certainly be dual rated as PLTC for power limited applications for Class 2 and 3 as well as an ITC rating. By establishing a specific cable with a very limited use for industrial facilities but exceeding the 1 ampere maximum for Class 3 circuits, only ITC cable listed for this application is permitted in 727.4 and this article.

Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-503 Log #1254 NEC-P03 **Final Action: Reject**
(727.4)

Submitter: Charles M. Trout, Maron Electric Co. Inc.
Comment on Proposal No: 3-219
Recommendation: This proposal should be Accepted in Principle. Do not delete as the proposal suggests but rather add a second and third paragraph to the 727.4 to read:

The name(s) of the qualified person(s) shall be kept in a permanent record at the office of the establishment in charge of the completed installation and at the office of the Authority Having Jurisdiction. Notification of any changes in the employment of the designated qualified person(s) shall be made to the office of the Authority Having Jurisdiction.

A person designated as a qualified person shall possess the skills and knowledge related to the construction and operation of the electrical equipment and installation and shall have received documented safety training on the hazards involved. Documentation of their qualifications shall be on file with the office of the Authority Having Jurisdiction and the office of the establishment in charge of the completed installation.

Substantiation: It was not necessarily my desire to have the wording in 727.4 deleted, if the wording could be changed to include prescriptive requirements that could ensure that qualified persons are actually performing the maintenance and supervision as required by 727.4. The National Electrical Code is a prescriptive code and it is the technical committees' responsibility to ensure that prescriptive requirements are present for the Authority Having Jurisdiction to use. The panel statement is correct, "it should not matter if the qualified person is separately contracted or is employed by the owner of the facility." What matters is if the qualified person is actually present and is documented as a qualified person. The only way to appropriately apply 727.4 is to provide prescriptive requirements that the Authority Having Jurisdiction can use to enforce the intent of 727.4.

It is difficult to understand how it is possible to relax requirements for safety in a Code that tells us in 90.1(B), "this Code contains provisions that are considered NECESSARY for safety." This section further states that "Compliance therewith and proper maintenance will result in an installation that is ESSENTIALLY free from hazard but NOT NECESSARILY efficient, convenient, or ADEQUATE for good service or future expansion of electrical use." It appears to me that this tells us that these requirements are the MINIMUM requirements for safety and anything less will result in an installation that is NOT FREE FROM HAZARD.

Proponents of this travesty, knowing the truth in this, attempt to circumvent the obvious degradation of safety by using phraseology such as "the installation is under engineering supervision" or "a qualified person will monitor the system." What is monitoring the installation? What does engineering supervision mean?

I have submitted several proposals to delete these exceptions to requirements for safety but they were all rejected. Perhaps in the comment stage, enough persons will comment in favor of accepting these proposals or at least accepting them in a manner where some prescriptive requirements will be added to accurately describe what "engineering supervision" entails. What does "monitoring" the installation mean, what type of record keeping is necessary to assure compliance, what is a "monitor" or what is a "qualified person?" How is documentation of the qualifications and presence of a "qualified person" accomplished by the Authority Having Jurisdiction?

Without these prescriptive requirements, these exceptions to the requirements for safety appear to be "just another subterfuge to avoid compliance with the safety requirements of the National Electrical Code without regard to putting persons and equipment at risk."

Panel Meeting Action: Reject
Panel Statement: Section 90.2,Scope, states what the NEC covers and does not cover. It does not cover personnel matters or record keeping, although Article 80 (2002 NEC) has recommendations that might be useful.

Text, as suggested in the recommendation, may have a place in NFPA 70E, the Electrical Safety Requirements for Employee Workplaces, or in Article 80 in the NEC but does not belong in Article 727. There are many locations in the United States that are in unincorporated towns or counties where there aren't any AHJs. This text would make it mandatory for all installations using ITC to keep records of the qualified persons, even where there are no AHJs. This should be a function of local municipalities.

Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-504 Log #977 NEC-P03 **Final Action: Reject**
(727.4(4), 727-4(5) & 727.4(6))

Submitter: Dorothy Kellogg, American Chemistry Council
Comment on Proposal No: 3-220
Recommendation: The panel should have rejected limiting this "open" (exposed) installation method to just between a cable tray and the equipment and should have supported allowing this between pieces of equipment as well.
Substantiation: If cables meet the same crush and impact requirements, and are identified for use in "open" (exposed) wiring, then both should perform the same when subjected to identical conditions in the field. There is no technical reason to limit this installation method to just between a cable tray and the equipment. This installation method should be allowed where it is needed to run between two pieces of equipment. There is no difference in the conditions the cable will be subjected to nor the requirements to protect the cable whether it is installed from a cable tray to a piece of equipment, or if it is installed in the same manner, routing, and distance from one piece of equipment to another. It will add confusion and unnecessary burden in the field to allow this cable to run from a cable tray to the first piece of equipment then require a different installation method from that equipment to the next piece of equipment. There is no technical substantiation as to why installation between cable tray and equipment is allowed and between pieces of equipment is not.
Panel Meeting Action: Reject
Panel Statement: The panel reaffirms its action on Proposal 3-220 and continues to reject the recommended deletion of text in 727.4(6).

This cable is not intended as a general wiring method as would be required if used for unrestricted connections between various pieces of electrical equipment. This system and its special cable was developed as an alternative to Class 1 circuits with special permission to utilize 300 volt insulation rather than being restricted to 600 volt insulation as required for Class 1 circuits. MC cable and ITC cable in compliance with 727.4(4) as well as other wiring methods from Chapter 3 can be used to connect the electrical equipment with compliance of that specific wiring method article for supporting and installations.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Negative: 1
Explanation of Negative:

PACE: The panel should have Accepted the proposal and comment. The continued use of the term "open wiring" only leads to confusion. Limiting the use of this installation method adds confusion also. Allowing an installation method from a cable tray to a device, and then requiring a different installation method from the same device to another device only adds confusion and is not technically substantiated. If the cable is suitable for the use and installed correctly, it will perform the same and be subjected to the same environment whether or not it is installed between a tray and a device, or between a device and another device. Installation methods for cable types should be consistent. Having consistent installation methods results in higher quality, safer installations.

3-505 Log #3420 NEC-P03 **Final Action: Reject**
(727.4(5)(6))

Submitter: H. R. Stewart, HRS Consulting
Comment on Proposal No: 3-221
Recommendation: Accept proposal as written.
Substantiation: This proposal adds the necessary wording of "continuously supported". This would then agree with the requirements of Type TC and PLTC. They should all be the same.
Panel Meeting Action: Reject
Panel Statement: The submitter has not provided any technical substantiation to answer any of the panel's concerns as stated in the panel statement in the proposal. The submitter also does not provide any information that would substantiate his allegation that ITC cable and TC or PLTC should be installed in the same manner. ITC cable and its associated article were inserted in the NEC in the 1996 cycle to answer a very specific concern of the industrial facilities for instrumentation and control cable with an amperage that was higher than permitted for Class 3 circuits but lower than Class 1 circuits. It permitted a cable with 300-volt insulation in a much smaller conductor size with a higher ampacity than permitted for Class 1 circuits.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Negative: 1
Explanation of Negative:

PACE: See my explanation of negative vote on Comment 3-504.

ARTICLE 760 — FIRE ALARM SYSTEMS

3-506 Log #1355 NEC-P03 **Final Action: Reject**
(760.2)

Submitter: Barry F. O'Connell, Tyco Thermal Controls
Comment on Proposal No: 3-128
Recommendation: Circuit Integrity (CI) Cable. Cable used for remote-control, signaling, and power-limited circuits that are critical to life safety, property protection, or emergency management in order to ensure continued operation for a specified time under fire conditions shall be listed as circuit integrity (CI) cable or listed as part of an Electrical Circuit Protective System.
Substantiation: If it should happen that the panel accepts the concept presented by the proposal, then Electrical Circuit Protective Systems should be included in the definition.

"Circuit Integrity" was introduced in Article 760 in the 1999 code, and given a common sense definition that referred to a cable's capability "to ensure continued operation of critical circuits during a specified time under fire conditions". In a FPN, it references UL2196 as the required fire-test - the same benchmark that applies to Electrical Circuit Protective Systems. This definition however is narrow, because it ignores the other "Electrical Circuit Protective Systems".

The additional words are consistent with the definition in the Panel Action on Proposal 3-255, as follows:

"Fire Alarm Circuit Integrity (CI) Cable. Cables suitable for use in fire alarm systems to ensure survivability of critical circuits during a specified time under fire conditions shall be listed as circuit integrity (CI) cable or listed as part of an Electrical Circuit Protective System".
Panel Meeting Action: Reject
Panel Statement: The Electrical Circuit Protective System is not of itself a cable and should not be included in the definition for circuit integrity cable. A cable can certainly be used in an electrical circuit protective system but the system does not constitute only a cable but an assembly of components, as well as support procedures necessary to provide a certain fire rating as it has been tested.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-507 Log #3830 NEC-P03 **Final Action: Accept**
(760.2)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-127
Recommendation: *Continue rejecting the definitions of the various types of plenum contained within this proposal.*
Substantiation: * There is no need for these definitions in the NEC. These definitions are not contained in NFPA 90A, but, more importantly, are not needed in the NEC. Acceptance of proposals using these terms exclusively by CMP 16 is not enough justification, in view of the rejection of proposals using these terms by CMP 3 in Articles 300, 725 and 760, to put the terms into the NEC.

* This comment recommends rejection of a subdivision of "other spaces used for environmental air" and rejection of granting priority to NFPA 90A on choices of wiring methods.

* The input from CMP 3 and from the NEC Technical Coordinating Committee makes it clear that the terminology used in 300.22 has served the NEC well and needs no change. It has also become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods.

* It has already been shown in detail by the fire hazard and fire risk analysis presented together with my original proposals (see for example the section on pages 2080-2091 of the NEC-ROP of the substantiation for my proposal 3-130) that there is no need to change the requirements, or limit the application, for wiring methods in plenums, because the fire safety record is excellent.

* The definition of "air duct" is unnecessary in Articles 725 and 760, as it has been adopted as a general NEC definition by CMP 1 in Article 100.

* I understand that this comment represents a change in some of the concepts the submitter believed when the proposal was submitted, but "even old dogs can learn".

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-508 Log #275 NEC-P03 **Final Action: Accept**
(760.3)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-228
Recommendation: Continue to reject this proposal.
Substantiation: The Technical Committee on Air Conditioning agrees with the panel action. Acceptance of this proposal would have created a conflict with NFPA 90A. "P" type plenum cables are permitted in ceiling cavity plenums and raised floor plenums but not in duct distribution plenums, apparatus casing plenums and air-handling unit room plenums.
This comment is one in a series of comments including 3-89, 3-90, 3-130, 3-169, 3-197, 3-228, 3-242, 3-251, 3-267, and 3-291.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-509 Log #1671 NEC-P03 **Final Action: Accept**
(760.3)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-228
Recommendation: Continue to reject.
Substantiation: I agree with both the panel action and panel statement to reject proposal 3-228. No technical substantiation has been provided that a change to the 2002 NEC language is needed or required. This comment represents the official position of the International Brotherhood of Electrical Workers Code and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-510 Log #1714 NEC-P03 **Final Action: Accept**
(760.3)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-228
Recommendation: Continue to reject.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.
The task group agrees with Panel 3's action and statement.
By accepting the majority of the suggested changes in a submitted comment for Proposal 3-94, "Other Spaces for Environmental Air" has been further subdivided into two separate spaces, ceiling cavity and raised floor plenums but the Panel still has maintained the electrical industry terminology associated with these spaces. Providing this further subdivision will enhance the usability of the NEC by making it easier to determine what other spaces are being referenced in this section. It will also improve correlation between the NEC and NFPA 90A.
The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-511 Log #2656 NEC-P03 **Final Action: Accept**
(760.3)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-228
Recommendation: Continue to reject this proposal.
Substantiation: CFRA agrees with the panel action.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-512 Log #3851 NEC-P03 **Final Action: Reject**
(760.3)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-228
Recommendation: Revise to read as follows:
760.3 Locations and Other Articles. Circuits and equipment shall comply with 760.3(A) through (F). Only those sections of Article 300 referenced in this article shall apply to fire alarm systems.
(A) Spread of Fire or Products of Combustion. Section 300.21. The accessible portion of abandoned fire alarm cables shall not be permitted to remain.
(B) Ducts, Plenums, and Other Air-Handling Spaces. Section 300.22, where installed in ducts or plenums or other spaces used for environmental air. Wiring methods installed in spaces covered by Section 300.22 (C) shall be permitted to extend not more than 150 mm (6 in.) beyond the limits of the space into a space covered by section 300.22 (B).
Exception: As permitted in 760.30(B)(1) and (2) and 760.61(A).
760.3 (C) through (F) to remain unchanged.
Substantiation: This comment accepts two recommendations by CMP 3: (1) not to go into detail on the types of plenums and (2) improving on the original proposal, which had as its primary intent to make it clear that wiring systems should be permitted to extend up to 6 inches into a more restrictive environment, without developing any limitations for their use in less restrictive environments.
Explanation:
* It is important that installers of wiring in plenums and other spaces used for environmental air be able to complete installations without having to change wiring methods in order to terminate their installation just outside the plenum area, because that will help them and prevent unwarranted increases in wiring installation costs. There are multiple examples in the NEC where materials are permitted to extend slightly beyond the original space, including the following: 110.26 (3), 210.52 (5) Exception, 300.50 (A) Exceptions 2 and 3, 426.22 (b), 520.42, 550.13 (G) (3), and Table 830.12. Moreover, the concept of using 6 inches as a small distance is used over 30 times in the NEC.
* This comment recommends continued rejection of a subdivision of "other spaces used for environmental air" and continued rejection of granting priority to NFPA 90A on choices of wiring methods.
* The input from CMP 3 and from the NEC Technical Coordinating Committee makes it clear that the terminology used in 300.22 has served the NEC well and needs no change. It has also become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, as a member of the Technical Committee on Air Conditioning, I believe the NEC panels should continue making their own choices regarding wiring methods.
* It has already been shown in detail by the fire hazard and fire risk analysis presented together with my original proposals (see for example the section on pages 2080-2091 of the NEC-ROP of the substantiation for my proposal 3-130) that there is no need to change the requirements, or limit the application, for wiring methods in plenums, because the fire safety record is excellent.
* I understand that this comment represents a change in some of the concepts the submitter believed when the proposal was submitted, but "even old dogs can learn".
This comment is one of a series of comments on Articles 300, 725, 760, 770, 800, 820 and 830, regarding "plenum cables". The philosophy behind all the comments is that the NEC is OK as published in 2002, but that 2 minor changes might represent improvements: (i) the clarification of the 6 inch extension of a wiring method into a more restricted environment and (ii) the clarification in the Fine Print Notes that a cable listed to NFPA 262 is listed both based on its "low-smoke" characteristics and its "low-flame-spread" characteristics, and that the two are not listed separately.
Also see comments from the chairman of the Technical Correlating Committee.

Panel Meeting Action: Reject
Panel Statement: The comment is rejected since there are construction methods that would permit the transition of cabling systems into raceway systems in more restrictive areas. For example, EMT or flexible metal conduit can be stubbed into the "other space for environmental air" from the more restrictive space with the transition between raceway and cable based on 300.16(A) or (B). The suggested text also includes all wiring methods, many of which are already acceptable for installation in fabricated ducts and plenums. This added text would limit any wiring method from extending further than six inches into the fabricated duct.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-513 Log #3862 NEC-P03 **Final Action: Reject**
(760.3(A))

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-131
Recommendation: *There is no consistency in the NEC on the removal of abandoned cables. This is primarily an issue with cables in Articles 645, 725, 760, 770, 800, 820 and 830. The wording should be as follows consistently: "Abandoned [cable type] cables shall be removed." It should also be contained in the section on applications of cables.*

760.3 Locations and Other Articles. Circuits and equipment shall comply with 760.3(A) through (F). Only those sections of Article 300 referenced in this article shall apply to fire alarm systems.

(A) Spread of Fire or Products of Combustion. Section 300.21. Abandoned ~~The accessible portion of abandoned~~ fire alarm cables shall be removed.

Substantiation: The issue here is the interpretation of the action required with respect to what is accessible. The issue of "accessible" cables creates confusion that makes the enforcement of the removal of abandoned cable "dicey" because it is unclear what "accessible" means. The NEC defines the following terms in Article 100:

Accessible (as applied to equipment). Admitting close approach; not guarded by locked doors, elevation, or other effective means.

Accessible (as applied to wiring methods). Capable of being removed or exposed without damaging the building structure or finish or not permanently closed in by the structure or finish of the building.

Accessible, Readily (Readily Accessible). Capable of being reached quickly for operation, renewal, or inspections without requiring those to whom ready access is requisite to climb over or remove obstacles or to resort to portable ladders, and so forth.

The phrase "the accessible portion of abandoned cables" is much vaguer than the definitions in the code, because the term "accessible portion" is not defined. Therefore, accessible portion is probably considered that length of cable that is within a few feet of the opening, and that can be cut off by reaching in. That is clearly not the intent of the code provision: the entire length of cable that can be pulled out should be removed.

Another possible interpretation is that this refers to excluding from removal those cables installed in the areas that CMP 16 calls "inaccessible ceiling cavity plenums and inaccessible raised floor plenums". The concept of those "inaccessible areas" was rejected by CMP 3 as inappropriate because there is no known fire safety problem with the present type of wiring methods, but it was approved by CMP 16. If this concept is approved, and the wording of "abandoned cables" includes the "accessible portion" concept, it would clearly mean that the NEC would permit some cables to be left permanently in place once abandoned. This was soundly rejected by the membership several times, in a concept upheld by Standards Council.

It is pretty obvious that the concept of removal of abandoned cable is not one where someone should try to tear down a building or cause structural damage to it just to remove cables "permanently closed in by the structure or finish of the building". I believe that we must trust in the intelligence of our code officials and electrical inspectors that they will not demand such actions. If there is a feeling that this is a possibility (which I cannot believe), it might be worth adding a Fine Print Note to the effect that removal of abandoned cables should not cause structural damage to the building. An example follows:

FPN: Removal of abandoned cables is not intended to cause structural damage to buildings.

Clearly, "the accessible portion of abandoned cables" is a misleading phrase which can lead to abundant misinterpretation. It should be eliminated in favor of the simpler "abandoned cables".

Panel Meeting Action: Reject
Panel Statement: The submitter's substantiation has provided the definition of accessible for wiring methods as capable of being removed or exposed without damaging the building structure or finish or not permanently closed in by the structure or finish of the building. This definition clearly provides the information necessary to determine the accessible portion of an abandoned cable versus the non-accessible portion.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-514 Log #1434 NEC-P03 **Final Action: Accept**
(760.3(B)(3) Exception No. 3 (New))

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 3-247
Recommendation: Continue to accept in principle.
Substantiation: The Signaling Systems for the Protection of Life and Property TCC supports the panel action.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-515 Log #1435 NEC-P03 **Final Action: Accept**
(760.3(B)(4) Exception No. 3 (New))

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 3-249
Recommendation: Continue to accept in principle.
Substantiation: The Signaling Systems for the Protection of Life and Property TCC supports the panel action.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-516 Log #1479 NEC-P03 **Final Action: Accept**
(760.3(C))

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals
Comment on Proposal No: 3-132
Recommendation: Contine rejecting this proposal.
Substantiation: • This comment recommends continued rejection of a subdivision of "other spaces used for environmental air" and continued rejection of granting priority to NFPA 90A on choices of wiring methods.

• The input from CMP 3 and from the NEC Technical Coordinating Committee makes it clear that the terminology used in 300.22 has served the NEC well and needs no change. It has also become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods.

• It has already been shown in detail by the fire hazard and fire risk analysis presented together with my original proposals (see for example the section on pages 2080-2091 of the NEC-ROP of the substantiation for my proposal 3-130) that there is no need to change the requirements, or limit the application, for wiring methods in plenums, because the fire safety record is excellent.

• I understand that this comment represents a change in some of the concepts the submitter believed when the proposal was submitted, but "even old dogs can learn".

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-517 Log #3136 NEC-P03 **Final Action: Accept**
(760.5)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-230
Recommendation: Continue to reject.
Substantiation: We agree with both the panel action and the panel statement to reject proposal 3-230. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-518 Log #1430 NEC-P03 **Final Action: Accept in Principle in Part**
(760.6)

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 3-232
Recommendation: Accept this proposal in principle. Revise 760.6 to read as follows:
Mechanical Execution of Work. Cables shall be installed in a neat and workmanlike manner. Cables installed exposed on the surface of ceilings and sidewalls shall be supported by the building structure in such a manner that the cable will not be damaged by normal building use. Such cables shall be secured by straps, staples, hangers, or similar fittings designed and installed so as not to damage the cable. The installation shall also conform with 300.4 (D) and 300.11.
FPN: A source of information describing industry practices can be found in ANSI/NECA 305-2001, *Standard for Fire Alarm System Job Practices*.
Substantiation: Accepting this comment will make the mandatory text of section 760.8 identical to sections in Articles 770, 800, 820 & 830. All of these section deal with communications/data/signaling wiring. See panel 16 actions of proposals 16-20, 16-81, 16-160 & 16-216. The fine print note is from the panel action on proposal 3-234.
Panel Meeting Action: Accept in Principle in Part
Accept the addition of the FPN to read as follows:
"FPN: One source of information describing industry practices is ANSI/NECA 305-2001, Standard for Fire Alarm System Job Practice
Reject the remainder of the comment.
Panel Statement: There was no technical substantiation given for deleting conductors from this section. The submitter did not provide any technical substantiation to add 300.11 to the requirements for fire alarm systems, other than Panel 16 added it for telecommunications. To effect a change in the NEC, a technical reason for the change must be given with information detailing the safety aspect that is enhanced by this change. The various sections dealing with mechanical execution of work do not necessarily require the same text, since each section deals with a different application.
Changes in the FPN were editorial in nature.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-519 Log #1805 NEC-P03 **Final Action: Accept in Principle in Part**
(760.6)

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 3-232
Recommendation: Accept in principle by adding "and 300.11" after "300.4(D)" in the last sentence of 725.6.
Continue to accept in principle the FPN revised by panel action in Proposal 3-234.
Substantiation: The proposal provides clarity. The additional reference to 300.11 makes the text read similar to the articles under the jurisdiction of Panel 16.
Panel Meeting Action: Accept in Principle in Part
Panel Statement: See panel action and statement on Comment 3-518.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

3-520 Log #3129 NEC-P03 **Final Action: Accept in Principle in Part**
(760.6)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-232
Recommendation: This proposal should have accepted in principle and revised as follows:
760.6 Mechanical Execution of Work. Fire alarm circuits shall be installed in a neat workmanlike manner. Cables and conductors installed exposed on the surface of ceilings and sidewalls shall be supported by the building structure in such a manner that the cable will not be damaged to normal building use. Such cables shall be supported by straps, staples, hangers, or similar fittings designed and installed so as not to damage the cable. The installation shall conform with 300.4(D) and 300.11.
FPN: Accepted industry practices are described in ANSI/NECA/BICSI 568-2001, Standard for Installing Commercial Building Telecommunications Cabling, and other ANSI-approved installation standards.
Substantiation: The above revised language will meet the intent of the submitter to show consistency with the language of 770.8, 800.6, 820.6 and 830.6.
Panel Meeting Action: Accept in Principle in Part
Panel Statement: See panel action and statement on Comment 3-518.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

3-521 Log #1190 NEC-P03 **Final Action: Accept in Part**
(760.6 (new 760-8))

Submitter: James E. Brunssen, Telcordia Technologies, Inc.
Comment on Proposal No: 3-232
Recommendation: Revise text to read as follows:
CMP 3 should reconsider their Action and accept Proposal 3-232 for correlation with the Panel Action of CMP 12 and CMP 16 on similar proposals. The proposed revised text contained in Proposal 3-232 continues to be appropriate and should be accepted. However, the reference to 300.11 should not be included. CMP 16 did not provide substantiation for the addition of the reference to 300.11, and as the submitter of the original proposal, the addition of the reference to 300.11 does not meet my intent.
Substantiation: Proposal 3-232 is a companion proposal and intended to correlate with similar proposals for 640.6, 760.6, 770.8, 800.6, 820.6, 830.7. CMP 12 accepted the proposal for 640.6; CMP 16 accepted the proposal in principle for 770.8, 800.6, 820.6, and 830.7. Rejection of this proposal will result in a lack of correlation across the affected articles and sections of the NEC.
Panel Meeting Action: Accept in Part
The panel accepts excluding 300.11 and rejects the remainder of the comment.
Panel Statement: See panel action and statement on Comment 3-518.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

3-522 Log #900 NEC-P03 **Final Action: Accept in Principle**
(760.6, FPN)

Submitter: Noel Williams, Noel Williams Consulting
Comment on Proposal No: 3-234
Recommendation: This proposal should continue to be accepted in principle as modified by panel action, except that the word "some" should be inserted to read:
"A source of information describing some industry practices...".
Substantiation: The original proposal suggests that this is the accepted industry practice, where in fact it is only one example of an accepted practice. The panel action is much more correct, but the explanation of negative by Mr. Ayer points out other sources that may also be needed for a complete installation. Certainly NFPA 72 contains some wiring requirements that must be followed for certain types of circuits or systems. The fact that ANSI/NECA is a source, but not a complete source, should be emphasized in some manner.
Panel Meeting Action: Accept in Principle
Panel Statement: See panel action on Comment 3-518.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

3-523 Log #2169 NEC-P03 **Final Action: Accept in Principle in Part**
(760.8)

Submitter: Robert W. Jensen, dbi-Telecommunications
Comment on Proposal No: 3-232
Recommendation: Accept this proposal in principle.
Revise 760.8 to read as follows:
Mechanical Execution of Work. Cables shall be installed in a neat and workmanlike manner. Cables installed exposed on the surface of ceilings and sidewalls shall be supported by the building structure in such a manner that the cable will not be damaged by normal building use. Such cables shall be secured by straps, staples, hangers, or similar fittings designed and installed so as not to damage the cable. The installation shall also conform with 300.4 (D)
FPN: A source of information describing industry practices can be found in ANSI/NECA 305-2001, Standard for Fire Alarm System Job Practices.
Substantiation: See the BICSI comment on proposal 3-137. The fine print note is from the panel action on proposal 3-234.
Panel Meeting Action: Accept in Principle in Part
Accept the FPN as revised in 3-518 and reject the remainder of the comment.
Panel Statement: See panel action and statement on Comment 3-518.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

3-524 Log #2171 NEC-P03 **Final Action: Accept in Principle in Part**
(760.8)

Submitter: Robert W. Jensen, dbi-Telecommunications
Comment on Proposal No: 3-232
Recommendation: Accept this proposal in principle.
Revise 760.8 to read as follows:
Mechanical Execution of Work. Cables shall be installed in a neat and workmanlike manner. Cables installed exposed on the surface of ceilings and sidewalls shall be supported by the building structure in such a manner that the cable will not be damaged by normal building use. Such cables shall be secured by straps, staples, hangers, or similar fittings designed and installed so as not to damage the cable. The installation shall also conform with 300.4 (D.
FPN: A source of information describing industry practices can be found in ANSI/NECA 305-2001, *Standard for Fire Alarm System Job Practices*.
Substantiation: See the BICSI comment on proposal 3-137. The fine print note is from the panel action on proposal 3-234.
Panel Meeting Action: Accept in Principle in Part
Accept the FPN as revised in 3-518 and reject the remainder of the comment.
Panel Statement: See panel action and statement on Comment 3-518.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-525 Log #3003 NEC-P03 **Final Action: Accept in Principle in Part**
(760.8)

Submitter: Ray R. Keden, Erico, Inc.
Comment on Proposal No: 3-232
Recommendation: Accept this proposal in principle. Revise 760.8 to read as follows:
Mechanical Execution of Work. Cables shall be installed in a neat and workmanlike manner. Cables installed exposed on the surface of ceilings and sidewalls shall be supported by the building structure in such a manner that the cable will not be damaged by normal building use. Such cables shall be secured by straps, staples, hangers, or similar fittings designed and installed so as not to damage the cable. The installation shall also conform to 300.4(D).
FPN: A source of information describing industry practices can be found in ANSI/NECA 305-2001, Standard for Fire Alarm System Job Practices.
Substantiation: See the BICSI comment on Proposal 3-137. The fine print note is from the panel action on Proposal 3-234.
Panel Meeting Action: Accept in Principle in Part
Accept the FPN as revised in 3-518 and reject the remainder of the comment.
Panel Statement: See panel action and statement on Comment 3-518.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-526 Log #1328 NEC-P03 **Final Action: Accept**
(760.21)

Submitter: Thomas N. Tombarello, TNT Electric Corp.
Comment on Proposal No: 3-236
Recommendation: Reaffirm Proposal Nos. 3-236 and 3-256
Substantiation: As an installing electrical contractor, the AFCI issue is totally in a state of chaos. No two states in the New England area, or any two municipalities for that matter, interpret the requirements uniformly. It has been a contractor's nightmare! Where the AHJ has mandated that fire or smoke detectors be on an AFCI protected circuit because the wiring method enters a dwelling unit bedroom for a distance of 3 feet, I have written that AHJs name and mandate on the electrical permit to note that the mandate is their responsibility (should the burden of proof be needed at some future date). Many AHJs, including fire prevention authorities demand their mandate but balk at their name being written on the permit. Is it good code or isn't it?
Consider, what are the odds of a nail or other penetration hitting 3 feet of cable located in the ceiling over the bedroom door entrance as compared to 6 feet located in the wall on the line side of a receptacle-type AFCI or several feet located in the wall and ceiling for a life-support receptacle or several hundred feet of cable for as many as 35 circuits that pass through the bedroom walls and ceilings and do not supply bedroom outlets? Yet, it's the 3 feet of a life saving smoke detector circuit that's interpreted, by some, to be connected to an AFCI device. Revisit the substantiation of Proposal No. 3-236.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 11 Negative: 2
Explanation of Negative:
EASTER: See my explanation of negative vote on Comment 3-531.
OWEN, R.: See my Explanation of Negative Vote on Comment 3-531.**Comment on Affirmative:**
AYER: Adding arc-fault circuit interrupters to 760.21 addresses the fact that arc-fault type devices should not protect circuits that feed fire alarm panels. Article 760.21 does not deal with the wiring for multi-station smoke detectors as the submitter has suggested. Since panel 3 does not have jurisdiction over the wiring of these types of detectors that are found in dwelling units, these proposals should have been submitted to Code-Making Panel 2 since they have jurisdiction in this matter. I am in agreement that non-power limited circuits that feed such items as fire alarm panels should not be protected by arc-fault interrupters, however, the substantiation provided by the submitter is incorrect.
CASPARRO: See my comment on affirmative on Comment 3-189.
GUIDA: The substantiation in both the proposal and the comment appears to be addressing concerns with AFCI protection for branch circuits supplying single and multiple station smoke detectors. These devices are self-contained assemblies that incorporate the detector, the control equipment, and the alarm-sounding device in one unit operated from a power supply either in the unit or obtained at the point of installation. Article 760 does not cover either single or multiple station detectors but rather addresses fire alarm systems employing a fire alarm panel.
Section 760.21 applies to the branch circuit supplying a fire alarm system and not to individual single or multiple station smoke detectors. Branch circuits supplying single or multiple station smoke detectors in a bedroom must comply with the requirements in 210.12.
A fire alarm system is required to have a secondary power supply that will operate for a certain period of time upon loss of primary power so the fire alarm system will continue to operate. Since an arcing fault in the branch circuit supplying the fire alarm panel may cause an AFCI device to trip and result in the loss of primary power to the fire alarm panel, with subsequent loss of secondary power. Loss of both primary and secondary power for the fire alarm panel could result in a life safety issue with no fire alarm coverage for the installation.
The same situation exists for power-limited fire alarm systems as covered by 760.41. Again, these power limited fire alarm circuits are supplied from a fire alarm system, not single or multiple station smoke detectors, but the same principle as stated above, applies.

3-527 Log #1336 NEC-P03 **Final Action: Accept**
(760.21)

Submitter: Joseph A. Ross, Ross Seminars
Comment on Proposal No: 3-236
Recommendation: Reaffirm the acceptance of this Proposal. See Companion Comments for Proposals Nos. 2-127 and 2-134a.
Substantiation: The CMP is to be commended for their unanimous vote to Accept (12-0) Proposal No. 3-236 and not compromise the integrity of a life saving fire or smoke signaling circuit by connecting it to a sensitive AFCI device. It is to be noted that CMP-16 took a similar stand with a unanimous vote (21-0) not to permit these life saving circuits to be connected to a sensitive GFCI (4/6 mA) device. A survey of national and state associations has indicated that the vast majority of AHJs use their GFCI (4/6 mA) testers to also test AFCI devices (Are the proper AFCI devices being installed?). Separating these signaling circuits from any sensitive AFCI or GFCI protected circuit could extend a few more precious seconds and save the lives of sleeping victims and, actually, would enhance the performance requirements of NFPA 72.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 11 Negative: 2
Explanation of Negative:
EASTER: See my explanation of negative vote on Comment 3-531.
OWEN, R.: See my Explanation of Negative Vote on Comment 3-531.**Comment on Affirmative:**
AYER: See my explanation of affirmative vote on comment 3-526.
CASPARRO: See my comment on affirmative on Comment 3-189.
GUIDA: See my explanation of affirmative vote on Comment 3-526.

3-528 Log #1337 NEC-P03 **Final Action: Accept**
(760.21)

Submitter: Joseph A. Ross, Ross Seminars
Comment on Proposal No: 3-236
Recommendation: Reaffirm the acceptance of this Proposal. See Companion Comments for Proposal Nos. 2-127 and 2-134a.
Substantiation: To address the Secretary's Note: It is true that the general rules for branch circuits are the responsibility of CMP-2 in Article 210. However, 90.3 recognizes that Chapters 5, 6, and 7 (760.21) apply to special occupancies, or equipment, or other special conditions and may supplement, modify, or amend the general rules of Chapters 1, 2 (210.12), 3, or 4. CMP-3 is requested to view the many proposals to 210.12 with particular interest in that not only are members of CMP-2 at odds over types and applications of AFCIs, but manufacturers seem to be at odds also; including two members of the same company. Can we compromise the integrity of fire and smoke signaling circuits amid this confusion?
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 11 Negative: 2
Explanation of Negative:
EASTER: See my explanation of negative vote on Comment 3-531.
OWEN, R.: See my Explanation of Negative Vote on Comment 3-531.**Comment on Affirmative:**
AYER: See my explanation of affirmative vote on comment 3-526.
CASPARRO: See my comment on affirmative on Comment 3-189.
GUIDA: See my explanation of affirmative vote on Comment 3-526.

3-529 Log #1431 NEC-P03 **Final Action: Accept**
(760.21)

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 3-236
Recommendation: Continue to accept.
Substantiation: The Signaling Systems for the Protection of Life and Property TCC supports the panel action.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 11 Negative: 2
Explanation of Negative:
EASTER: See my explanation of negative vote on Comment 3-531.
OWEN, R.: See my Explanation of Negative Vote on Comment 3-531.**Comment on Affirmative:**
AYER: See my explanation of affirmative vote on comment 3-526.
CASPARRO: See my comment on affirmative on Comment 3-189.
GUIDA: The substantiation in the proposal appears to be addressing concerns with AFCI protection for branch circuits supplying single and multiple station smoke detectors. These devices are self-contained assemblies that incorporate the detector, the control equipment, and the alarm-sounding device in one unit operated from a power supply either in the unit or obtained at the point of installation. Article 760 does not cover either single or multiple station detectors but rather addresses fire alarm systems employing a fire alarm panel.

Section 760.21 applies to the branch circuit supplying a fire alarm system and not to individual single or multiple station smoke detectors. Branch circuits supplying single or multiple station smoke detectors in a bedroom must comply with the requirements in 210.12.

A fire alarm system is required to have a secondary power supply that will operate for a certain period of time upon loss of primary power so the fire alarm system will continue to operate. Since an arcing fault in the branch circuit supplying the fire alarm panel may cause an AFCI device to trip and result in the loss of primary power to the fire alarm panel, with subsequent loss of secondary power. Loss of both primary and secondary power for the fire alarm panel could result in a life safety issue with no fire alarm coverage for the installation.

The same situation exists for power-limited fire alarm systems as covered by 760.41. Again, these power limited fire alarm circuits are supplied from a fire alarm system, not single or multiple station smoke detectors, but the same principle as stated above, applies.

3-530 Log #1803 NEC-P03 **Final Action: Accept**
(760.21)

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 3-236
Recommendation: Continue to accept.
Substantiation: The Automatic Fire Alarm Association supports the panel action.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 11 Negative: 2
Explanation of Negative:
EASTER: See my explanation of negative vote on Comment 3-531.
OWEN, R.: See my Explanation of Negative Vote on Comment 3-531.**Comment on Affirmative:**
AYER: See my explanation of affirmative vote on comment 3-526.
CASPARRO: See my comment on affirmative on Comment 3-189.
GUIDA: See my explanation of affirmative vote on Comment 3-529.

3-531 Log #2537 NEC-P03 **Final Action: Reject**
(760.21)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-236
Recommendation: Reject the proposal.
Substantiation: An AFCI is a form of circuit protection. Its function is similar to that of an overcurrent protective device in that it protects the building from the effects of electrical circuits operating out of their normal condition under hazards that could cause fire. The difference is that the AFCI is looking for arcs instead of overcurrent.

There is a considerable difference between a GFCI and an AFCI. The GFCI is intended to protect people who might come accidentally into contact with live voltage at the outlet and beyond. There is no need for a GFCI in an alarm circuit. By contrast, the AFCI is for circuit protection. If the potential cause of the fire is from arcing in the alarm circuit wiring, the AFCI is intended to detect that hazardous arcing and de-energize the circuit to prevent fire occurrence.

AFCIs have been installed for over a year in many locations and longer in a few locations. Reports of nuisance operation have been investigated. Virtually all of these reports are from miswired installations. That is, they are from installations in which the grounded circuit conductor is grounded at multiple locations, grounded circuit conductors are mixed from more than one circuit and similar wiring conditions that do not comply with the rules of the NEC. Correcting these conditions improved the installations. Other cases that were not miswired were genuine arcing conditions that could have led to fire if left unattended.

Contractors are finding difficulties separating alarm circuits from other bedroom circuits that require AFCI protection. Rejecting this proposal will eliminate this difficulty.

Allowing installation of AFCIs where required by other sections of the NEC helps to avoid fire causes.

Panel Meeting Action: Reject
Panel Statement: Loss of power as a result of an AFCI trip on the fire alarm panel circuit could cause a total loss of fire alarm protection and increase the fire risk to the occupants.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 11 Negative: 2
Explanation of Negative:
EASTER: NEMA is voting negative on the panel action. The panel discussion was divided along the lines of prevention versus detection. NEMA believes that preventing the occurrence of a fire should be the prime purpose of the NEC. The use of an AFCI on the fire alarm circuitry would meet its intended use to detect hazardous arcing and de-energize the circuit to prevent fire occurrence.
OWEN, R.: The panel discussion on this and related comments consisted of anecdotal information on the supposed problems with AFCIs and gave no solid evidence that these products are flawed. Also, a concern was raised about the possibility of an AFCI breaker tripping while the owners are away, and draining the alarm panel's battery. The thought was that it is possible for the battery to completely drain before the occupants return and, thus, the occupants would be unaware that the panel would no longer function. The problem with this logic is that the fire alarm panelboard would not be the only thing on the AFCI breaker, the rest of the bedroom(s) outlets would also be disabled, and the occupants should notice that there is no power in their bedroom. Also, if a panel is monitored by an outside monitoring facility, they would get a trouble signal. An AFCI is designed to prevent or limit fire damage, and just because there is a fire alarm panel on a receptacle does not guarantee that the building wiring feeding will not somehow fault and possibly start a fire.**Comment on Affirmative:**
CASPARRO: See my comment on affirmative on Comment 3-189.

3-532 Log #901 NEC-P03 **Final Action: Accept**
(760.25)

Submitter: Noel Williams, Noel Williams Consulting
Comment on Proposal No: 3-239
Recommendation: This proposal should have been accepted.
Substantiation: The panel statement is incorrect. Unfortunately, 760.6 does not require all fire alarm wiring to be supported by structural components of a building. The requirement in 760.6 for structural support applies only to "Cables and conductors installed exposed on the surface of ceilings and sidewalls" this is a small subset of fire alarm wiring and does not apply to cables above dropped ceilings. Such cables may be "exposed" as defined in Article 100, but they are not on the "surface of the ceiling or sidewalls". This will provide an actual rule to go along with the new FPN in 760.6.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-533 Log #1432 NEC-P03 **Final Action: Reject**
(760.25)

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 3-240
Recommendation: Accept in Principle
Add a Fine Print Note
FPN: Refer to NFPA 72-2002 for Class A fire alarm circuit installation requirements.
Substantiation: NFPA 72-2002 has separation requirements for separation of the outgoing and return conductors of Class A fire alarm circuits. It is imperative for life safety and property protection that Class A circuits be installed properly to meet design specifications or local code. If Panel 3 wishes to use the extracted text submitted in the proposal, that may be a better approach than a fine print note reference.
The Signaling Systems for the Protection of Life and Property TCC understands that electrical wiring is under the jurisdiction of the NEC. The National Fire Alarm Code has jurisdiction over fire alarm system requirements.
Panel Meeting Action: Reject
Panel Statement: The panel reaffirms its position in the panel statement in Proposal 3-240.
FPN No.1 in 760.1 currently exists and references NFPA 72; adding another is redundant.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Negative: 1
Explanation of Negative:
EGESDAL: Panel 3 rejected this comment, indicating 760.1 FPN provided a pointer to NFPA 72, National Fire Alarm Code. Panel 3's action to reject the comment from the Technical Correlating Committee on Signaling Systems for the Protection of Life and Property, and the comment from the Automatic Fire Alarm Association is inconsistent with panel action on the listing requirements for circuit integrity cable. Panel 3 revised 760.71(G), including FN No. 1, which provides a reference to NFPA 72. It is unfortunate the panel refused the listed to the needs of the fire alarm industry. there are specific electrical installation requirements for Class Å circuit wiring in NFPA 72-2002 that belong in the NEC, or at a minimum, a reference to NFPA 72 in a FPN, as requested. The Class A electrical Installation requirements deal with the physical separation of the outgoing and return conductors of the Class A circuit, and do not require knowledge of circuit type (Signaling Line Circuit, Notification Appliance Circuit, Initiating Device Circuit). It i especially important for this "pointer" to be in the NEC, as there are jurisdictions that do not adopt NFPA 72, National Fire Alarm Code.

3-534 Log #2201 NEC-P03 **Final Action: Accept**
(760.25)

Submitter: Frederic P. Hartwell, Hartwell Electrical Services, Inc.
Comment on Proposal No: 3-240
Recommendation: Continue to reject the proposal.
Substantiation: This material is fire alarm design criteria and beyond the scope of the NEC. The subject would need to be covered completely. For example, the fire alarm classes would need to be defined in the NEC in order for this type of proposal to move forward. Other provisions in Chapter 6 of NFPA 72 would need to come over as well. This material might be appropriate for a handbook, but not within Article 760.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Negative: 1
Explanation of Negative:
EGESDAL: See my explanation of negative vote on Comment 3-533.

3-535 Log #1808 NEC-P03 **Final Action: Reject**
(760.25, FPN (New))

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 3-240
Recommendation: Add a fine print note.
FPN: Refer to NFPA 72-2002 for Class A fire alarm circuit installation requirements.
Substantiation: NFPA 72-2002 has separation requirements for separation of the outgoing and return conductors of Class A fire alarm circuits. It is imperative for life safety and property protection that Class A circuits be installed properly to meet design specifications or local code. If Panel 3 wishes to use the extracted text submitted in the proposal, that may be a better approach than a fine print note reference.
The Automatic Fire Alarm Association recognizes that electrical wiring is under the jurisdiction of the NEC. The National Fire Alarm Code has jurisdiction over fire alarm system requirements. Panel 3 must decide where the wiring rules for Class A circuits should reside.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-533.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Negative: 1
Explanation of Negative:
EGESDAL: See my explanation of negative vote on Comment 3-533.

3-536 Log #260 NEC-P03 **Final Action: Accept**
(760.30)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-242
Recommendation: Continue to reject this proposal.
Substantiation: The Technical Committee on Air Conditioning agrees with the panel action. Acceptance of this proposal would have created a conflict with NFPA 90A. "P" type plenum cables are permitted in ceiling cavity plenums and raised floor plenums but not in duct distribution plenums, apparatus casing plenums and air-handling unit room plenums.
This comment is one in a series of comments including 3-89, 3-90, 3-130, 3-169, 3-197, 3-228, 3-242, 3-251, 3-267, and 3-291.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-537 Log #315 NEC-P03 **Final Action: Reject**
(760.30)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-243
Recommendation: Accept this proposal in principle by accepting the comment from the Technical Committee on Air Conditioning on proposal 3-252.
Substantiation: See our comments on proposal and 3-252 and 3-194.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision dated November 13, 2003 that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending the completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-538 Log #1308 NEC-P03 **Final Action: Accept**
(760.30)

Submitter: Wayne G. Carson, Carson Assoc. Inc.
Comment on Proposal No: 3-243
Recommendation: Reject Proposal 3-243.
Substantiation: The explanation of negative votes by committee members Mr. Easter and Mr. Keden are clear and concise. There is no need for an additional cable category and no committee substantiation provided. This new category of cable refers to testing under NFPA 255 and 259 which both reference building materials only in their scope. The Standards Council has made it clear that wire and cable is not considered building materials.
See also my comment submitted on Proposal 3-126.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-539 Log #1536 NEC-P03 **Final Action: Accept**
(760.30)

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 3-243
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.
The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.
There is no need for any additional environmental air space identifiers or cable type designators.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-540 Log #1672 NEC-P03 **Final Action: Accept**
(760.30)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-242
Recommendation: Continue to reject.
Substantiation: I agree with both the panel action and panel statement to reject proposal 3-242. No technical substantiation has been provided that a change to the 2002 NEC language is needed or required. This comment represents the official position of the International Brotherhood of Electrical Workers Code and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-541 Log #1673 NEC-P03 **Final Action: Accept**
(760.30)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-243
Recommendation: Reject this proposal
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Casparro, Mr. Easter, and Mr. Keden. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-542 Log #1715 NEC-P03 **Final Action: Accept**
(760.30)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-242
Recommendation: Continue to reject.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.
The task group agrees with Panel 3's action and statement.
By accepting the majority of the suggested changes in a submitted comment for Proposal 3-94, "Other Spaces for Environmental Air" has been further subdivided into two separate spaces, ceiling cavity and raised floor plenums but the Panel still has maintained the electrical industry terminology associated with these spaces. Providing this further subdivision will enhance the usability of the NEC by making it easier to determine what other spaces are being referenced in this section. It will also improve correlation between the NEC and NFPA 90A.
The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-543 Log #2300 NEC-P03 **Final Action: Accept**
(760.30)

Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 3-243
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of

the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-544 Log #2604 NEC-P03 **Final Action: Accept**
(760.30)

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 3-243
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 3-192.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-545 Log #2659 NEC-P03 **Final Action: Accept**
(760.30)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-242
Recommendation: Continue to reject this proposal.
Substantiation: CFRA agrees with the panel action.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-546 Log #2660 NEC-P03 **Final Action: Reject**
(760.30)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-243
Recommendation: Accept this proposal in principle by accepting the comment from CFRA on Proposal 3-252.
Substantiation: See the comments from CFRA on Proposals 3-252 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-537.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-547 Log #2735 NEC-P03 **Final Action: Reject**
(760.30)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-243
Recommendation: Continue to accept in part.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 3's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-537.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-548 Log #2518uu NEC-P03 **Final Action: Accept**
(760.30)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-243
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Number Eligible to Vote: 13

Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-549 Log #3702 NEC-P03 **Final Action: Accept**
(760.30)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals**Comment on Proposal No:** 3-242
Recommendation: Continue rejecting this proposal and make no changes in the terminology of plenum spaces or of "other spaces used for environmental air".
Substantiation: The terminology in NEC 2002 is correct and needs no change. See also the substantiation for my comments on proposal 3-169.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-550 Log #3758 NEC-P03 **Final Action: Accept**
(760.30)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-243
Recommendation: *Reject this proposal - Also reject the reference to NFPA 90A.*
Substantiation: There is no need for a new category of NPLFD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3.

This proposal should be rejected because, as stated by Mr. Paul Casparro in his negative on proposal 3-169, the NEC is not a product catalog nor is it a design manual and is not intended to contain an all-inclusive list of permitted products. CMP 3, appropriately, did not develop any applications where "duct cable" or "air duct cable" is required instead of plenum cable.

If this proposal were approved, it would create a new category of cable, NPLFD, which is simply a subset of the present category of plenum-rated cable (NPLFP) (since all cables listed to UL 2424-2002 have to meet the fire safety, mechanical and electrical requirements of traditional plenum cable), while limiting the application of the latter (traditional plenum-rated cable) without any justification based on fire hazard or fire risk. It has already been shown in detail by the fire hazard and fire risk analysis presented together with my original proposals (see for example the section on pages 2080-2091 of the NEC-ROP of the substantiation for my proposal 3-130) that there is no need to change the requirements, or limit the application, for wiring methods in plenums, because the fire safety record is excellent.

In fact, if NPLFP cables, i.e. traditional plenum cables meeting the requirements of NFPA 262, are to be limited in application, then cables contained in metal raceways must also be limited in application, since the work that led to the development of the requirements for plenum rated cables showed that they generate more smoke and flame spread than plenum cables meeting NFPA 262, as is clear from the following Table, containing data from the work conducted to justify the development of NFPA 262 (originally UL 910). All 11 plenum-rated cables had flame spread values not exceeding 5 ft and average optical densities not exceeding 0.15 and 10 of the 11 plenum-rated cables had peak optical densities not exceeding 0.50. On the other hand, 5 of the 17 cables in metal raceways tested had flame spread values exceeding 5 ft, 8 of the 17 cables in metal raceways tested had average optical densities exceeding 0.15 and 10 of the 17 cables in metal raceways tested had peak optical densities exceeding 0.50. This comment recognizes that cables in metal raceways are safe wiring methods for plenums. Therefore traditional plenum cables are also safe and suitable.

Furthermore, any reference to NFPA 90A is not appropriate in a Fine Print Note on fire safety characteristics of wiring methods, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

This comment is one of a series of comments on Articles 300, 725, 760, 770, 800, 820 and 830, regarding "plenum cables". The philosophy behind all the comments is that the NEC is OK as published in 2002, but that 2 minor changes might represent improvements: (i) the clarification of the 6 inch extension of a wiring method into a more restricted environment and (ii) the clarification in the Fine Print Notes that a cable listed to NFPA 262 is listed both based on its "low-smoke" characteristics and its "low-flame-spread" characteristics, and that the two are not listed separately.

(table shown on following page)
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-551 Log #3765 NEC-P03 **Final Action: Accept**
(760.30)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-268
Recommendation: *Reject this proposal - Also reject the reference to NFPA 90A.*
Substantiation: There is no need for a new category of FPLD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3.

This proposal should be rejected because, as stated by Mr. Paul Casparro in his negative on proposal 3-169, the NEC is not a product catalog nor is it a design manual and is not intended to contain an all-inclusive list of permitted products. CMP 3, appropriately, did not develop any applications where "duct cable" or "air duct cable" is required instead of plenum cable.

If this proposal were approved, it would create a new category of cable, FPLD, which is simply a subset of the present category of plenum-rated cable (FPLP) (since all cables listed to UL 2424-2002 have to meet the fire safety, mechanical and electrical requirements of traditional plenum cable), while limiting the application of the latter (traditional plenum-rated cable) without any justification based on fire hazard or fire risk. It has already been shown in detail by the fire hazard and fire risk analysis presented together with my original proposals (see for example the section on pages 2080-2091 of the NEC-ROP of the substantiation for my proposal 3-130) that there is no need to change the requirements, or limit the application, for wiring methods in plenums, because the fire safety record is excellent.

In fact, if FPLP cables, i.e. traditional plenum cables meeting the requirements of NFPA 262, are to be limited in application, then cables contained in metal raceways must also be limited in application, since the work that led to the development of the requirements for plenum rated cables showed that they generate more smoke and flame spread than plenum cables meeting NFPA 262, as is clear from the following Table, containing data from the work conducted to justify the development of NFPA 262 (originally UL 910). All 11 plenum-rated cables had flame spread values not exceeding 5 ft and average optical densities not exceeding 0.15 and 10 of the 11 plenum-rated cables had peak optical densities not exceeding 0.50. On the other hand, 5 of the 17 cables in metal raceways tested had flame spread values exceeding 5 ft, 8 of the 17 cables in metal raceways tested had average optical densities exceeding 0.15 and 10 of the 17 cables in metal raceways tested had peak optical densities exceeding 0.50. This comment recognizes that cables in metal raceways are safe wiring methods for plenums. Therefore traditional plenum cables are also safe and suitable.

Furthermore, any reference to NFPA 90A is not appropriate in a Fine Print Note on fire safety characteristics of wiring methods, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

This comment is one of a series of comments on Articles 300, 725, 760, 770, 800, 820 and 830, regarding "plenum cables". The philosophy behind all the comments is that the NEC is OK as published in 2002, but that 2 minor changes might represent improvements: (i) the clarification of the 6 inch extension of a wiring method into a more restricted environment and (ii) the clarification in the Fine Print Notes that a cable listed to NFPA 262 is listed both based on its "low-smoke" characteristics and its "low-flame-spread" characteristics, and that the two are not listed separately.

(table shown on following page)

Comments 3-550 (Log #3758) and 3-551 (Log #3765)

Table 1. Flame Spread and Optical Density of Wiring Systems

Cable	Metal Raceway	Flame Spread (ft)	Peak Optical Density	Average Optical Density
Plenum Rated Coaxial Cable	None	3.0	0.12	0.015
Plenum Rated Coaxial Cable	None	3.0	0.25	0.067
Plenum Rated Coaxial Cable	None	3.0	0.45	0.13
Plenum Rated Coaxial Cable	None	3.0	0.60	0.15
Plenum Rated Fire Alarm Cable	None	3.0	0.10	0.028
Plenum Rated Fire Alarm Cable	None	3.0	0.15	0.043
Plenum Rated Inside Wiring	None	3.0	0.35	0.121
Plenum Rated Inside wiring	None	3.0	0.25	0.047
Plenum Rated Station Wire	None	3.5	0.08	0.069
Plenum Rated Station Wire	None	3.5	0.07	-
Plenum Rated Station Wire	None	3.5	0.08	-
Plenum Cable NFPA 262 Limits	None	5.0	0.50	0.15
Coaxial Cable	Steel EMT	7.0	1.85	0.37
Coaxial Cable	Steel EMT	4.5	1.00	0.11
Fire Alarm Cable	Steel EMT	4.0	0.70	0.17
Fire Alarm Cable	Steel EMT	3.5	0.50	0.09
Inside Wiring	Steel EMT	2.5	0.14	0.069
Inside Wiring	Steel EMT	2.5	0.38	0.094
Inside Wiring	Flexible Steel	2.0	0.06	0.008
Inside Wiring	Flexible Steel	2.0	0.04	0.005
Inside Wiring	Rigid Aluminum	2.0	0.20	0.045
Inside Wiring	Flexible Aluminum	2.5	0.56	0.084
Inside Wiring	Flexible Aluminum	2.5	0.31	0.051
Station Wire	Flexible Aluminum	3.5	0.85	0.222
Station Wire	Flexible Aluminum	3.5	0.66	0.157
Fire Alarm Cable	Flexible Aluminum	6.0	0.60	0.22
Fire Alarm Cable	Flexible Aluminum	5.5	1.20	0.19
Coaxial Cable	Flexible Aluminum	13.5	1.85	0.45
Coaxial Cable	Flexible Aluminum	19.5	2.15	0.32

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-552 Log #3760 NEC-P03 **Final Action: Accept**
(760.30, 760.31)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-252
Recommendation: *Reject this proposal - Also reject the reference to NFPA 90A.*
Substantiation: There is no need for a new category of NPLFD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

This proposal was accepted in principle based on the action taken on proposal 3-253. Since proposal 3-253 ended up as reject, the action on this proposal should probably also correspond to a rejection.

See further information in the comment I made to recommend rejection of proposal 3-243.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-553 Log #3763 NEC-P03 **Final Action: Accept**
(760.30, 760.31)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-253
Recommendation: *Continue rejecting this proposal - Also reject the reference to NFPA 90A.*
Substantiation: There is no need for a new category of NPLFD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 3-243.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-554 Log #1533 NEC-P03 **Final Action: Accept**
(760.30 and 760-31)

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 3-252
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-555 Log #2295 NEC-P03 **Final Action: Accept**
(760.30 and 760.31)

Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 3-252
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-556 Log #2305 NEC-P03 **Final Action: Accept**
(760.30 and 760.31)

Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 3-253
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

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By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-557 Log #1482 NEC-P03 **Final Action: Accept**
(760.30(B)(2), 760.61(A))

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals
Comment on Proposal No: 3-174
Recommendation: Continue rejecting this proposal.
Substantiation: • This comment recommends continued rejection of a subdivision of "other spaces used for environmental air" and continued rejection of granting priority to NFPA 90A on choices of wiring methods.

• The input from CMP 3 and from the NEC Technical Coordinating Committee makes it clear that the terminology used in 300.22 has served the NEC well and needs no change. It has also become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods.

• It has already been shown in detail by the fire hazard and fire risk analysis presented together with my original proposals (see for example the section on pages 2080-2091 of the NEC-ROP of the substantiation for my proposal 3-130) that there is no need to change the requirements, or limit the application, for wiring methods in plenums, because the fire safety record is excellent.

• I understand that this comment represents a change in some of the concepts the submitter believed when the proposal was submitted, but "even old dogs can learn".
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-558 Log #1433 NEC-P03 **Final Action: Accept**
(760.30(B)(2) Exception No. 3 (New))

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 3-245
Recommendation: Continue to accept in principle.
Substantiation: The Signaling Systems for the Protection of Life and Property TCC supports the panel action.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

3-559 Log #1810 NEC-P03 **Final Action: Accept**
(760.30(B)(2) Exception No. 3)

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 3-245
Recommendation: Continue to accept in principle.
Substantiation: The panel action meets the submitter's intent.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

3-560 Log #1811 NEC-P03 **Final Action: Accept**
(760.30(B)(3) Exception No. 3 (New))

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 3-247
Recommendation: Continue to accept in principle.
Substantiation: The panel action meets the submitter's intent.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

3-561 Log #1812 NEC-P03 **Final Action: Accept**
(760.30(B)(4) Exception No. 3 (New))

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 3-249
Recommendation: Continue to accept in principle.
Substantiation: The panel action meets the submitter's intent.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

3-562 Log #268 NEC-P03 **Final Action: Accept**
(760.31)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-251
Recommendation: Continue to reject this proposal.
Substantiation: The Technical Committee on Air Conditioning agrees with the panel action. Acceptance of this proposal would have created a conflict with NFPA 90A. "P" type plenum cables are permitted in ceiling cavity plenums and raised floor plenums but not in duct distribution plenums, apparatus casing plenums and air-handling unit room plenums.
This comment is one in a series of comments including 3-89, 3-90, 3-130, 3-169, 3-197, 3-228, 3-242, 3-251, 3-267, and 3-291.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

3-563 Log #314 NEC-P03 **Final Action: Reject**
(760.31)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-253
Recommendation: Accept this proposal in principle by accepting the comment from the Technical Committee on Air Conditioning on proposal 3-252.
Substantiation: See our comments on proposal and 3-252 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-537.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-564 Log #368 NEC-P03 **Final Action: Reject**
(760.31)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-252
Recommendation: Accept this proposal in principle by accepting the text as proposed and changing the name of the cable from "duct cable" to "air duct cable" and changing the fine print note per our comment 3-214.
Substantiation: See the comment from the Technical Committee on Air Conditioning on proposal 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-537.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-565 Log #1535 NEC-P03 **Final Action: Accept**
(760.31)

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 3-253
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.
The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.
There is no need for any additional environmental air space identifiers or cable type designators.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-566 Log #1674 NEC-P03 **Final Action: Accept**
(760.31)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-251
Recommendation: Continue to reject.
Substantiation: I agree with both the panel action and panel statement to reject proposal 3-251. No technical substantiation has been provided that a change to the 2002 NEC language is needed or required. This comment represents the official position of the International Brotherhood of Electrical Workers Code and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-567 Log #1708 NEC-P03 **Final Action: Accept**
(760.31)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-251
Recommendation: Continue to reject.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.
The task group agrees with Panel 3's action and statement.
By accepting the majority of the suggested changes in a submitted comment for Proposal 3-94, "Other Spaces for Environmental Air" has been further subdivided into two separate spaces, ceiling cavity and raised floor plenums but the Panel still has maintained the electrical industry terminology associated with these spaces. Providing this further subdivision will enhance the usability of the NEC by making it easier to determine what other spaces are being referenced in this section. It will also improve correlation between the NEC and NFPA 90A.
The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Accept

Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-568 Log #2661 NEC-P03 **Final Action: Accept**
(760.31)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-251
Recommendation: Continue to reject this proposal.
Substantiation: CFRA agrees with the panel action.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

3-569 Log #2662 NEC-P03 **Final Action: Reject**
(760.31)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-252
Recommendation: Accept this proposal in principle by accepting the text as proposed and changing the name of the cable from "duct cable" to "air duct cable".
Substantiation: See the comment from CFRA on Proposal 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-537.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

3-570 Log #2663 NEC-P03 **Final Action: Reject**
(760.31)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-253
Recommendation: Accept this proposal in principle by accepting the comment from CFRA on Proposal 3-252.
Substantiation: See the comments from CFRA on Proposals 3-252 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-537.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-571 Log #3703 NEC-P03 **Final Action: Accept**
(760.31)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals**Comment on Proposal No:** 3-251
Recommendation: Continue rejecting this proposal and make no changes in the terminology of plenum spaces or of "other spaces used for environmental air".
Substantiation: The terminology in NEC 2002 is correct and needs no change. See also the substantiation for my comments on proposal 3-169.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-572 Log #1309 NEC-P03 **Final Action: Accept**
(760.31, 760-30 and Table 760-31(G))

Submitter: Wayne G. Carson, Carson Assoc. Inc.
Comment on Proposal No: 3-252
Recommendation: Reject Proposal 3-252.
Substantiation: The explanation of negative votes by committee members Mr. Easter and Mr. Keden are clear and concise. There is no need for an additional cable category and no committee substantiation provided. This new category of cable refers to testing under NFPA 255 and 259 which both reference building materials only in their scope. The Standards Council has made it clear that wire and cable is not considered building materials.
See also my comment submitted on Proposal 3-126.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-573 Log #1832 NEC-P03 **Final Action: Reject**
(760.31, 760.30 and Table 760.31)

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 3-243
Recommendation: Accept this proposal.
Substantiation: The Automatic Fire Alarm Association understands the Air Conditioning Committee has jurisdiction over materials installed in or on air ducts and plenums. Accepting the proposed text provides correlation between the NEC and NFPA 90A-2002.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-537.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-574 Log #1675 NEC-P03 **Final Action: Accept**
(760.31, 760.30 and Table 760.31(G))

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-252
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Casparro, Mr. Easter and Mr. Keden. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-575 Log #2606 NEC-P03 **Final Action: Accept**
(760.31 and Table 760-30)

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 3-253
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 3-192.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-576 Log #2792 NEC-P03 **Final Action: Reject**
(760.31 and Table 760-30)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-253
Recommendation: Accept this proposal in part. Reject the term "limited fire hazard cable."
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with the submitter's proposal and substantiation, except for use of the undefined term: "limited fire hazard cable."

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision dated November 13, 2003 that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending the completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-577 Log #2605 NEC-P03 **Final Action: Accept**
(760.31 and Table 760-31)

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 3-252
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 3-192.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-578 Log #2714 NEC-P03 **Final Action: Reject**
(760.31 and Table 760-31)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-252
Recommendation: Continue to accept in principle.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 3's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC. he Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-579 Log #1676 NEC-P03 **Final Action: Accept**
(760.31 and Table 760.31(G))

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-253
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Ayer, Mr. Casparro, Mr. Easter, Mr. Sanders and Mr. Keden. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-580 Log #2518vv NEC-P03 **Final Action: Accept**
(760.31, Table 760.30)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-253
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-581 Log #2518l NEC-P03 **Final Action: Accept**
(760.31, Table 760.31)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-252
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-582 Log #1484 NEC-P03 **Final Action: Accept**
(760.31(C), 760.71(D))

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals
Comment on Proposal No: 3-213
Recommendation: Continue rejecting this proposal.
Substantiation: • This comment recommends continued rejection of a subdivision of "other spaces used for environmental air" and continued rejection of granting priority to NFPA 90A on choices of wiring methods.
• The input from CMP 3 and from the NEC Technical Coordinating Committee makes it clear that the terminology used in 300.22 has served the NEC well and needs no change. It has also become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods.
• It has already been shown in detail by the fire hazard and fire risk analysis presented together with my original proposals (see for example the section on pages 2080-2091 of the NEC-ROP of the substantiation for my proposal 3-130) that there is no need to change the requirements, or limit the application, for wiring methods in plenums, because the fire safety record is excellent.
• I understand that this comment represents a change in some of the concepts the submitter believed when the proposal was submitted, but "even old dogs can learn".
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-583 Log #231 NEC-P03 **Final Action: Reject**
(760.31(C), FPN)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-254
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from the Technical Committee on Air Conditioning on proposal 3-215.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision dated November 13, 2003 that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending the completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-584 Log #1677 NEC-P03 **Final Action: Accept**
(760.31(C), FPN)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-254
Recommendation: This proposal should be rejected and the proposed 2005 text should be deleted. Retain the current 2002 FPN for 760.31(C).
Substantiation: An effort to better correlate the requirements in the NFPA 70 Standard with the NFPA 90A will require teamwork and representation from both committees. There is no such definition - adequate fire resistant and low smoke producing characteristics located in the 2002 NFPA 90A - Standard for Installation of Air-Conditioning and Ventilating Systems. It is a requirement not a definition. The new proposed FPN language - For a definition of adequate fire-resistant and low smoke producing characteristics is not in the form of a true FPN which is used as a suggestion but its language spells more of a requirement. This FPN is in a violation of the nature of a FPN and also the NEC Style Manual 3.1.3 which state FPNs contain explanatory information. They shall not contain requirements and shall not be written in mandatory language. This proposal does not add to the clarity and consistency of the National Electrical Code. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-585 Log #2820 NEC-P03 **Final Action: Reject**
(760.31(C), FPN)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-254
Recommendation: Continue to accept in principle.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.
The task group agrees with Panel 3's action and statement.
The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-586 Log #3724 NEC-P03 **Final Action: Reject**
(760.31(C), FPN)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-254
Recommendation: 760.31 Listing and Marking of NPLFA Cables.
Non-power limited fire alarm cables installed as wiring within buildings shall be listed in accordance with 760.31(A) and (B) and as being resistant to the spread of fire in accordance with 760.31(C) through (F), and shall be marked in accordance with 760.31(G).
(A) NPLFA Conductor Materials. Conductors shall be 18 AWG or larger solid or stranded copper.
(B) Insulated Conductors. Insulated conductors shall be suitable for 600 volts. Insulated conductors 14 AWG and larger shall be one of the types listed in Table 310.13 or one that is identified for this use. Insulated conductors 18 AWG and 16 AWG shall be in accordance with 760.27.
(C) Type NPLFP. Type NPLFP non-power limited fire alarm cable for use in other space used for environmental air shall be listed as being suitable for use in other space used for environmental air as described in 300.22(C) and shall also be listed as having adequate fire resistant and low smoke producing characteristics.

FPN: One method of defining a cable that is low smoke producing cable and fire-resistant cable is that the cable exhibits a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.52 m (5 ft) or less when tested in accordance with NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air Handling Spaces. ~~by establishing an acceptable value of the smoke produced when tested in accordance with NFPA 262-1999, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air Handling Spaces, to a maximum peak optical density of 0.5 and a maximum average optical density of 0.15. Similarly, one method of defining fire-resistant cables is by establishing a maximum allowable flame travel distance of 1.52 m (5 ft) when tested in accordance with the same test.~~

No change for 760.31 (D) through 760.31 (G)

Substantiation: This comment recommends a slight change in wording for the existing Fine Print Note, by recognizing that listing of plenum cable by NFPA 262 represents listing to both low smoke and low flame spread, and that cables cannot be listed separately to either property. This is basically an editorial change, as a clarification, to the existing Fine Print Note.

This comment also recommends a rejection of the initial concept in the proposal to reference NFPA 90A, which would mean that requirements for these cables could change without the knowledge and assent of NEC CMP members.

It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3. As stated by Mr. Harold Ohde in his negative on CMP 16 action on proposal 16-9: "Other codes should not be deciding on the typed of wiring methods to be used in these spaces. The electrical experts are capable of doing this and it is covered quite well in 300.22. The more we let those outside of the NEC make these decisions the more we weaken adoption of the NEC. In addition, we could make the change and there is nothing that requires a jurisdiction to even adopt 90A."

This comment is one of a series of comments on Articles 300, 725, 760, 770, 800, 820 and 830, regarding "plenum cables". The philosophy behind all the comments is that the NEC is OK as published in 2002, but that 2 minor changes might represent improvements: (i) the clarification of the 6 inch extension of a wiring method into a more restricted environment and (ii) the clarification in the Fine Print Notes that a cable listed to NFPA 262 is listed both based on its "low-smoke" characteristics and its "low-flame-spread" characteristics, and that the two are not listed separately.

I understand that this comment represents a change in some of the concepts the submitter believed when the proposal was submitted, but "even old dogs can learn".

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision dated November 13, 2003 that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending the completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 13

Ballot Results: Affirmative: 12 Abstain: 1

Explanation of Abstention:

EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-587 Log #1436 NEC-P03 **Final Action: Accept in Principle**
(760.31(F))

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property

Comment on Proposal No: 3-255

Recommendation: Continue to accept in principle.

Substantiation: The Signaling Systems for the Protection of Life and Property TCC supports the panel action.

Panel Meeting Action: Accept in Principle

Revise the text in the proposal panel action to read as follows:

"760.81(F) Fire Alarm Circuit Integrity (CI) Cable or Electrical Circuit Protective System. Cables used for survivability of critical circuits shall be listed as circuit integrity (CI) cable. Cables specified in 760.81(C), (D), and (E), and used for circuit integrity shall have the additional classification using the suffix "-CI". Cables that are part of a listed electrical circuit protective system shall be considered to meet the requirements of survivability.

FPN No. 1: Fire Alarm Circuit Integrity (CI) Cable and Electrical Circuit Protective Systems may be used for fire alarm circuits to comply with the survivability requirements of
NFPA 72®-2002, National Fire Alarm Code®, 6.9.4.3 and 6.9.4.6, that the circuit maintain its electrical function during fire conditions for a defined period of time."

FPN No. 2 remains unchanged.

Panel Statement: The panel agrees that a cable within an Electrical Circuit Protective System is not a fire alarm circuit integrity cable. The panel concludes that information on the use of these systems for fire alarm circuits is appropriate in Article 760. The wording of 760.81(F) has been modified accordingly.

Number Eligible to Vote: 13

Ballot Results: Affirmative: 13

3-588 Log #1816 NEC-P03 **Final Action: Accept in Principle**
(760.31(F))

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association

Comment on Proposal No: 3-255

Recommendation: Continue to accept in principle.

Substantiation: The panel action meets the submitter's intent.

Panel Meeting Action: Accept in Principle

Panel Statement: See panel action and statement on Comment 3-587.

Number Eligible to Vote: 13

Ballot Results: Affirmative: 13

3-589 Log #3050 NEC-P03 **Final Action: Reject**
(760.31(F))

Submitter: James Conrad, Rockbestors-Surprenant Cable Corp.

Comment on Proposal No: 3-255

Recommendation: Reject proposal 3-255.

Substantiation: 760.31(F) is for the Listing and marking of cables that have passed all the UL requirements specific to each type of cable. For "CI" cables you must first be listed as a "NPFL" cable per UL 1425 (see Attachment "A" that I have provided). Next, you must pass UL 2196 as stated in paragraph 4.3 a (see Attachment "B" that I have provided as an excerpt from UL 2196). The cables must be installed without conduit "free air". This is not an option as the submitter indicated in his substantiation. UL Melville had concerns about cables tested in conduit and the standard "UL 2196" was changed so only cables tested in free air could qualify the "CI" suffix.

If the question is "can an Electrical Circuit Protective System be used to meet the requirements of survivability" the answer is yes and it is already allowed in NFPA 72. In fact, when you look in the 2002 NFPA 72 Handbook (see Attachment "C" that I have provided as an excerpt from NFPA 72 Handbook), it talks about 2-hour rated cable or cable system. The cable system is an Electrical Circuit Protective System and NFPA 72 Handbook gives an example of this using fire rated MI cable.

This proposal should be rejected. The proposed wording does not belong in Article 760.

Note: Supporting material is available for review at NFPA Headquarters.

Panel Meeting Action: Reject

Panel Statement: The panel concludes that information on Electrical Circuit Protective Systems is appropriate in this section. See panel action on Comment 3-587.

Number Eligible to Vote: 13

Ballot Results: Affirmative: 13

3-590 Log #1338 NEC-P03 **Final Action: Accept**
(760.41)

Submitter: Joseph A. Ross, Ross Seminars

Comment on Proposal No: 3-256

Recommendation: Reaffirm the acceptance of this Proposal.

Substantiation: See Companion Comments for Proposals Nos. 2-127, 2-134a, and 3-236.

Panel Meeting Action: Accept

Number Eligible to Vote: 13

Ballot Results: Affirmative: 12 Negative: 1

Explanation of Negative:

EASTER: See my explanation of negative vote on Comment 3-593.**Comment on Affirmative:**

GUIDA: The substantiation in the proposal appears to be addressing concerns with AFCI protection for branch circuits supplying single and multiple station smoke detectors.

These devices are self-contained assemblies that incorporate the detector, the control equipment, and the alarm-sounding device in one unit operated from a power supply either in the unit or obtained at the point of installation. Article 760 does not cover either single or multiple station detectors but rather addresses fire alarm systems employing a fire alarm panel.

Section 760.41 applies to the branch circuit supplying a fire alarm power limited sources and not to individual single or multiple station smoke detectors. Branch circuits supplying smoke detectors in a bedroom must comply with the requirements in 210.12.

A fire alarm system is required to have a secondary power supply that will operate for a certain period of time upon loss of primary power so the fire alarm system will continue to operate. Since an arcing fault in the branch circuit supplying the fire alarm panel may cause an AFCI device to trip and result in the loss of primary power to the fire alarm panel, with subsequent loss of secondary power. Loss of both primary and secondary power for the fire alarm panel could result in a life safety issue with no fire alarm coverage for the installation.

3-591 Log #1437 NEC-P03 **Final Action: Accept**
(760.41)

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 3-256
Recommendation: Continue to accept.
Substantiation: The Signaling Systems for the Protection of Life and Property TCC supports the panel action.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Negative: 1
Explanation of Negative:
EASTER: See my explanation of negative vote on Comment 3-593.**Comment on Affirmative:**
GUIDA: See my explanation of affirmative vote on Comment 3-590.

3-592 Log #1804 NEC-P03 **Final Action: Accept**
(760.41)

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 3-256
Recommendation: Continue to accept.
Substantiation: The Automatic Fire Alarm Association supports the panel action.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Negative: 1
Explanation of Negative:
EASTER: See my explanation of negative vote on Comment 3-593.**Comment on Affirmative:**
GUIDA: See my explanation of affirmative vote on Comment 3-590.

3-593 Log #2539 NEC-P03 **Final Action: Reject**
(760.41)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-256
Recommendation: Reject this proposal.
Substantiation: An AFCI is a form of circuit protection. Its function is similar to that of an overcurrent protective device in that it protects the building from the effects of electrical circuits operating out of their normal condition under hazards that could cause fire. The difference is that the AFCI is looking for arcs instead of overcurrent.

There is a considerable difference between a GFCI and an AFCI. The GFCI is intended to protect people who might come accidentally into contact with live voltage at the outlet and beyond. There is no need for a GFCI in an alarm circuit. By contrast, the AFCI is for circuit protection. If the potential cause of the fire is from arcing in the alarm circuit wiring, the AFCI is intended to detect that hazardous arcing and de-energize the circuit to prevent fire occurrence.

AFCIs have been installed for over a year in many locations and longer in a few locations. Reports of nuisance operation have been investigated. Virtually all of these reports are from miswired installations. That is, they are from installations in which the grounded circuit conductor is grounded at multiple locations, grounded circuit conductors are mixed from more than one circuit and similar wiring conditions that do not comply with the rules of the NEC. Correcting these conditions improved the installations. Other cases that were not miswired were genuine arcing conditions that could have led to fire if left unattended.

Contractors are finding difficulties separating alarm circuits from other bedroom circuits that require AFCI protection. Rejecting this proposal will eliminate this difficulty.

Allowing installation of AFCIs where required by other sections of the NEC helps to avoid fire causes.

Panel Meeting Action: Reject
Panel Statement: Loss of power as a result of an AFCI trip on the fire alarm panel circuit could cause a total loss of fire alarm protection and increase the fire risk to the occupants.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 11 Negative: 2
Explanation of Negative:
EASTER: NEMA is voting negative on the panel action. The panel discussion was divided along the lines of prevention versus detection. NEMA believes that preventing the occurrence of a fire should be the prime purpose of the NEC. The use of an AFCI on the fire alarm circuitry would meet its intended use to detect hazardous arcing and de-energize the circuit to prevent fire occurrence.
OWEN, R.: See my Explanation of Negative Vote on Comment 3-531.**Comment on Affirmative:**
GUIDA: See my explanation of affirmative vote on Comment 3-590.

3-594 Log #902 NEC-P03 **Final Action: Accept**
(760.42)

Submitter: Noel Williams, Noel Williams Consulting
Comment on Proposal No: 3-258
Recommendation: This proposal should continue to be accepted.
Substantiation: This clarification is more important than the similar accepted proposal for Article 725 (ROP 3-157). Products are now being marketed based on the most common misinterpretation of this section; that it applies to boxes and raceways. Such markings should be left to design preference, especially where they are likely to be confused with similar markings that are required for emergency circuits. The panel correctly summarized the misinterpretation and the need for clarification.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-595 Log #1438 NEC-P03 **Final Action: Reject**
(760.52)

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 3-259
Recommendation: Accept in principle.
Add a Fine Print Note
FPN: Refer to NFPA 72-2002 for Class A fire alarm circuit installation requirements.
Substantiation: See our comment on proposal 3-240.
Panel Meeting Action: Reject
Panel Statement: See panel statement on Comment 3-533.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Negative: 1
Explanation of Negative:
EGESDAL: See my explanation of negative vote on Comment 3-533.

3-596 Log #1439 NEC-P03 **Final Action: Accept**
(760.52)

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 3-260
Recommendation: Continue to accept in principle as published in the ROP.
Substantiation: The Signaling Systems for the Protection of Life and Property TCC supports the panel action.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-597 Log #1440 NEC-P03 **Final Action: Accept**
(760.52)

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 3-260
Recommendation: Continue to accept in principle as published in the ROP.
Substantiation: The Signaling Systems for the Protection of Life and Property TCC supports the panel action.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-598 Log #1807 NEC-P03 **Final Action: Accept**
(760.52)

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 3-260
Recommendation: Continue to accept in principle as published in the ROP.
Substantiation: The Automatic Fire Alarm Association supports the panel actiion.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-599 Log #1809 NEC-P03 **Final Action: Reject**
(760.52, FPN (New))

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 3-259
Recommendation: Add a fine print note.
FPN: Refer to NFPA 72-2002 for Class A fire alarm circuit installation requirements.
Substantiation: NFPA 72-2002 has separation requirements for separation of the outgoing and return conductors of Class A fire alarm circuits. It is imperative for life safety and property protection that Class A circuits be installed properly to meet design specifications or local code. If Panel 3 wishes to use the extracted text submitted in the proposal, that may be a better approach than a fine print note reference.
The Automatic Fire Alarm Association recognizes that electrical wiring is under the jurisdiction of the NEC. The National Fire Alarm Code has jurisdiction over fire alarm system requirements. Panel 3 must decide where the wiring rules for Class A circuits should reside.
Panel Meeting Action: Reject
Panel Statement: See panel statement on Comment 3-533.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Negative: 1
Explanation of Negative:
EGESDAL: See my explanation of negative vote on Comment 3-533.

3-600 Log #2918 NEC-P03 **Final Action: Reject**
(760.55(B))

Submitter: David H. Kendall, Carlon
Comment on Proposal No: 3-264
Recommendation: This proposal should be accepted as written:
(B) Separated by Barriers. Power-limited fire alarm circuit cables shall be permitted to be installed together with Class 1, non–power-limited fire alarm, and medium power network-powered broadband communications circuits where they are separated by a permanent barrier or listed divider.
Substantiation: Panel 16 accepted similar proposals using the same language. See proposals 16-133, 16-190 and 16-226. In addition, UL is listing dividers. The new language makes it clear that a outlet box can be design with a preinstalled permanent divider (barrier) or that a field installed divider can be used as long as that divider is listed. This way the material used for the listed field installed divider will have been evaluated and would prevent from a combustible or inadequate material from being used.
Panel Meeting Action: Reject
Panel Statement: The submitter appears to be only addressing barriers that are listed for inside enclosures or boxes. These barriers could be installed in cable trays manholes, and other applications where the barriers are not specifically listed as a divider but accomplishes the intention of providing a separation between power-limited fire alarm cables and other nonpower-limited circuits.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-601 Log #1378 NEC-P03 **Final Action: Accept**
(760.56(D))

Submitter: Charles M. Trout, Maron Electric Co. Inc.
Comment on Proposal No: 3-264a
Recommendation: CMP-12 agrees with the Panel Action taken by Panel 3.
Substantiation: None necessary.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-602 Log #1818 NEC-P03 **Final Action: Accept**
(760.56(D))

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 3-264a
Recommendation: Continue to accept.
Substantiation: The Automatic Fire Alarm Association supports the panel action.
The maximum audio amplifier voltage output permitted is double that permitted for a Class 3 circuit. While the voltage output for Class 2 and Class 3 audio circuits does not exceed the conductor insulation rating, there are other concerns; induced electrical noise due to the high voltage and unlimited current, which could interrupt critical Class 2 or Class 3 systems; and the unknown consequences from a fault between the audio circuits with unlimited current, having the potential for destruction of critical Class 2 and Class 3 elements due concern.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-603 Log #3683 NEC-P03 **Final Action: Accept**
(760.56(D) (New))

Submitter: Sanford Egesdal, Egesdal Associates PLC
Comment on Proposal No: 3-264a
Recommendation: Continue to accept.
Substantiation: The Panel Statement is accurate.
Additionally, fire alarm system audio amplifiers are restricted to a maximum output of 100 VA to be identified as power-limited. Fire alarm audio amplifiers with outputs greater than 100 VA are required to be installed using non-power-limited wiring methods and materials. Article 760 requires separation of power-limited and non-power-limited circuits.
A commercial audio amplifier (Article 640) does not have a requirement to use Class 1 wiring methods where the amplifier output is greater than 100 VA. Therefore, it is not possible to know if the audio amplifier's output is greater than or less than fire alarm power-limited requirements.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-604 Log #1379 NEC-P03 **Final Action: Accept**
(760.56(F))

Submitter: Charles M. Trout, Maron Electric Co. Inc.
Comment on Proposal No: 3-162a
Recommendation: CMP-12 agrees with the Panel Action taken by Panel 3.
Substantiation: None necessary.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-605 Log #261 NEC-P03 **Final Action: Accept**
(760.61)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-267
Recommendation: Continue to reject this proposal.
Substantiation: The Technical Committee on Air Conditioning agrees with the panel action. Acceptance of this proposal would have created a conflict with NFPA 90A. "P" type plenum cables are permitted in ceiling cavity plenums and raised floor plenums but not in duct distribution plenums, apparatus casing plenums and air-handling unit room plenums.
This comment is one in a series of comments including 3-89, 3-90, 3-130, 3-169, 3-197, 3-228, 3-242, 3-251, 3-267, and 3-291.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-606 Log #293 NEC-P03 **Final Action: Reject**
(760.61)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-270
Recommendation: Accept these proposals in principle by accepting the principle that air duct cables shall be required for installation in new inaccessible ceiling cavity and raised floor plenums and by accepting the comment from the Technical Committee on Air Conditioning on proposal 3-194.

Substantiation: The air conditioning committee has requirements in NFPA 90A-2002, 4.3.10.2.7, for the removal of the accessible portion of abandoned cable that correlate with the NEC requirement for removal of the accessible portion abandoned cable. These requirements, while practical, are not comprehensive, since they allow the inaccessible portion of abandoned cables to remain. Due to building construction, there will be installations where removal of abandoned cables is not possible due to the cables being installed in inaccessible spaces. The air conditioning committee supports these proposals that require cable meeting NFPA 90A requirements for "limited combustible cable" (air duct cable) for installation in spaces that will become inaccessible ceiling cavity plenums and inaccessible raised floor plenums.

An installation of unrestricted quantities of conventional plenum cable that cannot be removed with out first destroying the ceiling or floor creates a potential life safety hazard. Example: A sheetrock ceiling without a series of multiple access ports creates an inaccessible space. The recommendation above will serve as a roadmap for the next edition of NFPA 90A.

Proposal 3-194 is a broader proposal that includes the requirement for use of air duct cable in inaccessible ceiling cavity plenums and inaccessible raised floor plenums.

Why is the Technical Committee on Air Conditioning submitting comments?

In action 80-60, the Standards Council assigned primary jurisdiction for combustibles in plenums to the Technical Committee on Air Conditioning and directed it to seek the cooperation of the committees on Fire Tests, National Electrical Code and Safety to Life. The Technical Committee on Air Conditioning has been cooperating with the National Electrical Code Committee by submitting a series of proposals for the 2005 NEC. It now continues that cooperation by commenting on all proposals dealing with combustibles in plenums. The purpose of the proposals and comments is to bring about correlation between NFPA 70, *National Electrical Code* and NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*. The Technical Committee on Air Conditioning established consensus on these comments through a letter ballot.

The NEC Technical Correlating Committee has acknowledged the responsibility of the Technical committee on Air Conditioning. The TCC Action on this proposal states:

"The Technical Correlating Committee understands that the Standards Council has given primary responsibility to the Technical Committee on Air-Conditioning for combustible materials in plenums in cooperation with other committees including the National Electrical Code Committee. The Chair of the Technical Correlating Committee will work with the Chair of the Technical Committee on Air-Conditioning and appoint a Task Group to review the proposals affecting correlation between Code-Making Panels 3, 16, and the Technical Committee on Air-Conditioning. In addition, the Technical Correlating Committee directs that this proposal be referred to the NFPA Committee on Air-Conditioning for comment."

NFPA 5000-2003 Building Construction and Safety Code, in Chapter 52, requires electrical systems and equipment to be designed and constructed in accordance with NFPA 70. Likewise, in Chapter 50, it requires air-conditioning and ventilating systems to be designed and constructed in accordance with NFPA 90A. NFPA 5000 has conflicting provisions for wiring in air handling spaces because of conflicts between NFPA 70 and NFPA 90A. Many of the proposals and comments from the Committee on Air-Conditioning to the National Electrical Code Committee are intended to eliminate these conflicts. These proposals and comments are part of the implementation of the Standards Council's recently issued *Scope Coordination Policy for NFPA Documents* that has the "goal of having a coordinated set of documents for the built environment".

Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-607 Log #317 NEC-P03 **Final Action: Reject**
(760.61)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-268
Recommendation: Accept this proposal in principle by accepting the comment from the Technical Committee on Air Conditioning on proposal 3-288.
Substantiation: See the comments from the Technical Committee on Air Conditioning on proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-608 Log #369 NEC-P03 **Final Action: Reject**
(760.61)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-269
Recommendation: Accept this proposal in principle by accepting the comment from the Technical Committee on Air Conditioning on proposal 3-288.
Substantiation: See the comments from the Technical Committee on Air Conditioning on proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-609 Log #497 NEC-P03 **Final Action: Reject**
(760.61)

Submitter: Allen C. Weidman, The Society of the Plastics Industry, Inc.
Comment on Proposal No: 3-270
Recommendation: Accept this proposal.
Substantiation: The NEC requirements for removal of the accessible portion abandoned cable are not comprehensive, since they allow the inaccessible portion of abandoned cables to remain. There are installations where removal of abandoned cables is not possible due to the cables being installed in spaces that later become inaccessible.

We support the proposals that require air duct cable for installation in spaces that will become inaccessible ceiling cavity plenums and inaccessible raised floor plenums because air duct cable has superior fire safety characteristics over conventional plenum cable.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-610 Log #717 NEC-P03 **Final Action: Reject**
(760.61)

Submitter: Paula Hubbard, 3M
Comment on Proposal No: 3-270
Recommendation: Accept this proposal.
Substantiation: The NEC requirements for removal of abandoned cable address only "accessible cable". I support the proposals that require air duct cable for installation in ceiling cavity plenums and raised floor plenums, because these spaces will be inaccessible for removal of abandoned cables and air duct cable has superior fire safety characteristics over conventional plenum cable. This will enhance fire safety in buildings.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-611 Log #1441 NEC-P03 **Final Action: Reject**
(760.61)

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 3-270
Recommendation: Accept this proposal.
Substantiation: The NEC requires the removal of the accessible portion abandoned cable. This requirement is not comprehensive, since it allows the inaccessible portion of abandoned cables to remain. There will be installations where removal of abandoned cables is not possible due to the cables being

installed in spaces that become inaccessible.

An installation of unrestricted quantities of conventional plenum cable that cannot be removed with out first destroying the ceiling or floor creates a potential life safety hazard. Example: A sheetrock ceiling without a series of multiple access ports creates an inaccessible space.

The Signaling Systems for the Protection of Life and Property TCC supports the proposals that require cable air duct cable for installation in spaces that will become inaccessible ceiling cavity plenums and inaccessible raised floor plenums. Duct cable provides a much higher level of fire safety than conventional plenum cable.

Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-612 Log #1442 NEC-P03 **Final Action: Reject**
(760.61)

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 3-271
Recommendation: Accept this proposal.
Substantiation: See our comment on proposal 3-270.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-613 Log #1443 NEC-P03 **Final Action: Reject**
(760.61)

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 3-272
Recommendation: Accept this proposal.
Substantiation: See our comment on proposal 3-270.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-614 Log #1469 NEC-P03 **Final Action: Accept**
(760.61)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals
Comment on Proposal No: 3-166
Recommendation: Continue rejecting this proposal.
Substantiation: • This comment recommends continued rejection of a subdivision of "plenums" or "other spaces used for environmental air" and continued rejection of granting priority to NFPA 90A on choices of wiring methods.

• The input from CMP 3 and from the NEC Technical Coordinating Committee makes it clear that the terminology used in 300.22 has served the NEC well and needs no change. It has also become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods.

• It has already been shown in detail by the fire hazard and fire risk analysis presented together with my original proposals (see for example the section on pages 2080-2091 of the NECROP of the substantiation for my proposal 3-130) that there is no need to change the requirements, or limit the application, for wiring methods in plenums, because the fire safety record is excellent.

• I understand that this comment represents a change in some of the concepts the submitter believed when the proposal was submitted, but "even old dogs can learn".

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-615 Log #1538 NEC-P03 **Final Action: Accept**
(760.61)

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 3-268
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-616 Log #1623 NEC-P03 **Final Action: Accept**
(760.61)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-267
Recommendation: Continue to reject.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 3's action and statement.

By accepting the majority of the suggested changes in a submitted comment for Proposal 3-94, "Other Spaces for Environmental Air" has been further subdivided into two separate spaces, ceiling cavity and raised floor plenums but the Panel still has maintained the electrical industry terminology associated with these spaces. Providing this further subdivision will enhance the usability of the NEC by making it easier to determine what other spaces are being referenced in this section. It will also improve correlation between the NEC and NFPA 90A.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

3-617 Log #1678 NEC-P03 **Final Action: Accept**
(760.61)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-267
Recommendation: Continue to reject.
Substantiation: I agree with both the panel action and panel statement to reject proposal 3-267. No technical substantiation has been provided that a change to the 2002 NEC language is needed or required. This comment represents the official position of the International Brotherhood of Electrical Workers Code and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

3-618 Log #1679 NEC-P03 **Final Action: Accept**
(760.61)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-268
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Casparro, Mr. Easter, and Mr. Keden. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-619 Log #1770 NEC-P03 **Final Action: Accept**
(760.61)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-267
Recommendation: Continue to reject.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.
The task group agrees with Panel 3's action and statement.
By accepting the majority of the suggested changes in a submitted comment for Proposal 3-94, "Other Spaces for Environmental Air" has been further subdivided into two separate spaces, ceiling cavity and raised floor plenums but the Panel still has maintained the electrical industry terminology associated with these spaces. Providing this further subdivision will enhance the usability of the NEC by making it easier to determine what other spaces are being referenced in this section. It will also improve correlation between the NEC and NFPA 90A.
The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

3-620 Log #1838 NEC-P03 **Final Action: Reject**
(760.61)

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 3-270
Recommendation: Accept this proposal.
Substantiation: The NEC and NFPA 90A-2002 both have requirements for removal of abandoned cable. It makes sense to require noncombustible or limited combustible cable in plenums to be installed where the cable will be inaccessible. Leaving unrestricted amounts of abandoned combustible material in inaccessible plenums has the potential for a negative impact on life safety property protection.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-621 Log #2285 NEC-P03 **Final Action: Accept**
(760.61)

Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 3-272
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.
The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).
In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.
By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.
Panel Meeting Action: Accept
Number Eligible to Vote: 13

Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-622 Log #2297 NEC-P03 **Final Action: Accept**
(760.61)

Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 3-271
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-623 Log #2304 NEC-P03 **Final Action: Accept**
(760.61)

Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 3-270
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-624 Log #2607 NEC-P03 **Final Action: Accept**
(760.61)

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 3-268
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 3-192.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-625 Log #2664 NEC-P03 **Final Action: Accept**
(760.61)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-267
Recommendation: Continue to reject this proposal.
Substantiation: CFRA agrees with the panel action.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

3-626 Log #2665 NEC-P03 **Final Action: Reject**
(760.61)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-268
Recommendation: Accept this proposal in principle by accepting the comment from CFRA on Proposal 3-288.
Substantiation: See the comments from CFRA on Proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-627 Log #2666 NEC-P03 **Final Action: Reject**
(760.61)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-269
Recommendation: Accept this proposal in principle by accepting the comment from CFRA on Proposal 3-288.
Substantiation: See the comments from CFRA on Proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-628 Log #2667 NEC-P03 **Final Action: Reject**
(760.61)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-270
Recommendation: Accept this proposal.
Substantiation: CFRA supports the proposals that require air duct cable for installation in spaces that will become inaccessible ceiling cavity plenums and inaccessible raised floor plenums. Air duct cable provides a much higher level of fire safety than conventional plenum cable.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-629 Log #2668 NEC-P03 **Final Action: Reject**
(760.61)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-271
Recommendation: Accept this proposal.
Substantiation: CFRA supports the proposals that require air duct cable for installation in spaces that will become inaccessible ceiling cavity plenums and inaccessible raised floor plenums. Air duct cable provides a much higher level of fire safety than conventional plenum cable.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-630 Log #2669 NEC-P03 **Final Action: Reject**
(760.61)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-272
Recommendation: Accept this proposal.
Substantiation: CFRA supports the proposals that require air duct cable for installation in spaces that will become inaccessible ceiling cavity plenums and inaccessible raised floor plenums. Air duct cable provides a much higher level of fire safety than conventional plenum cable.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-631 Log #2781 NEC-P03 **Final Action: Reject**
(760.61)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-268
Recommendation: Accept in principle, based on acceptance of the task group's recommendation on Proposal 3-288.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

See the task group's comment on proposal 3-288.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-632 Log #2518m NEC-P03 **Final Action: Accept**
(760.61)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-268
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-633 Log #3034 NEC-P03 **Final Action: Reject**
(760.61)

Submitter: Frank Peri, Communications Design Corporation
Comment on Proposal No: 3-272
Recommendation: Accept in principle by accepting the principle that air duct cables shall be required for installation in new inaccessible ceiling cavity and raised floor plenums and by accepting the comment from the Technical Committee on Air Conditioning on Proposal 3-194.
Substantiation: I am a member of NFPA 90A and urge the action recommended in the comment from the Technical Committee on Air Conditioning on Proposal 3-270; 3-271; 3-272.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-634 Log #3704 NEC-P03 **Final Action: Accept**
(760.61)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals**Comment on Proposal No:** 3-267
Recommendation: Continue rejecting this proposal and make no changes in the terminology of plenum spaces or of "other spaces used for environmental air".
Substantiation: The terminology in NEC 2002 is correct and needs no change. See also the substantiation for my comments on proposal 3-169.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-635 Log #3769 NEC-P03 **Final Action: Accept**
(760.61)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-270
Recommendation: *Reject this proposal - Also reject the reference to NFPA 90A.*
Substantiation: There is no need for a new category of FPLD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3.
Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.
See further information in the comment I made to recommend rejection of proposal 3-268.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-636 Log #3770 NEC-P03 **Final Action: Accept**
(760.61)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-271
Recommendation: *Reject this proposal - Also reject the reference to NFPA 90A.*
Substantiation: There is no need for a new category of FPLD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3.
Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.
See further information in the comment I made to recommend rejection of proposal 3-268.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-637 Log #3771 NEC-P03 **Final Action: Accept**
(760.61)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-272
Recommendation: *Reject this proposal - Also reject the reference to NFPA 90A.*
Substantiation: There is no need for a new category of FPLD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3.
Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.
See further information in the comment I made to recommend rejection of proposal 3-268.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-638 Log #3684 NEC-P03 **Final Action: Reject**
(760.61, 760-71, Figure 760-61 and Tables 760-61 & 760-71)

Submitter: Sanford Egesdal, Egesdal Associates PLC
Comment on Proposal No: 3-288
Recommendation: Accept proposal 3-288 in principle by accepting the text shown below:

760.154 Applications of Listed PLFA Cables. PLFA cables shall comply with the requirements described in either 760.154(A), (B), or (C), or where cable substitutions are made as shown in 760.154(D).

(A) Air Ducts and Plenums

Cables installed in air ducts and plenums shall comply with the applicable requirements of (1) or (2) below.

(1) Air Ducts. Cables installed in air ducts shall be Type FPLD and shall be associated with the air duct system. Type FPLD-CI cable shall be permitted to be installed to provide a 2-hour circuit integrity rated cable. Types FPLD, FPLP, FPLR, and FPL cables installed in compliance with 300.22(B) shall be permitted.

(2) Plenums. Cables installed in plenums shall comply with (a) or (b) below.

(a) Cables installed in plenums, other than ceiling cavity plenums and raised floor plenums, shall be Type FPLD and shall be associated with the plenum system. Where installed in an air-handling unit room plenum, Type FPLD cable shall be mechanically protected to a height of 7 feet above the floor. Type FPLD-CI cable shall be permitted to be installed to provide a 2-hour circuit integrity rated cable. Types FPLD, FPLP, FPLR, and FPL cables installed in compliance with 300.22(B) shall be permitted.

(b) Cables installed in accessible ceiling cavity plenums and accessible raised floor plenums shall be Type FPLD or Type FPLP. Type FPLD-CI or Type FPLP-CI cable shall be permitted to be installed to provide a 2-hour circuit integrity rated cable. Cables installed in inaccessible ceiling cavity plenums and inaccessible raised floor plenums shall be Type FPLD. Type FPLD-CI cable shall be permitted to be installed to provide a 2-hour circuit integrity rated cable. Types FPLD, FPLP, FPLR, and FPL cables installed in compliance with 300.22(C) shall be permitted.

_FPN: Plenums described in NFPA 90A-2002, Standard for the Installation of Air-Conditioning and Ventilating Systems, include air-handling unit room plenums, apparatus casing plenums, duct distribution plenums, ceiling cavity plenums, and raised floor plenums.

(B) Riser. Cables installed in risers shall be as described in either (1), (2), or (3):

(1) Cables installed in vertical runs and penetrating more than one floor, or cables installed in vertical runs in a shaft, shall be Type FPLR. Floor penetrations requiring Type FPLR shall contain only cables suitable for air duct, plenum or riser use. Type FPLR-CI cable shall be permitted to be installed to provide a 2-hour circuit integrity rated cable.

(2) Other cables shall be installed in metal raceways or located in a fireproof shaft having firestops at each floor.

(3) Type FPL cable shall be permitted in one- and two-family dwellings.

FPN: See 300.21 for firestop requirements for floor penetrations.

(C) Other Wiring Within Buildings. Cables installed in building locations other than those covered in 760.154(A) or (B) shall be as described in either (1), (2), (3), or (4). Type FPL-CI cable shall be permitted to be installed as described in either (1), (2), (3), or (4) to provide a 2-hour circuit integrity rated cable.

(1) Type FPL shall be permitted.

(2) Cables shall be permitted to be installed in raceways.

(3) Cables specified in Chapter 3 and meeting the requirements of 760.179(A) and (B) shall be permitted to be installed in nonconcealed spaces where the exposed length of cable does not exceed 3 m (10 ft).

(4) A portable fire alarm system provided to protect a stage or set when not in use shall be permitted to use wiring methods in accordance with 530.12.

(D) Fire Alarm Cable Uses and Permitted Substitutions. The uses and permitted substitutions for fire alarm cables listed in Table 760.154 shall be considered suitable for the purpose and shall be permitted.

FPN: For information on communications cables (Types CMD, CMP, CMR, CMG, CM), see 800.179.

Table 760.154 Cable Substitutions

Cable Type	Permitted Substitutions
FPLD	CMD
FPLP	CMD, FPLD, CMP
FPLR	CMD, FPLD, CMP, FPLP, CMR
FPL	CMD, FPLD, CMP, FPLP, CMR, FPLR, CMG, CM

(Figure 760.154 Cable Substitution Hierarchy shown on following page)

760.179 Listing and Marking of PLFA Cables and Insulated Continuous Line-Type Fire Detectors. Type FPL cables installed as wiring within buildings shall be listed as being resistant to the spread of fire and other criteria in accordance with 760.179(A) through (I) and shall be marked in accordance with 760.179(J). Insulated continuous line-type fire detectors shall be listed in accordance with 760.179(K).

(A) Conductor Materials. Conductors shall be solid or stranded copper.

(B) Conductor Size. The size of conductors in a multiconductor cable shall not be smaller than 26 AWG. Single conductors shall not be smaller than 18 AWG.

(C) Ratings. The cable shall have a voltage rating of not less than 300 volts.

_(D) Type FPLD. Type FPLD power-limited fire alarm air duct cable shall be listed as being suitable for use in ducts, plenums, and other space used for environmental air and shall also be listed as having a low potential heat value, low flame spread characteristics, and very low smoke-producing characteristics.

FPN: One method of defining a low potential heat cable is establishing an acceptable value of potential heat when tested in accordance with NFPA 259, Standard Test Method for Potential Heat of Building Materials, to a maximum potential heat value not exceeding 8141 kJ/kg (3500 BTU/lb). One method of defining low flame spread cable is establishing an acceptable value of flame spread when tested in accordance with NFPA 255, Standard Method of Test of Surface Burning Characteristics of Building Materials, to a maximum flame spread index of 25. Similarly, one method of defining very low smoke-producing cable is establishing an acceptable value when tested in accordance with NFPA 255, Standard Method of Test of Surface Burning Characteristics of Building Materials, to maximum smoke developed index of 50. These test methods and resultant values correlate with the requirements of NFPA 90A-2002, Standard for the Installation of Air-Conditioning and Ventilating System for materials installed in ducts and plenums.

(E) Type FPLP. Type FPLP power-limited fire alarm plenum cable shall be listed as being suitable for use in ceiling cavity plenums and raised floor plenums and shall also be listed as having adequate fire-resistant and low smoke-producing characteristics.

FPN: See section 4.3.10 of NFPA 90A-2002, Standard for the Installation of Air-Conditioning and Ventilating Systems for listing requirements for plenum cable.

(F) Type FPLR. Type FPLR power-limited fire alarm riser cable shall be listed as being suitable for use in a vertical run in a shaft or from floor to floor and shall also be listed as having fire-resistant characteristics capable of preventing the carrying of fire from floor to floor.

FPN: One method of defining fire-resistant characteristics capable of preventing the carrying of fire from floor to floor is that the cables pass the requirements of ANSI/UL 1666-1997, Standard Test for Flame Propagation Height of Electrical and Optical-Fiber Cable Installed Vertically in Shafts.

(G) Type FPL. Type FPL power-limited fire alarm cable shall be listed as being suitable for general-purpose fire alarm use, with the exception of risers, ducts, plenums, and other spaces used for environmental air and shall also be listed as being resistant to the spread of fire.

FPN: One method of defining resistant to the spread of fire is that the cables do not spread fire to the top of the tray in the vertical-tray flame test in ANSI/UL 1581-1991, Reference Standard for Electrical Wires, Cables and Flexible Cords. Another method of defining resistant to the spread of fire is for the damage (char length) not to exceed 1.5 m (4 ft 11 in.) when performing the CSA vertical flame test for cables in cable trays, as described in CSA C22.2 No. 0.3-M-1985, Test Methods for Electrical Wires and Cables.

(H) Fire Alarm Circuit Integrity (CI) Cable. Cables suitable for use in fire alarm systems to ensure survivability of critical circuits during a specified time under fire conditions shall be listed as circuit integrity (CI) cable or listed as part of an Electrical Circuit Protective System. Cables identified in 760.179(D), (E), (F) and (G) that meet the requirements for circuit integrity shall have the additional classification using the suffix "CI" (for example, FPLD-CI, FPLP-CI, FPLR-CI, and FPL-CI).

FPN No. 1: This cable is used for fire alarm circuits as one method of complying with the survivability requirements of NFPA 72-1999, National Fire Alarm Code, 3-4.2.2.2, 3-8.4.1.1.4, and 3-8.4.1.3.3.3(3), that the cable maintain its electrical function during fire conditions for a defined period of time.

FPN No. 2: One method of defining circuit integrity (CI) cable is by establishing a minimum 2-hour fire resistance rating for the cable when tested in accordance with UL 2196-1995, Standard for Tests of Fire Resistive Cables.

(I) Coaxial Cables. Coaxial cables shall be permitted to use 30 percent conductivity copper-covered steel center conductor wire and shall be listed as Type FPLD, FPLP, FPLR, or FPL cable.

(Comment 3-638 (Log #3684)

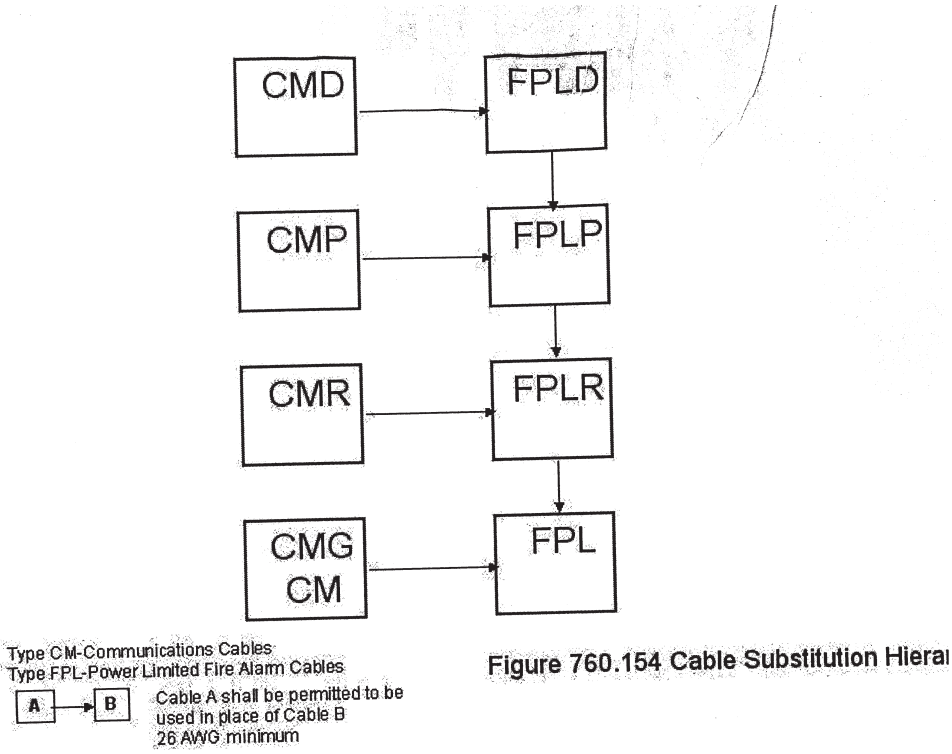

Figure 760.154 Cable Substitution Hierar

(J) Cable Marking. The cable shall be marked in accordance with Table 760.179(J). The voltage rating shall not be marked on the cable. Cables that are listed for circuit integrity shall be identified with the suffix CI as defined in 760.179(H).

Table 760.179(J) Cable Markings

Cable Marking	Type
FPLD	Power-limited fire alarm air duct cable
FPLP	Power-limited fire alarm plenum cable
FPLR	Power-limited fire alarm riser cable
FPL	Power-limited fire alarm cable

FPN: Voltage ratings on cables may be misinterpreted to suggest that the cables may be suitable for Class 1, electric light, and power applications.
Exception: Voltage markings shall be permitted where the cable has multiple listings and voltage marking is required for one or more of the listings.

(K) Insulated Continuous Line-Type Fire Detectors. Insulated continuous line-type fire detectors shall be rated in accordance with 760.71(C), listed as being resistant to the spread of fire in accordance with 760.71(D) through (F), marked in accordance with 760.71(I), and the jacket compound shall have a high degree of abrasion resistance.
Substantiation: The sections have been renumbered to use the numbering scheme proposed by the renumbering task group that was established in response to the TCC directive on proposals 3-126 and 3-223.
This proposal includes the changes proposed by the technical committee on air conditioning in the following proposals:
3-214, which recommended changing the fine print notes for plenum cable listing to reference NFPA 90A. The panel accepted this proposal and this comment assumes that the panel will accept their comment to substitute alternate text.
3-174, which recommended changing the permitted applications of "P" type plenum cable to restrict them to ceiling cavity and raised floor plenums only. The panel rejected this proposal. The comment incorporates the recommended changes on the assumption that the panel will accept a comment to accept the proposal.
3-213, which recommended changing the listing requirements for "P" type plenum cable to list them for use in ceiling cavity and raised floor plenums only. The panel rejected this proposal. The comment incorporates the recommended changes on the assumption that the panel will accept a comment to accept the proposal.
This comment also includes changes recommended in proposals 3-270, 3-271 and 3-272 which require the use of air duct cable in newly built inaccessible ceiling cavity plenums and newly built inaccessible raised floor plenums. The panel rejected these proposals. The comment incorporates the recommended changes on the assumption that the panel will accept comments to accept the proposals.
The panel accepted the listing of duct cable in its action on proposal 3-192 and 3-286. The name of the cable should be changed from "duct cable" to "air duct cable" to correlate with the actions of panel 16 of proposals 16-37, 16-112 and 16-177. Panel 16 changed the name to avoid confusion with telephone duct cable which is an unlisted outside plant cable used in telephone ducts (conduit).
Acceptance of proposals 3-174 & 3-213 leaves users without a wiring method, other than metal raceway, for air ducts, duct distribution plenums, apparatus casing plenums and air-handling unit plenums. Wring should be excluded from these air-handling spaces unless it is associated with the air distribution system. This proposal provides a wiring method that correlates with the requirements of NFPA 90A for supplementary materials in air handling spaces. Furthermore, providing listing and applications for "air duct" cables correlates with the NFPA 90A requirements for listing of limited combustible cable.
The basis of the requirement for mechanical protection up to 7 feet in an air-handling room plenum is that fire alarm wiring installed in air-handling room plenums is required to be protected to a height of 7 feet. See 760.52(B)(2).
The changes accepted by Panel 3 relative to circuit integrity cable are included in the text. The proposals are: 3-273, 3-275, and 3-277.
The change approved by Panel 3 in Proposal 3-198 is included in the text for 760.179(G).
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-639 Log #1680 NEC-P03 **Final Action: Accept**
(760.61 & 760.71)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-269
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Casparro, Mr. Easter and Mr. Keden. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-640 Log #1833 NEC-P03 **Final Action: Reject**
(760.61, 760.71)

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 3-294
Recommendation: Accept this proposal.
Substantiation: The Automatic Fire Alarm Association understands the Air Conditioning Committee has jurisdiction over materials installed in or on air ducts and plenums. Accepting the proposed text provides correlation between the NEC and NFPA 90A-2002.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-641 Log #2296 NEC-P03 **Final Action: Accept**
(760.61, 760.71)

Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 3-269
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.
The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).
In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and

some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-642 Log #2518n NEC-P03 **Final Action: Accept**
(760.61 , 760.71)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-270
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-643 Log #2518ww NEC-P03 **Final Action: Accept**
(760.61, 760.71)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-269
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-644 Log #3767 NEC-P03 **Final Action: Accept**
(760.61, 760.71)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-269
Recommendation: *Reject this proposal - Also reject the reference to NFPA 90A.*
Substantiation: There is no need for a new category of FPLD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 3-268.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-645 Log #3773 NEC-P03 **Final Action: Accept**
(760.61 , 760.71)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-285
Recommendation: *Reject this proposal - Also reject the reference to NFPA 90A.*
Substantiation: There is no need for a new category of FPLD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 3-268.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-646 Log #3777 NEC-P03 **Final Action: Accept**
(760.61, 760.71)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-289
Recommendation: *Reject this proposal - Also reject the reference to NFPA 90A.*
Substantiation: There is no need for a new category of FPLD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 3-286.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-647 Log #3779 NEC-P03 **Final Action: Accept**
(760.61, 760.71)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-290
Recommendation: *Reject this proposal - Also reject the reference to NFPA 90A.*
Substantiation: There is no need for a new category of FPLD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 3-286.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-648 Log #3780 NEC-P03 **Final Action: Accept**
(760.61, 760.71)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-292
Recommendation: *Reject this proposal - Also reject the reference to NFPA 90A.*
Substantiation: There is no need for a new category of FPLD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 3-286.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-649 Log #3784 NEC-P03 **Final Action: Accept**
(760.61, 760.71)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-296
Recommendation: *Reject this proposal - Also reject the reference to NFPA 90A.*
Substantiation: There is no need for a new category of FPLD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 3-286.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-650 Log #2891 NEC-P03 **Final Action: Reject**
(760.61, 760.71, Figure 760.61, and Tables 760.61 & 760.71)

Submitter: Stanley Kaufman, CableSafe, Inc.
Comment on Proposal No: 3-288
Recommendation: Accept this proposal in principle with the proposed text revised as follows:

Change the name of the cable from “duct cable” to “air duct cable”.

Change the fine print note for plenum cable listing to: FPN: See section 4.3.10 of NFPA 90A-2002, Standard for the Installation of Air-Conditioning and Ventilating Systems for listing requirements for plenum cable.

In 760.61(A)(1) (in the proposal) change “Types FPLD, FPLP, FPLR, and FPL cables installed in compliance with 300.22 shall be permitted where associated with the air duct systems. “to “ Types FPLD, FPLP, FPLR, and FPL cables installed in compliance with 300.22(B) shall be permitted.”

In 760.61(A)(2)(b) (in the proposal) change “Types FPLD, FPLP, FPLR, and FPL cables installed in compliance with 300.22 shall be permitted where associated with the plenum systems.” to “Types FPLD, FPLP, FPLR, and FPL cables installed in compliance with 300.22(C) shall be permitted.”
Substantiation: This comment includes the changes proposed by the Technical Committee on Air Conditioning in the following proposals:

3-214, which recommended changing the fine print notes for plenum cable listing to reference NFPA 90A. The panel accepted this proposal. The recommended revision to the fine print note for plenum cable is from a comment submitted by the Technical Committee on Air Conditioning.

3-174, which recommended changing the permitted applications of “P” type plenum cable to restrict them to ceiling cavity and raised floor plenums only. The panel rejected this proposal. The proposal and comment incorporate the recommended changes on the assumption that the panel will accept a comment to accept the proposal.

3-213, which recommended changing the listing requirements for “P” type plenum cable to list them for use in ceiling cavity and raised floor plenums only. The panel rejected this proposal. The proposal and comment incorporate the recommended changes on the assumption that the panel will accept a comment to accept the proposal.

This proposal and comment also include changes recommended in proposals 3-270, 3-271 and 3-272 which require the use of air duct cable in newly built inaccessible ceiling cavity plenums and newly built inaccessible raised floor plenums. The panel rejected these proposals. The proposal and comment incorporate the recommended changes on the assumption that the panel will accept comments to accept the proposals.

The panel accepted the listing of duct cable in its action on proposal 3-192 and 3-286. The name of the cable should be changed from "duct cable" to "air duct cable" to correlate with the actions of panel 16 of proposals 16-37, 16-112 and 16-177. Panel 16 changed the name to avoid confusion with telephone duct cable which is an unlisted outside plant cable used in telephone ducts (conduit).

Acceptance of proposals 3-174 & 3-213 leaves users without a wiring method, other than metal raceway, for air ducts, duct distribution plenums, apparatus casing plenums and air-handling unit plenums. Wring should be excluded from these air-handling spaces unless it is associated with the air distribution system. This proposal provides a wiring method that correlates with the requirements of NFPA 90A for supplementary materials in air handling spaces. Furthermore, providing listing and applications for "air duct" cables correlates with the NFPA 90A requirements for listing of limited combustible cable.

The suggested changes to In 760.61(A)(1) and 760.61(A)(2)(b) (in the proposal) correct errors in the original proposal by clarifying the sections of 300.22 that apply and removing the unnecessary restriction that installations in 300.22 must be associated with the duct or plenum.

The basis of the requirement for mechanical protection up to 7 feet in an air-handling room plenum is that fire alarm wiring installed in air-handling room plenums is required to be protected to a height of 7 feet. See 760.52(B)(2).

The substantiation for the statement "abandoned cables shall not be permitted to remain" is that these statements were an error that was corrected by panel acceptance of proposal 3-173.

Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-651 Log #1531 NEC-P03 **Final Action: Accept**
(760.61 and 760-71)

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 3-269
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-652 Log #1532 NEC-P03 **Final Action: Accept**
(760.61 and 760-71)

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 3-285
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-653 Log #1534 NEC-P03 **Final Action: Accept**
(760.61 and 760-71)

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 3-294
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-654 Log #1539 NEC-P03 **Final Action: Accept**
(760.61 and 760-71)

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 3-290
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-655 Log #1540 NEC-P03
Final Action: Accept
(760.61 and 760-71)

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 3-289
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-656 Log #1541 NEC-P03 **Final Action: Accept**
(760.61 and 760-71)

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 3-296
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-657 Log #1545 NEC-P03 **Final Action: Accept**
(760.61 and 760-71)

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 3-292
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-658 Log #1624 NEC-P03 **Final Action: Reject**
(760.61 and 760-71)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-270
Recommendation: Accept in Principle, based on acceptance of the task group's recommendation on Proposal 3-288.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

See the task group's comment on proposal 3-288.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved whether to require air duct cable in a raised floor or ceiling cavity plenum where the cable cannot be extracted upon abandonment. This would reduce fuel load in air handling spaces where cables must remain in place when abandoned by installing a cable with a much lower fire and combustible fuel load in these areas.

The Task Group members who attended the teleconference call voted to accept text that requires cables in non-accessible raised floor and ceiling cavity plenums to be "air duct cables." Comments will be written to incorporate similar text for the articles under the jurisdiction of Panel 3 that will be similar or the same action on this issue as that taken by Panel 16.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-659 Log #2608 NEC-P03 **Final Action: Accept**
(760.61 and 760-71)

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 3-269
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 3-192.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-660 Log #2609 NEC-P03 **Final Action: Accept**
(760.61 and 760-71)

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 3-270
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 3-192.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-661 Log #2782 NEC-P03 **Final Action: Reject**
(760.61 and 760-71)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-269
Recommendation: Accept in principle, based on acceptance of the task group's recommendation on Proposal 3-288.

Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

See the task group's comment on proposal 3-288.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject

Panel Statement: See the panel statement on Comment 3-576.

Number Eligible to Vote: 13

Ballot Results: Affirmative: 12 Abstain: 1

Comment on Affirmative:

CASPARRO: See my comment on affirmative on Comment 3-189.

Explanation of Abstention:

EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-662 Log #3005 NEC-P03 **Final Action: Accept in Part**
(760.61 and 760-71)

Submitter: Ray R. Keden, Erico, Inc.

Comment on Proposal No: 3-288

Recommendation: Delete listing requirements for "duct cable". Modify to read: "Cables shall not be directly placed in air ducts."

Substantiation: • Air systems are generally designed with supply ducts that feed the occupied area with returns built into the structure (ceiling space, floor). When a fire is detected, smoke dampers close and divert smoke and toxic gases to the building's exterior. Duct cable is not noncombustible, rather it is a fuel source. There are no provisions for a listed device to detect a toxic burning "duct cable" in the supply duct. Additionally, the toxic smoke would have to emanate from the air outlets within the building causing an unsafe environment until the smoke detector sensor could actuate the smoke dampers into action. Placing this cable directly in the duct is unsafe to the occupants of the building and fire rescue personnel that may be dispatched to the incident. Rather than place this added fuse into a duct, the cable should be placed in noncombustible conduit and routed to the device within the duct.

• All buildings that are built have a certain risk factor. Listed plenum cables currently installed within buildings have not been shown to raise the risk factor as there are no incidents substantiated in any proposals to warrant a change.

• Air flow, per code, is difficult to achieve in many buildings. The addition of toxic cable will deter what can be delivered. There are no proposals that offer the amount of these toxic cables that can occupancy an air duct. Additionally, the installation of cable within an air duct, depending upon the velocity of the air, will cause noise in the environment and unsafe working conditions.

• Cables placed in ducts will cause fire dampers to be restricted from closing. This is not only restricting a fire damper's use, it causes an unsafe environment for occupants in buildings during a fire emergency.

• Cables in air ducts are subject to damage by installers that use sheet metal screws when maintaining air ducts. These screws are very sharp and will penetrate the sheath causing an electrical arc and possible fire from dust accumulation in air duct.

• Air ducts will not be able to be cleaned without damaging cables placed within the air duct.

• Air distribution is specified in 4.3 of NFPA 90A and includes 4.3.10 for plenums. These plenums include ceiling cavity plenums (4.3.10.2), duct distribution plenum (4.3.10.3), apparatus casing plenum (4.3.10.4), air handling unit room plenum (4.3.10.5), and raised floor plenum (4.3.10.6). While requirements are specified for cable placed in ceiling cavity plenums and raised floor plenums (noncombustible or limited combustible with smoke requirements per NFPA 262), there are no like requirements for duct distribution plenum, or apparatus casing plenum, or air handling unit room plenum - rather they specify NFPA 255 for testing building materials. As for other areas specified in 4.3, Air Distribution, there are no requirements for cable placement in the air distribution system. Following back to 4.1, General Requirements for Equipment, paragraph 4.1.4 specifies "electrical wiring and equipment shall be installed in accordance to NFPA 70, National Electrical Code". Seems like NFPA 90A realizes that NFPA 70 is sufficient for their need.

• The NFPA 90A scope is specified for buildings that are 25,000 cubic feet or 3 stories in height. The NEC does not have this restriction. Harmonizing the code to this standard is inappropriate.

Panel Meeting Action: Accept in Part

The panel accepts the recommendation to delete listing requirements for duct cable and associated text. The panel rejects any modification about cable placement.

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision dated November 13, 2003 that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending the completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 13

Ballot Results: Affirmative: 12 Abstain: 1

Comment on Affirmative:

CASPARRO: See my comment on affirmative on Comment 3-189.

Explanation of Abstention:

EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-663 Log #2302 NEC-P03 **Final Action: Accept**
(760.61and 760.70)

Submitter: Frank Bisbee, Communication Planning Corporation

Comment on Proposal No: 3-285

Recommendation: Reject this proposal.

Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study,

the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-664 Log #2288 NEC-P03 **Final Action: Accept**
(760.61 and 760.71)

Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 3-294
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-665 Log #2289 NEC-P03 **Final Action: Accept**
(760.61 and 760.71)

Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 3-292
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-666 Log #2291 NEC-P03 **Final Action: Accept**
(760.61 and 760.71)

Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 3-285
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

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By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-667 Log #2298 NEC-P03 **Final Action: Accept**
(760.61 and 760.71)

Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 3-296
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-668 Log #2340 NEC-P03 **Final Action: Accept**
(760.61 and 760.71)

Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 3-290
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

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ed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

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Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-669 Log #2342 NEC-P03 **Final Action: Accept**
(760.61 and 760.71)

Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 3-289
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

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By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-670 Log #3782 NEC-P03 **Final Action: Accept**
(760.61 and 760.71)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-294
Recommendation: *Reject this proposal - Also reject the reference to NFPA 90A.*
Substantiation: There is no need for a new category of FPLD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 3-286.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-671 Log #1444 NEC-P03 **Final Action: Accept**
(760.61(A))

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 3-273
Recommendation: Continue to accept in principle.
Substantiation: The Signaling Systems for the Protection of Life and Property TCC supports the panel action.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-672 Log #1542 NEC-P03 **Final Action: Accept**
(760.61(A))

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 3-270
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-673 Log #1543 NEC-P03 **Final Action: Accept**
(760.61(A))

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 3-271
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.
The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.
There is no need for any additional environmental air space identifiers or cable type designators.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-674 Log #1544 NEC-P03 **Final Action: Accept**
(760.61(A))

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 3-272
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.
The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.
There is no need for any additional environmental air space identifiers or cable type designators.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-675 Log #1681 NEC-P03 **Final Action: Accept**
(760.61(A))

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-270
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Casparro, Mr. Easter and Mr. Keden. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-676 Log #1682 NEC-P03 **Final Action: Accept**
(760.61(A))

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-271
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Casparro, Mr. Easter and Mr. Keden. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-677 Log #1683 NEC-P03 **Final Action: Accept**
(760.61(A))

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-272
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Casparro, Mr. Easter and Mr. Keden. This comment represents the official position of the International Brotherhood of Electrical Workers codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-678 Log #1688 NEC-P03 **Final Action: Reject**
(760.61(A))

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-272
Recommendation: Accept in Principle, based on acceptance of the task group's recommendation on Proposal 3-288.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.
See the task group's comment on proposal 3-288.
The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.
The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.
One of the major differences involved whether to require air duct cable in a raised floor or ceiling cavity plenum where the cable cannot be extracted upon abandonment. This would reduce fuel load in air handling spaces where cables must remain in place when abandoned by installing a cable with a much lower fire and combustible fuel load in these areas.
The Task Group members who attended the teleconference call voted to accept text that requires cables in non-accessible raised floor and ceiling cavity plenums to be "air duct cables." Comments will be written to incorporate similar text for the articles under the jurisdiction of Panel 3 that will be similar or the same action on this issue as that taken by Panel 16.
The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold

C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-679 Log #1689 NEC-P03 **Final Action: Reject**
(760.61(A))

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-271
Recommendation: Accept in Principle, based on acceptance of the task group's recommendation on Proposal 3-288.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.
See the task group's comment on proposal 3-288.
The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.
The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.
One of the major differences involved whether to require air duct cable in a raised floor or ceiling cavity plenum where the cable cannot be extracted upon abandonment. This would reduce fuel load in air handling spaces where cables must remain in place when abandoned by installing a cable with a much lower fire and combustible fuel load in these areas.
The Task Group members who attended the teleconference call voted to accept text that requires cables in non-accessible raised floor and ceiling cavity plenums to be "air duct cables." Comments will be written to incorporate similar text for the articles under the jurisdiction of Panel 3 that will be similar or the same action on this issue as that taken by Panel 16.
The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-680 Log #1813 NEC-P03 **Final Action: Accept**
(760.61(A))

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 3-273
Recommendation: Continue to accept in principle.
Substantiation: The panel action meets the submitter's intent.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-681 Log #2610 NEC-P03 **Final Action: Accept**
(760.61(A))

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 3-271
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 3-192.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-682 Log #2611 NEC-P03 **Final Action: Accept**
(760.61(A))

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 3-272
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 3-192.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-683 Log #2518o NEC-P03 **Final Action: Accept**
(760.61(A))

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 2-272
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-684 Log #2518xx NEC-P03 **Final Action: Accept**
(760.61(A))

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-271
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-685 Log #3864 NEC-P03 **Final Action: Reject**
(760.61(A))

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-173
Recommendation: *There is no consistency in the NEC on the removal of abandoned cables. This is primarily an issue with cables in Articles 645, 725, 760, 770, 800, 820 and 830. The wording should be as follows consistently: "Abandoned [cable type] cables shall be removed." It should also be contained in the section on applications of cables.*

760.61 Applications of Listed PLFA Cables. PLFA cables shall comply with the requirements described in either 760.61(A), (B), or (C) or where cable substitutions are made as shown in 760.61(D).

(A) Plenum. Cables installed in ducts, plenums, and other spaces used for environmental air shall be Type FPLP. Abandoned cables shall be removed. Types FPLP, FPLR, and FPL cables installed in compliance with 300.22 shall be permitted.

Substantiation: The issue here is the interpretation of the action required with respect to what is accessible. The issue of "accessible" cables creates confusion that makes the enforcement of the removal of abandoned cable "dicey" because it is unclear what "accessible" means. The NEC defines the following terms in Article 100:

Accessible (as applied to equipment). Admitting close approach; not guarded by locked doors, elevation, or other effective means.

Accessible (as applied to wiring methods). Capable of being removed or exposed without damaging the building structure or finish or not permanently closed in by the structure or finish of the building.

Accessible, Readily (Readily Accessible). Capable of being reached quickly for operation, renewal, or inspections without requiring those to whom ready access is requisite to climb over or remove obstacles or to resort to portable ladders, and so forth.

The phrase "the accessible portion of abandoned cables" is much vaguer than the definitions in the code, because the term "accessible portion" is not defined. Therefore, accessible portion is probably considered that length of cable that is within a few feet of the opening, and that can be cut off by reaching in. That is clearly not the intent of the code provision: the entire length of cable that can be pulled out should be removed.

Another possible interpretation is that this refers to excluding from removal those cables installed in the areas that CMP 16 calls "inaccessible ceiling cavity plenums and inaccessible raised floor plenums". The concept of those "inaccessible areas" was rejected by CMP 3 as inappropriate because there is no known fire safety problem with the present type of wiring methods, but it was approved by CMP 16. If this concept is approved, and the wording of "abandoned cables" includes the "accessible portion" concept, it would clearly mean that the NEC would permit some cables to be left permanently in place once abandoned. This was soundly rejected by the membership several times, in a concept upheld by Standards Council.

It is pretty obvious that the concept of removal of abandoned cable is not one where someone should try to tear down a building or cause structural damage to it just to remove cables "permanently closed in by the structure or finish of the building". I believe that we must trust in the intelligence of our code officials and electrical inspectors that they will not demand such actions. If there is a feeling that this is a possibility (which I cannot believe), it might be worth adding a Fine Print Note to the effect that removal of abandoned cables should not cause structural damage to the building. An example follows:

FPN: Removal of abandoned cables is not intended to cause structural damage to buildings.

Clearly, "the accessible portion of abandoned cables" is a misleading phrase which can lead to abundant misinterpretation. It should be eliminated in favor of the simpler "abandoned cables".

Panel Meeting Action: Reject
Panel Statement: The submitter's substantiation has provided the definition of accessible for wiring methods as capable of being removed or exposed without damaging the building structure or finish or not permanently closed in by the structure or finish of the building. This definition clearly provides the information necessary to determine the accessible portion of an abandoned cable versus the non-accessible portion.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-686 Log #3867 NEC-P03 **Final Action: Reject**
(760.61(A), 760.61(B)(1))

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-286
Recommendation: *There is no consistency in the NEC on the removal of abandoned cables. This is primarily an issue with cables in Articles 645, 725, 760, 770, 800, 820 and 830. The wording should be as follows consistently: "Abandoned [cable type] cables shall be removed." It should also be contained in the section on applications of cables.*

760.61 Applications of Listed PLFA Cables. PLFA cables shall comply with the requirements described in either 760.61(A), (B), or (C) or where cable substitutions are made as shown in 760.61(D).

(A) Plenum. Cables installed in ducts, plenums, and other spaces used for environmental air shall be Type FPLP. Abandoned cables shall be removed. Types FPLP, FPLR, and FPL cables installed in compliance with 300.22 shall be permitted.

(B) Riser. Cables installed in risers shall be as described in either (1), (2), or (3):

(1) Cables installed in vertical runs and penetrating more than one floor, or cables installed in vertical runs in a shaft, shall be Type FPLR. Floor penetrations requiring Type FPLR shall contain only cables suitable for riser or plenum use. Abandoned cables shall be removed.

Substantiation: The issue here is the interpretation of the action required with respect to what is accessible. The issue of "accessible" cables creates confusion that makes the enforcement of the removal of abandoned cable "dicey" because it is unclear what "accessible" means. The NEC defines the following terms in Article 100:

Accessible (as applied to equipment). Admitting close approach; not guarded by locked doors, elevation, or other effective means.

Accessible (as applied to wiring methods). Capable of being removed or exposed without damaging the building structure or finish or not permanently closed in by the structure or finish of the building.

Accessible, Readily (Readily Accessible). Capable of being reached quickly for operation, renewal, or inspections without requiring those to whom ready access is requisite to climb over or remove obstacles or to resort to portable ladders, and so forth.

The phrase "the accessible portion of abandoned cables" is much vaguer than the definitions in the code, because the term "accessible portion" is not defined. Therefore, accessible portion is probably considered that length of cable that is within a few feet of the opening, and that can be cut off by reaching in. That is clearly not the intent of the code provision: the entire length of cable that can be pulled out should be removed.

Another possible interpretation is that this refers to excluding from removal those cables installed in the areas that CMP 16 calls "inaccessible ceiling cavity plenums and inaccessible raised floor plenums". The concept of those "inaccessible areas" was rejected by CMP 3 as inappropriate because there is no known fire safety problem with the present type of wiring methods, but it was approved by CMP 16. If this concept is approved, and the wording of "abandoned cables" includes the "accessible portion" concept, it would clearly mean that the NEC would permit some cables to be left permanently in place once abandoned. This was soundly rejected by the membership several times, in a concept upheld by Standards Council.

It is pretty obvious that the concept of removal of abandoned cable is not one where someone should try to tear down a building or cause structural damage to it just to remove cables "permanently closed in by the structure or finish of the building". I believe that we must trust in the intelligence of our code officials and electrical inspectors that they will not demand such actions. If there is a feeling that this is a possibility (which I cannot believe), it might be worth adding a Fine Print Note to the effect that removal of abandoned cables should not cause structural damage to the building. An example follows:

FPN: Removal of abandoned cables is not intended to cause structural damage to buildings.

Clearly, "the accessible portion of abandoned cables" is a misleading phrase which can lead to abundant misinterpretation. It should be eliminated in favor of the simpler "abandoned cables".

Panel Meeting Action: Reject
Panel Statement: The submitter's substantiation has provided the definition of accessible for wiring methods as capable of being removed or exposed without damaging the building structure or finish or not permanently closed in by the structure or finish of the building. This definition clearly provides the information necessary to determine the accessible portion of an abandoned cable versus the non-accessible portion.

Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-687 Log #1445 NEC-P03 **Final Action: Accept**
(760.61(B))

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 3-275
Recommendation: Continue to accept in principle.
Substantiation: The Signaling Systems for the Protection of Life and Property TCC supports the panel action.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-688 Log #1814 NEC-P03 **Final Action: Accept**
(760.61(B))

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 3-275
Recommendation: Continue to accept in principle.
Substantiation: The panel action meets the submitter's intent.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-689 Log #1446 NEC-P03 **Final Action: Accept**
(760.61(C))

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 3-277
Recommendation: Continue to accept in principle.
Substantiation: The Signaling Systems for the Protection of Life and Property TCC supports the panel action.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-690 Log #1815 NEC-P03 **Final Action: Accept**
(760.61(C))

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 3-277
Recommendation: Continue to accept in principle.
Substantiation: The panel action meets the submitter's intent.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-691 Log #269 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-291
Recommendation: Continue to reject this proposal.
Substantiation: The Technical Committee on Air Conditioning agrees with the panel action. Acceptance of this proposal would have created a conflict with NFPA 90A. "P" type plenum cables are permitted in ceiling cavity plenums and raised floor plenums but not in duct distribution plenums, apparatus casing plenums and air-handling unit room plenums.

This comment is one in a series of comments including 3-89, 3-90, 3-130, 3-169, 3-197, 3-228, 3-242, 3-251, 3-267, and 3-291.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-692 Log #285 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-286
Recommendation: Accept this proposal in principle by accepting the text as proposed and changing the name of the cable to "air duct cable".
Substantiation: See the comments from the Technical Committee on Air Conditioning on proposals 3-174 and 3-213.

The name of the cable should be changed to "air duct cable" to correlate with the actions of panel 16 on proposals 16-37, 16-112, and 16-177. Panel 16 changed the name to avoid confusion with telephone duct cable which is an unlisted outside plant cable used in telephone ducts (conduit).

Why is the Technical Committee on Air Conditioning submitting comments?

In action 80-60, the Standards Council assigned primary jurisdiction for combustibles in plenums to the Technical Committee on Air Conditioning and directed it to seek the cooperation of the committees on Fire Tests, National Electrical Code and Safety to Life. The Technical Committee on Air Conditioning has been cooperating with the National Electrical Code Committee by submitting a series of proposals for the 2005 NEC. It now continues that cooperation by commenting n all proposals dealing with combustibles in plenums. The purpose of the proposals and comments is to bring about correlation between NFPA 70, National Electrical Code and NFPA 90A, Standard for the Installation of Air-Conditioning and Ventilating Systems. The Technical Committee on Air Conditioning established consensus on these comments through a letter ballot.

The NEC Technical Correlating Committee has acknowledged the responsibility of the Technical Committee on Air Conditioning. The TCC action on this proposal states:

"The Technical Correlating Committee understands that the Standards Council has given primary responsibility to the Technical Committee on Air-Conditioning for combustible materials n plenums in cooperation with other committees including the National Electrical Code Committee. The Chair of the Technical Correlating Committee will work with the Chair of the Technical Committee on Air-Conditioning and appoint a Task Group to review the proposals affecting correlation between Code-Making Panels 3, 16, and the Technical Committee on Air-Conditioning. In addition, the Technical Correlating Committee directs that this proposal be referred to the NFPA Committee on Air-Conditioning for comment."

NFPA 5000-2003 Building Construction and Safety Code, in Chapter 52, requires electrical systems and equipment to be designed and constructed in accordance with NFPA 70. Likewise, in Chapter 50, it requires air-conditioning and ventilating systems to be designed and constructed in accordance with NFPA 90A. NFPA 5000 has conflicting provisions for wiring in air handling spaces because of conflicts between NFPA 70 and NFPA 90A. Many of the proposals and comments from the Committee on Air-Conditioning to the National Electrical Code Committee are intended to eliminate these conflicts. These proposals and comments are part of the implementation of the Standards Council's recently issued Scope Coordination Policy for NFPA documents for the built environment.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-693 Log #295 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-288
Recommendation: Accept this proposal in principle by accepting the text as proposed and changing the name of the cable from "duct cable" to "air duct cable" and changing the fine print note per our comment 3-214.
Substantiation: See the comment from the Technical Committee on Air Conditioning on proposal 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-694 Log #296 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-293
Recommendation: Accept this proposal in principle by accepting the comment from the Technical Committee on Air Conditioning on proposal 3-288.
Substantiation: See the comments from the Technical Committee on Air Conditioning on proposals 3-288 and 3-194. Also see Mr. Craig's discussion of the need for smoke detector wiring in ducts in his proposal.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-695 Log #302 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-285
Recommendation: Accept this proposal in principle by accepting the comment from the Technical Committee on Air Conditioning on proposal 3-288.
Substantiation: See the comments from the Technical Committee on Air Conditioning on proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-696 Log #308 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-284
Recommendation: Accept this proposal in principle by accepting the comment from the Technical Committee on Air Conditioning on proposal 3-288.
Substantiation: See the comments from the Technical Committee on Air Conditioning on proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-697 Log #316 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-295
Recommendation: Accept this proposal in principle by accepting the comment from the Technical Committee on Air Conditioning on proposal 3-288.
Substantiation: See the comments from the Technical Committee on Air Conditioning on proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-698 Log #328 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-287
Recommendation: Accept this proposal in principle by accepting the comment from the Technical Committee on Air Conditioning on proposal 3-288.
Substantiation: See the comments from the Technical Committee on Air Conditioning on proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-699 Log #332 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-290
Recommendation: Accept this proposal in principle by accepting the comment from the Technical Committee on Air Conditioning on proposal 3-288.
Substantiation: See the comments from the Technical Committee on Air Conditioning on proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-700 Log #339 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-294
Recommendation: Accept this proposal in principle by accepting the comment from the Technical Committee on Air Conditioning on proposal 3-288.
Substantiation: See the comments from the Technical Committee on Air Conditioning on proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-701 Log #344 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-289
Recommendation: Accept this proposal in principle by accepting the comment from the Technical Committee on Air Conditioning on proposal 3-288.
Substantiation: See the comments from the Technical Committee on Air Conditioning on proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-702 Log #350 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-296
Recommendation: Accept this proposal in principle by accepting the comment from the Technical Committee on Air Conditioning on proposal 3-288.
Substantiation: See the comments from the Technical Committee on Air Conditioning on proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel action statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-703 Log #355 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-292
Recommendation: Accept this proposal in principle by accepting the comment from the Technical Committee on Air Conditioning on proposal 3-288.
Substantiation: See the comments from the Technical Committee on Air Conditioning on proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-704 Log #498 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Allen C. Weidman, The Society of the Plastics Industry, Inc.
Comment on Proposal No: 3-286
Recommendation: Accept this proposal in principle by accepting the text as proposed and changing the name of the cable to "air duct cable".
Substantiation: See our Comments on Proposals 3-174 and 3-213.
The name of the cable should be changed to "air duct cable" to correlate with the actions of Code-Making Panel 16 on Proposals 16-37, 16-112, and 16-177.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-705 Log #499 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Allen C. Weidman, The Society of the Plastics Industry, Inc.
Comment on Proposal No: 3-288
Recommendation: Accept this proposal.
Substantiation: The panel accepted the listing of duct cable in its actions on Proposals 3-192 and 3-286. Acceptance of Proposals 3-174 and 3-213 leaves users without a wiring method, other than metal raceway, for plenums, other than ceiling cavity plenums and raised floor plenums, and air ducts. The acceptance of this proposal will provide a safe and appropriate wiring method for those portions of the air distribution system.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-706 Log #1448 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 3-288
Recommendation: Accept this proposal.
Substantiation: The panel accepted the listing of duct cable in its action on proposals 3-192 and 3-286.
Acceptance of the proposals to restrict the listing and use of "P" type plenum cable (3-174 & 3-213) leaves users without a wiring method, other than metal raceway, for air ducts, duct distribution plenums, apparatus casing plenums and air-handling unit plenums. Wiring should be excluded from these air-handling spaces unless it is associated with the air distribution system. This proposal provides a wiring method that correlates with the requirements of NFPA 90A for supplementary materials in air handling spaces. Furthermore, providing listing and applications for "air duct" cables correlates with the NFPA 90A requirements for listing of limited combustible cable.
See proposal 3-293 by J.R. Craig. In the substantiation, Mr. Craig discusses the need for fire alarm wiring inside of air ducts. He states:
"In my experience it is standard industry practice to install cable from Roof Top Units (RTU's) for HVAC in air return ducts to smoke detection devices."
The Signaling Systems for the Protection of Life and Property TCC supports Mr. Craig's statement and urges the acceptance of the air duct cable proposals with provision for permitting the use of air duct cables inside ducts, duct distribution plenums, apparatus casing plenums and air-handling unit room plenums where the wiring is associated with the function of the air handling system. The panel must provide for fire detection wiring inside the air handling system in a manner that complies with NFPA 90A. Acceptance of this proposal will satisfy that need.
Fire alarm wiring installed in air-handling room plenums is required to be protected to a height of 7 feet. See 760.52(B)(2).

Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-707 Log #1527 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 3-286
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.
The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.
There is no need for any additional environmental air space identifiers or cable type designators.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-708 Log #1528 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 3-293
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-709 Log #1529 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 3-284
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-710 Log #1530 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 3-287
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-711 Log #1537 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 3-295
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-712 Log #1546 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 3-288
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-713 Log #1622 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-291
Recommendation: Continue to reject.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 3's action and statement.

By accepting the majority of the suggested changes in a submitted comment for Proposal 3-94, "Other Spaces for Environmental Air" has been further subdivided into two separate spaces, ceiling cavity and raised floor plenums but the Panel still has maintained the electrical industry terminology associated with these spaces. Providing this further subdivision will enhance the usability of the NEC by making it easier to determine what other spaces are being referenced in this section. It will also improve correlation between the NEC and NFPA 90A.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-714 Log #1684 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-284
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Casparro, Mr. Easter and Mr. Keden. This comment represents the official position of the international Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-715 Log #1687 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-286
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Casparro, Mr. Easter, Mr. Keden and Mr. Sanders. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-716 Log #1692 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-291
Recommendation: Reject this proposal.
Substantiation: I agree with both the panel action and panel statement to reject proposal 3-291. No technical substantiation has been provided that a change to the 2002 NEC language is needed or required. This comment represents the official position of the International Brotherhood of Electrical Workers Code and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-717 Log #1695 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-293
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Casparro, Mr. Easter and Mr. Keden. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-718 Log #1699 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-295
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Casparro, Mr. Easter and Mr. Keden. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-719 Log #1769 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-291
Recommendation: Continue to reject.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.
The task group agrees with Panel 3's action and statement.
By accepting the majority of the suggested changes in a submitted comment for Proposal 3-94, "Other Spaces for Environmental Air" has been further subdivided into two separate spaces, ceiling cavity and raised floor plenums but the Panel still has maintained the electrical industry terminology associated with these spaces. Providing this further subdivision will enhance the usability of the NEC by making it easier to determine what other spaces are being referenced in this section. It will also improve correlation between the NEC and NFPA 90A.
The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-720 Log #1802 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-286
Recommendation: Accept in principle, based on acceptance of the task group's recommendation on Proposal 3-288.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.
See the task group's comment on proposal 3-288.
The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.
The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.
One of the major differences involved creating a higher level of hierarchy for air duct cable. The Task Group members who were at the teleconference call recommended accepting "air duct cable" as a level "up" in the hierarchy sections and charts for all articles covered by Panels 3 and 16. The members felt that duct cable, based on all information submitted in proposals dealing with "air duct cable," had a lower burn rate and less products of combustion than plenum cable. It was also determined that building materials used for the actual air ducting would have the same fire and burn characteristics as the duct cable.

It was also felt that where air duct cable was used in a fabricated duct, the inclusion of this duct cable, as a higher level, would provide direction for installing this type of cable. The two different levels, air duct cable and plenum cable, would permit the NFPA 90A Committee to accept two different test techniques, one test for air duct cable and one for plenum cable.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject

Panel Statement: See the panel statement on Comment 3-576.

Number Eligible to Vote: 13

Ballot Results: Affirmative: 12 Abstain: 1

Comment on Affirmative:

CASPARRO: See my comment on affirmative on Comment 3-189.

Explanation of Abstention:

EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-721 Log #2015 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Gerald Lee Dorna, Belden Wire & Cable

Comment on Proposal No: 3-285

Recommendation: Accept my proposal 3-285 in principle by accepting the broader proposal 3-288 which includes all the changes in my proposal 3-285.

Substantiation: I submitted proposal 3-285, which was part of a series of proposals submitted to establish air duct cable in the NEC. CMP-3 should have accepted the proposal 3-174 submitted by the Technical Committee on Air Conditioning to harmonize the terminology and requirements of the NEC with NFPA 90A. I encourage and support CMP-3 to change its position on proposal 3-174 after they have reviewed the comments submitted to support proposal 3-174.

The requirement for the mechanical protection up to 7 (seven) ft in air handling room plenum is due to the fact that the fire alarm wiring installed in air handling room plenums is required to be protected to a height of 7 (seven) ft. Look up Article 760.52(B)(2).

Belden Wire & Cable wishes to continue to show its support for the addition of air duct cable in the NEC and by doing so show its support for fire safety of cables.

Panel Meeting Action: Reject

Panel Statement: See the panel statement on Comment 3-576.

Number Eligible to Vote: 13

Ballot Results: Affirmative: 12 Abstain: 1

Comment on Affirmative:

CASPARRO: See my comment on affirmative on Comment 3-189.

Explanation of Abstention:

EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-722 Log #2286 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Frank Bisbee, Communication Planning Corporation

Comment on Proposal No: 3-288

Recommendation: Reject this proposal.

Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.

Panel Meeting Action: Accept

Number Eligible to Vote: 13

Ballot Results: Affirmative: 12 Abstain: 1

Comment on Affirmative:

CASPARRO: See my comment on affirmative on Comment 3-189.

Explanation of Abstention:

EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-723 Log #2294 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Frank Bisbee, Communication Planning Corporation

Comment on Proposal No: 3-293

Recommendation: Reject this proposal.

Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted

by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-724 Log #2301 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 3-286
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-725 Log #2303 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 3-287
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-726 Log #2306 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 3-295
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-727 Log #2343 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 3-284
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-728 Log #2612 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 3-284
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 3-192.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-729 Log #2614 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 3-286
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 3-192.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-730 Log #2615 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 3-287
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 3-192.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-731 Log #2620 NEC-P03
Final Action: Accept
(760.71)

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 3-293
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 3-192.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-732 Log #2622 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 3-295
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 3-192.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-733 Log #2670 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-284
Recommendation: Accept this proposal in principle by accepting the comment from CFRA on Proposal 3-288.
Substantiation: See the comments from CFRA on Proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-734 Log #2671 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-285
Recommendation: Accept this proposal in principle by accepting the comment from CFRA on Proposal 3-288.
Substantiation: See the comments from CFRA on Proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-735 Log #2672 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-286
Recommendation: Accept this proposal in principle by accepting the text as proposed and changing the name of the cable to "air duct cable".
Substantiation: See the CFRA comments on Proposals 3-174 and 3-213.
The name of the cable should be changed to "air duct cable" to correlate with the actions of Panel 16 on Proposals 16-37, 16-112 and 16-177.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-736 Log #2673 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-287
Recommendation: Accept this proposal in principle by accepting the comment from CFRA on Proposal 3-288.
Substantiation: See the comments from CFRA on Proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-737 Log #2674 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-288
Recommendation: Accept this proposals in principle by accepting the text as proposed and changing the name of the cable from "duct cable" to "air duct cable".
Substantiation: The panel accepted the listing of duct cable in its action on proposals 3-192 and 3-286. The name of the cable should be changed from "duct cable" to "air duct cable" to correlate with the actions of Panel 16 on Proposals 16-37, 16-112 and 16-177.
Acceptance of the proposals to restrict the listing and use of "P" type plenum cable (3-174 and 3-213) leaves users without a wiring method, other than metal raceway, for air ducts and plenums, other than ceiling cavity plenums and raised floor plenums. Acceptance of this proposal addresses that issue through the use of air duct cable.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-738 Log #2675 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-289
Recommendation: Accept this proposal in principle by accepting the comment from CFRA on Proposal 3-288.
Substantiation: See the comments from CFRA on Proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-739 Log #2676 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-290
Recommendation: Accept this proposal in principle by accepting the comment from CFRA on Proposal 3-288.
Substantiation: See the comments from CFRA on Proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-740 Log #2677 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-291
Recommendation: Continue to reject this proposal.
Substantiation: CFRA agrees with the panel action.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

3-741 Log #2678 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-292
Recommendation: Accept this proposal in principle by accepting the comment from CFRA on Proposal 3-288.
Substantiation: See the comments from CFRA on Proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-742 Log #2679 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-293
Recommendation: Accept this proposal in principle by accepting the comment from the CFRA on Proposal 3-288.
Substantiation: See the comments from the CFRA on Proposals 3-288 and 3-194. Also please review Mr. Craig's discussion of the need for smoke detector wiring in ducts in his proposal.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-743 Log #2680 NEC-P03
Final Action: Reject
(760.71)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-294
Recommendation: Accept this proposal in principle by accepting the comment from the CFRA on Proposal 3-288.
Substantiation: See the comments from CFRA on Proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-744 Log #2681 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-295
Recommendation: Accept this proposal in principle by accepting the comment from the CFRA on Proposal 3-288.
Substantiation: See the comments from CFRA on Proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-745 Log #2682 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 3-296
Recommendation: Accept this proposal in principle by accepting the comment from the CFRA on Proposal 3-288.
Substantiation: See the comments from CFRA on Proposals 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-746 Log #2783 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-284
Recommendation: Accept in principle, based on acceptance of the task group's recommendation on Proposal 3-288.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

See the task group's comment on proposal 3-288.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-747 Log #2785 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-287
Recommendation: Accept in principle, based on acceptance of the task group's recommendation on Proposal 3-288.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

See the task group's comment on proposal 3-288.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-748 Log #2789 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-293
Recommendation: Accept in principle, based on acceptance of the task group's recommendation on Proposal 3-288.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

See the task group's comment on proposal 3-288.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-749 Log #2791 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-295
Recommendation: Accept in principle, based on acceptance of the task group's recommendation on Proposal 3-288.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

See the task group's comment on proposal 3-288.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-750 Log #2518q NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-287
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-751 Log #2518yy NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-284
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-752 Log #2518zz NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-286
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-753 Log #2518ccc NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-293
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-754 Log #2518ddd NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-295
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-755 Log #3035 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Frank Peri, Communications Design Corporation
Comment on Proposal No: 3-292
Recommendation: Accept in principle by accepting the comment from the Technical Committee on Air Conditioning on Proposal 3-288.
Substantiation: I am a member of NFPA 90A and fully support the comments from the Technical Committee on Air Conditioning on Proposal 3-288 and 3-194.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-756 Log #3096 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: Loren M. Caudill, DuPont Electronic & Comunication Technologies
Comment on Proposal No: 3-288
Recommendation: Continue to accept this proposal in principle.
Substantiation: This allows correlation with other NFPA Standards such as NFPA 90A, NFPA 13 and NFPA 5000.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-757 Log #3573 NEC-P03 **Final Action: Reject**
(760.71)

Submitter: James R. Hoover, DuPont, Electronic & Communication Technologies
Comment on Proposal No: 3-288
Recommendation: Continue to accept this proposal in principle. Add a Fine Print Note to 760.71(D) as follows:
FPN: See 8.14.1.5 of NFPA 13 (2002), Installation of Sprinkler Systems, for requirements for sprinklers in concealed spaces containing exposed combustibles.
Substantiation: Section 8.14.1.5 of NFPA 13 (2002), Installation of Sprinkler Systems states:
8.14.1.5 Localized Protection of Exposed Combustible Construction or Exposed Combustibles. In concealed spaces having exposed combustible construction, or containing exposed combustibles, in localized areas, the combustibles shall be protected as follows:
(1) If the exposed combustibles are in the vertical partitions or walls around all or a portion of the enclosure, a single row of sprinklers spaced not over 12 ft (3.7 m) apart nor more than 6 ft (1.8 m) from the inside of the partition shall be permitted to protect the surface. The first and last sprinklers in such a row shall not be over 5 ft (1.5 m) from the ends of the partitions.
(2) If the exposed combustibles are in the horizontal plane, the area of the combustibles shall be permitted to be protected with sprinklers on a light hazard spacing. Additional sprinklers shall be installed no more than 6 ft (1.8 m) outside the outline of the area and not more than 12 ft (1.8 m) on center along the outline. When the outline returns to a wall or other obstruction, the last sprinkler shall not be more than 6 ft (1.8 m) from the wall or obstruction.
The definition of combustible, from NFPA 5000 is:
3.3.340.2 Combustible (Material). A material that, in the form in which it is used and under the conditions anticipated, will ignite and burn; a material that does not meet the definition of noncombustible or limited-combustible.
3.3.340.10* Limited-Combustible (Material). Refers to a building construction material not complying with the definition of noncombustible material (see 3.3.340.11) that, in the form in which it is used, has a potential heat value not exceeding 3500 Btu/lb (8141 kJ/kg), where tested in accordance with NFPA 259 and includes (1) materials having a structural base of noncombustible material, with a surfacing not exceeding a thickness of 1.8 in. (3.2 mm) that has a flame spread index not greater than 50; and (2) materials, in the form and thickness used, other than as described in (1), having neither a flame spread index greater than 25 nor evidence of continued progressive combustion, and of such composition that surfaces that would be exposed by cutting through material on any plane would have neither a flame spread index greater than 25 nor evidence of continued progressive combustion. [**220:**2.1]
3.3.340.11 Noncombustible Material. A material that, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors, when subjected to fire or heat. Materials that are reported as passing ASTM E 136 are considered noncombustible materials.
Since conventional plenum cables are combustible materials, sprinklers may be required when these cables are installed in concealed spaces in a building with a sprinkler system designed to meet NFPA 13. This Fine Print Note will alert building owners to refer to NFPA 13.
Per the NFPA/NFPRF Technical Report entitled "International Limited Combustible Plenum Cable Fire Test Project", March 2001, there is a very large difference in fire safety performance between plenum cables just meeting the Combustible-Exception requirements and those meeting the much safer Limited Combustible plenum cable requirements per NFPA 90A 2002:
1) Duct cables = Limited Combustibles cables = FHC 25/50/8 (Fire Spread Index / Smoke Developed Index / Potential Heat)
2) Combustible - Exception cables = FHC 25/850 (Fire Spread Index / Smoke Developed Index / "No" Potential Heat requirement)
The NFPA 13 requirements for plenum-sprinklers in sprinklered buildings with Combustible-Exception plenum cables presents recognize the additions fire safety hazards that these combustible plenum cables represent.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-758 Log #3706 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-291
Recommendation: Continue rejecting this proposal and make no changes in the terminology of plenum spaces or of "other spaces used for environmental air".
Substantiation: The terminology in NEC 2002 is correct and needs no change. See also the substantiation for my comments on proposal 3-169.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-759 Log #3772 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-284
Recommendation: *Reject this proposal - Also reject the reference to NFPA 90A.*
Substantiation: There is no need for a new category of FPLD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3.
Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.
See further information in the comment I made to recommend rejection of proposal 3-268.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-760 Log #3774 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-286
Recommendation: *Reject this proposal - Also reject the reference to NFPA 90A and the new category of cables.*
Substantiation: There is no need for a new category of FPLD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3.
This proposal should be rejected because, as stated by Mr. Paul Casparro in his negative on proposal 3-169, the NEC is not a product catalog nor is it a design manual and is not intended to contain an all-inclusive list of permitted products. CMP 3, appropriately, did not develop any applications where "duct cable" or "air duct cable" is required instead of plenum cable.
If this proposal were approved, it would create a new category of cable, FPLD, which is simply a subset of the present category of plenum-rated cable (FPLP) (since all cables listed to UL 2424-2002 have to meet the fire safety, mechanical and electrical requirements of traditional plenum cable), while

limiting the application of the latter (traditional plenum-rated cable) without any justification based on fire hazard or fire risk. It has already been shown in detail by the fire hazard and fire risk analysis presented together with my original proposals (see for example the section on pages 2080-2091 of the NEC-ROP of the substantiation for my proposal 3-130) that there is no need to change the requirements, or limit the application, for wiring methods in plenums, because the fire safety record is excellent.

In fact, if FPLP cables, i.e. traditional plenum cables meeting the requirements of NFPA 262, are to be limited in application, then cables contained in metal raceways must also be limited in application, since the work that led to the development of the requirements for plenum rated cables showed that they generate more smoke and flame spread than plenum cables meeting NFPA 262, as is clear from the following Table, containing data from the work conducted to justify the development of NFPA 262 (originally UL 910). All 11 plenum-rated cables had flame spread values not exceeding 5 ft and average optical densities not exceeding 0.15 and 10 of the 11 plenum-rated cables had peak optical densities not exceeding 0.50. On the other hand, 5 of the 17 cables in metal raceways tested had flame spread values exceeding 5 ft, 8 of the 17 cables in metal raceways tested had average optical densities exceeding 0.15 and 10 of the 17 cables in metal raceways tested had peak optical densities exceeding 0.50. This comment recognizes that cables in metal raceways are safe wiring methods for plenums. Therefore traditional plenum cables are also safe and suitable.

Furthermore, any reference to NFPA 90A is not appropriate in a Fine Print Note on fire safety characteristics of wiring methods, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

This comment is one of a series of comments on Articles 300, 725, 760, 770, 800, 820 and 830, regarding "plenum cables". The philosophy behind all the comments is that the NEC is OK as published in 2002, but that 2 minor changes might represent improvements: (i) the clarification of the 6 inch extension of a wiring method into a more restricted environment and (ii) the clarification in the Fine Print Notes that a cable listed to NFPA 262 is listed both based on its "low-smoke" characteristics and its "low-flame-spread" characteristics, and that the two are not listed separately.

(table shown on following page)

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-761 Log #3775 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-287
Recommendation: *Reject this proposal - Also reject the reference to NFPA 90A.*
Substantiation: There is no need for a new category of FPLD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 3-286.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-762 Log #3776 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-288
Recommendation: *Reject this proposal - Also reject the reference to NFPA 90A.*
Substantiation: There is no need for a new category of FPLD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 3-286.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-763 Log #3781 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-293
Recommendation: *Reject this proposal - Also reject the reference to NFPA 90A.*
Substantiation: There is no need for a new category of FPLD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 3-286.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

Comment 3-760 (Log #3774)

Table 1. Flame Spread and Optical Density of Wiring Systems

Cable	Metal Raceway	Flame Spread (ft)	Peak Optical Density	Average Optical Density
Plenum Rated Coaxial Cable	None	3.0	0.12	0.015
Plenum Rated Coaxial Cable	None	3.0	0.25	0.067
Plenum Rated Coaxial Cable	None	3.0	0.45	0.13
Plenum Rated Coaxial Cable	None	3.0	0.60	0.15
Plenum Rated Fire Alarm Cable	None	3.0	0.10	0.028
Plenum Rated Fire Alarm Cable	None	3.0	0.15	0.043
Plenum Rated Inside Wiring	None	3.0	0.35	0.121
Plenum Rated Inside wiring	None	3.0	0.25	0.047
Plenum Rated Station Wire	None	3.5	0.08	0.069
Plenum Rated Station Wire	None	3.5	0.07	-
Plenum Rated Station Wire	None	3.5	0.08	-
Plenum Cable NFPA 262 Limits	None	5.0	0.50	0.15
Coaxial Cable	Steel EMT	7.0	1.85	0.37
Coaxial Cable	Steel EMT	4.5	1.00	0.11
Fire Alarm Cable	Steel EMT	4.0	0.70	0.17
Fire Alarm Cable	Steel EMT	3.5	0.50	0.09
Inside Wiring	Steel EMT	2.5	0.14	0.069
Inside Wiring	Steel EMT	2.5	0.38	0.094
Inside Wiring	Flexible Steel	2.0	0.06	0.008
Inside Wiring	Flexible Steel	2.0	0.04	0.005
Inside Wiring	Rigid Aluminum	2.0	0.20	0.045
Inside Wiring	Flexible Aluminum	2.5	0.56	0.084
Inside Wiring	Flexible Aluminum	2.5	0.31	0.051
Station Wire	Flexible Aluminum	3.5	0.85	0.222
Station Wire	Flexible Aluminum	3.5	0.66	0.157
Fire Alarm Cable	Flexible Aluminum	6.0	0.60	0.22
Fire Alarm Cable	Flexible Aluminum	5.5	1.20	0.19
Coaxial Cable	Flexible Aluminum	13.5	1.85	0.45
Coaxial Cable	Flexible Aluminum	19.5	2.15	0.32

3-764 Log #3783 NEC-P03 **Final Action: Accept**
(760.71)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-295
Recommendation: *Reject this proposal - Also reject the reference to NFPA 90A.*
Substantiation: There is no need for a new category of FPLD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 3-286.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-765 Log #1634 NEC-P03 **Final Action: Reject**
(760.71, 760-71(A), (B) and (C))

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-288
Recommendation: Accept in Principle by accepting Proposal 3-288, as submitted, and changing "duct cable" to "air duct cable".
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved creating a higher level of hierarchy for air duct cable. The Task Group members who were at the teleconference call recommended accepting "air duct cable" as a level "up" in the hierarchy sections and charts for all articles covered by Panels 3 and 16. The members felt that duct cable, based on all information submitted in proposals dealing with "air duct cable," had a lower burn rate and less products of combustion than plenum cable. It was also determined that building materials used for the actual air ducting would have the same fire and burn characteristics as the duct cable.

It was also felt that where air duct cable was used in a fabricated duct, the inclusion of this duct cable, as a higher level, would provide direction for installing this type of cable. The two different levels, air duct cable and plenum cable, would permit the NFPA 90A Committee to accept two different test techniques, one test for air duct cable and one for plenum cable.

The task group recommends that Panel 3 accept the original proposal, but change the name of "duct cable" to "air duct cable".

Proposal 3-288 includes the changes proposed by the technical committee on air conditioning in the following proposals:
3-214, which recommended changing the fine print notes for plenum cable listing to reference NFPA 90A. Panel 3 accepted this proposal. The task group developed a comment to accept proposal 3-214 in principle with a reference to action on this comment. Panel 16 accepted companion proposals.

3-174, which recommended changing the permitted applications of "P" type plenum cable to restrict them to ceiling cavity and raised floor plenums only and thereby remove a conflict with NFPA 90A. Panel 3 rejected this proposal. The task group developed a comment to accept proposal 3-174 in principle with a reference to action on this comment. Panel 16 accepted companion proposals.

3-213, which recommended changing the listing requirements for "P" type plenum cable to list them for use in ceiling cavity and raised floor plenums only and thereby remove a conflict with NFPA 90A. Panel rejected this proposal. The task group developed a comment to accept proposal 3-214 in principle with a reference to action on this comment. Panel 16 accepted companion proposals.

Proposal 3-288 also includes changes recommended in proposals 3-270, 3-271 and 3-272 which require the use of air duct cable in newly built inaccessible ceiling cavity plenums and newly built inaccessible raised floor plenums. Panel 3 rejected these proposals. The task group developed comments to accept proposal 3-270, 3-271, and 3-272 in principle with a reference to action on this comment. Panel 16 accepted companion proposals.

Panel 3 accepted the listing of duct cable in its action on proposal 3-192 and 3-286. The name of the cable should be changed from "duct cable" to "air duct cable" to correlate with the actions of panel 16 of proposals 16-37, 16-112 and 16-177. Panel 16 changed the name to avoid confusion with telephone duct cable which is an unlisted outside plant cable used in telephone ducts (conduit).

This proposal provides a wiring method that correlates with the requirements of NFPA 90A for supplementary materials in air handling spaces. Furthermore, providing listing and applications for "air duct" cables correlates with the NFPA 90A requirements for listing of limited combustible cable. The test requirements for plenum cable (NFPA 262) are less severe than the test requirements for supplementary materials and limited combustible cable.

The acceptance of proposal 3-288, beyond removing conflicts, will improve correlation between NFPA 90A and NFPA 70 and provide a needed wiring method for wiring in air handling spaces other that ceiling cavity plenums and raised floor plenums. Because 725.3(C) and 726.61 both reference 300.22, the wiring permitted in "other space used for environmental air" is retained.

Panel 16 accepted proposals for Articles 770, 800, and 820 having the same requirements as proposed in proposal 3-288.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-766 Log #2616 NEC-P03 **Final Action: Accept**
(760.71, 760-71(A), (B) and (C))

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 3-288
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 3-192.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-767 Log #1685 NEC-P03 **Final Action: Accept**
(760.71 & 760.61)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-285
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Casparro, Mr. Easter and Mr. Keden. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.

Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-768 Log #1900 NEC-P03 **Final Action: Accept**
(760.71 & 760.61)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-287
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Casparro, Mr. Easter, and Mr. Keden. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-769 Log #1902 NEC-P03 **Final Action: Accept**
(760.71 & 760.61)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-289
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Casparro, Mr. Easter, and Mr. Keden. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-770 Log #1691 NEC-P03 **Final Action: Accept**
(760.71& 760.61)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-290
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Casparro, Mr. Easter and Mr. Keden. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-771 Log #1903 NEC-P03 **Final Action: Accept**
(760.71, & 760.61)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-292
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Casparro, Mr. Easter, and Mr. Keden. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-772 Log #1698 NEC-P03 **Final Action: Accept**
(760.71 & 760.61)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-294
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Casparro, Mr. Easter and Mr. Keden. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-773 Log #1905 NEC-P03 **Final Action: Accept**
(760.71 & 760.61)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-296
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Casparro, Mr. Easter, and Mr. Keden. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-774 Log #2518p NEC-P03 **Final Action: Accept**
(760.71, 760.61)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-285
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-775 Log #2518r NEC-P03 **Final Action: Accept**
(760.71, 760.61)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-289
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-776 Log #2518s NEC-P03 **Final Action: Accept**
(760.71, 760.61)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-292
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-777 Log #2518t NEC-P03 **Final Action: Accept**
(760.71, 760.61)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-294
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-778 Log #2518u NEC-P03 **Final Action: Accept**
(760.71, 760.61)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-296
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-779 Log #2518bbb NEC-P03 **Final Action: Accept**
(760.71, 760.61)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-290
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-780 Log #1842 NEC-P03 **Final Action: Reject**
(760.71, 760.71(A), (B), and (C))

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 3-288
Recommendation: Accept this proposal.
Substantiation: The Automatic Fire Alarm Association understands the Air Conditioning Committee has jurisdiction over materials installed in or on air ducts and plenums. Accepting the proposed text provides correlation between the NEC and NFPA 90A-2002.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-781 Log #2518aaa NEC-P03 **Final Action: Accept**
(760.71, 760.71(A) (B) (C))

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 3-288
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-782 Log #2613 NEC-P03 **Final Action: Accept**
(760.71 and 760-61)

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 3-285
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 3-192.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.

Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-783 Log #2617 NEC-P03 **Final Action: Accept**
(760.71 and 760-61)

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 3-289
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 3-192.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-784 Log #2618 NEC-P03 **Final Action: Accept**
(760.71 and 760-61)

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 3-290
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 3-192.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-785 Log #2619 NEC-P03 **Final Action: Accept**
(760.71 and 760-61)

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 3-292
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 3-192.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-786 Log #2621 NEC-P03 **Final Action: Accept**
(760.71 and 760-61)

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 3-294
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 3-192.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-787 Log #2623 NEC-P03 **Final Action: Accept**
(760.71 and 760-61)

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 3-296
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 3-192.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-788 Log #2780 NEC-P03 **Final Action: Reject**
(760.71 and 760-61)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-296
Recommendation: Accept in principle, based on acceptance of the task group's recommendation on Proposal 3-288.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

See the task group's comment on proposal 3-288.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-789 Log #2784 NEC-P03 **Final Action: Reject**
(760.71 and 760-61)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-285
Recommendation: Accept in principle, based on acceptance of the task group's recommendation on Proposal 3-288.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

See the task group's comment on proposal 3-288.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-790 Log #2786 NEC-P03 **Final Action: Reject**
(760.71 and 760-61)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-289
Recommendation: Continue to accept in principle.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

See the task group's comment on proposal 3-288.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject

Panel Statement: See the panel statement on Comment 3-576.

Number Eligible to Vote: 13

Ballot Results: Affirmative: 12 Abstain: 1

Explanation of Abstention:

EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-791 Log #2787 NEC-P03 **Final Action: Reject**
(760.71 and 760-61)

Submitter: Richard P. Owen, City of St. Paul, Minnesota

Comment on Proposal No: 3-290

Recommendation: Accept in principle, based on acceptance of the task group's recommendation on Proposal 3-288.

Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

See the task group's comment on proposal 3-288.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject

Panel Statement: See the panel statement on Comment 3-576.

Number Eligible to Vote: 13

Ballot Results: Affirmative: 12 Abstain: 1

Comment on Affirmative:

CASPARRO: See my comment on affirmative on Comment 3-189.

Explanation of Abstention:

EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-792 Log #2788 NEC-P03 **Final Action: Reject**
(760.71 and 760-61)

Submitter: Richard P. Owen, City of St. Paul, Minnesota

Comment on Proposal No: 3-292

Recommendation: Accept in principle, based on acceptance of the task group's recommendation on Proposal 3-288.

Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

See the task group's comment on proposal 3-288.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject

Panel Statement: See the panel statement on Comment 3-576.

Number Eligible to Vote: 13

Ballot Results: Affirmative: 12 Abstain: 1

Comment on Affirmative:

CASPARRO: See my comment on affirmative on Comment 3-189.

Explanation of Abstention:

EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-793 Log #2790 NEC-P03 **Final Action: Reject**
(760.71 and 760-61)

Submitter: Richard P. Owen, City of St. Paul, Minnesota

Comment on Proposal No: 3-294

Recommendation: Accept in principle, based on acceptance of the task group's recommendation on Proposal 3-288.

Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

See the task group's comment on proposal 3-288.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-794 Log #1830 NEC-P03 **Final Action: Reject**
(760.71 and 760.61)

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 3-286
Recommendation: Accept this proposal in principle by continuing to provide for the listing of duct cable.
Insert "CMD" in Table 760.61 as a substitute for FPL, FPLR, FPLP and FPLD.
Substantiation: Duct cable provides a higher level of fire safety than conventional plenum cable (NPLFP, FPLP).
Panel 16 accepted the listing of Type CMD cable in Proposal 16-112. Communications cables are permitted to substitute for power-limited fire alarm cables where the fire resistance of the communications cable is equal or higher.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-795 Log #1447 NEC-P03 **Final Action: Reject**
(760.71, Table 760.61)

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 3-286
Recommendation: Accept this proposal in principle by continuing to provide for the listing of duct cable.
Insert "CMD" in Table 760.61 as a substitute for FPL, FPLR, FPLP and FPLD.
Substantiation: Duct cable provides a much higher level of fire safety than conventional plenum cable (NPLFP, FPLP).
Panel 16 accepted the listing of Type CMD cable in proposal 16-112. Communications cables are permitted to substitute for power-limited fire alarm cables where the fire resistance of the communications cable is equal or higher.
Panel Meeting Action: Reject
Panel Statement: See the panel statement on Comment 3-576.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-796 Log #1901 NEC-P03 **Final Action: Accept**
(760.71(A) ,(B), and (C))

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-288
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Casparro, Mr. Easter, and Mr. Keden. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-797 Log #232 NEC-P03 **Final Action: Reject**
(760.71(D), FPN)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 3-297
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from the Technical Committee on Air Conditioning on proposal 3-215.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision dated November 13, 2003 that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending the completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-798 Log #1701 NEC-P03 **Final Action: Accept**
(760.71(D), FPN)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 3-297
Recommendation: This proposal should be rejected and the proposed 2005 text should be deleted. Retain the current 2002 FPN for 760.71(D)
Substantiation: An effort to better correlate the requirements in the NFPA 70 Standard with the NFPA 90A will require teamwork and representation from both committees. There is no such definition - adequate fire resistant and low smoke producing characteristics located in the 2002 NFPA 90A - Standard for Installation of Air-Conditiioning and Ventilating Systems. It is a requirement not a definition. The new proposed FPN language - For a definition of adequate fire-resistant and low smoke producing characteristics is not in the form of a true FPN which is used as a suggestion but its language spells more of a requirement. This FPN is in a violation of the nature of a FPN and also the NEC Style Manual 3.1.3 which state FPNs contain explanatory information. They shall not contain requirements and shall not be written in mandatory language. This proposal does not add to the clarity and consistency of the National Electrical Code. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-799 Log #2811 NEC-P03 **Final Action: Reject**
(760.71(D), FPN)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 3-297
Recommendation: Continue to accept in principle.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.
The task group agrees with Panel 3's action and statement.
The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc.

Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision dated November 13, 2003 that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending the completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-800 Log #3725 NEC-P03 **Final Action: Reject**
(760.71(D), FPN)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 3-297
Recommendation: 760.71 Listing and Marking of PLFA Cables and Insulated Continuous Line Type Fire Detectors.
Type FPL cables installed as wiring within buildings shall be listed as being resistant to the spread of fire and other criteria in accordance with 760.71(A) through (H) and shall be marked in accordance with 760.71(I). Insulated continuous line type fire detectors shall be listed in accordance with 760.71(J).
(A) Conductor Materials. Conductors shall be solid or stranded copper.
(B) Conductor Size. The size of conductors in a multiconductor cable shall not be smaller than 26 AWG. Single conductors shall not be smaller than 18 AWG.
(C) Ratings. The cable shall have a voltage rating of not less than 300 volts.
(D) Type FPLP. Type FPLP power limited fire alarm plenum cable shall be listed as being suitable for use in ducts, plenums, and other space used for environmental air and shall also be listed as having adequate fire resistant and low smoke producing characteristics.
FPN: One method of defining a cable that is low smoke producing cable and fire-resistant cable is that the cable exhibits a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.52 m (5 ft) or less when tested in accordance with NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air Handling Spaces. ~~by establishing an acceptable value of the smoke produced when tested in accordance with NFPA 262-1999, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air Handling Spaces, to a maximum peak optical density of 0.5 and a maximum average optical density of 0.15. Similarly, one method of defining fire-resistant cables is by establishing a maximum allowable flame travel distance of 1.52 m (5 ft) when tested in accordance with the same test.~~
No change for 760.71 (E) through 760.71 (I)
Substantiation: This comment recommends a slight change in wording for the existing Fine Print Note, by recognizing that listing of plenum cable by NFPA 262 represents listing to both low smoke and low flame spread, and that cables cannot be listed separately to either property. This is basically an editorial change, as a clarification, to the existing Fine Print Note.
This comment also recommends a rejection of the initial concept in the proposal to reference NFPA 90A, which would mean that requirements for these cables could change without the knowledge and assent of NEC CMP members.
It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3. As stated by Mr. Harold Ohde in his negative on CMP 16 action on proposal 16-9: "Other codes should not be deciding on the typed of wiring methods to be used in these spaces. The electrical experts are capable of doing this and it is covered quite well in 300.22. The more we let those outside of the NEC make these decisions the more we weaken adoption of the NEC. In addition, we could make the change and there is nothing that requires a jurisdiction to even adopt 90A."
This comment is one of a series of comments on Articles 300, 725, 760, 770, 800, 820 and 830, regarding "plenum cables". The philosophy behind all the comments is that the NEC is OK as published in 2002, but that 2 minor changes might represent improvements: (i) the clarification of the 6 inch extension of a wiring method into a more restricted environment and (ii) the clarification in the Fine Print Notes that a cable listed to NFPA 262 is listed both based on its "low-smoke" characteristics and its "low-flame-spread" characteristics, and that the two are not listed separately.
I understand that this comment represents a change in some of the concepts the submitter believed when the proposal was submitted, but "even old dogs can learn".
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision dated November 13, 2003 that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending the completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

3-801 Log #1357 NEC-P03 **Final Action: Accept in Principle**
(760.71(G))

Submitter: Barry F. O'Connell, Tyco Thermal Controls
Comment on Proposal No: 3-299
Recommendation: (G) Fire Alarm Circuit Integrity (CI) Cable. Cables suitable for use in fire alarm systems to ensure survivability of critical circuits during a specified time under fire conditions shall be listed as circuit integrity (CI) cable or listed as part of an Electrical Circuit Protective System. Cables identified in 760.71 (D), (E), and (F), and (H) that meet the requirements for circuit integrity shall have the additional classification using the suffix "CI" (for example, FPLP-CI, FPLR-CI and FPL-CI).
Substantiation: The definition as proposed is narrow, because it ignores the other "Electrical Circuit Protective Systems", the listed fire-resistant electrical cable systems.
"Circuit Integrity" was introduced in Article 760 in the 1999 code, and given a common sense definition that referred to a cable's capability "to ensure continued operation of critical circuits during a specified time under fire conditions". In a FPN, it references UL2196 as the required fire-test - the same benchmark that applies to Electrical Circuit Protective Systems.
The additional words suggested are consistent with the definition in the Panel Action on Proposal 3-255, as follows:
"Fire Alarm Circuit Integrity (CI) Cable. Cables suitable for use in fire alarm systems to ensure survivability of critical circuits during a specified time under fire conditions shall be listed as circuit integrity (CI) cable or listed as part of an Electrical Circuit Protective System".
Panel Meeting Action: Accept in Principle
Panel Statement: See panel action and statement on Comment 3-802.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-802 Log #1449 NEC-P03 **Final Action: Accept in Principle**
(760.71(G))

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 3-298
Recommendation: Continue to accept in principle.
Substantiation: The Signaling Systems for the Protection of Life and Property TCC supports the panel action.
Panel Meeting Action: Accept in Principle
Revise the text in the proposal action statement to read as follows:
"760.82(G) Fire Alarm Circuit Integrity (CI) Cable or Electrical Circuit Protective System. Cables used for survivability of critical circuits shall be listed as circuit integrity (CI) cable. Cables specified in 760.82 (D), (E), (F), and (H) and used for circuit integrity shall have the additional classification using the suffix "-CI". Cables that are part of a listed electrical circuit protective system shall be considered to meet the requirements of survivability.
FPN No. 1: Fire Alarm Circuit Integrity (CI) Cable and Electrical Circuit Protective Systems may be used for fire alarm circuits to comply with the survivability requirements of
NFPA 72®-2002, National Fire Alarm Code®, 6.9.4.3 and 6.9.4.6, that the circuit maintain its electrical function during fire conditions for a defined period of time."
FPN No. 2 remains unchanged.

Panel Statement: The panel agrees that a cable within an Electrical Circuit Protective System is not a fire alarm circuit integrity cable. The panel concludes that information on the use of these systems for fire alarm circuits is appropriate in Article 760. The wording of 760.82(G) has been modified accordingly.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-803 Log #1817 NEC-P03 **Final Action: Accept in Principle**
(760.71(G))

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 3-298
Recommendation: Continue to accept in principle.
Substantiation: The Automatic Fire Alarm Association supports the panel action.
Panel Meeting Action: Accept in Principle
Panel Statement: See panel action and statement on Comment 3-802.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-804 Log #3051 NEC-P03 **Final Action: Reject**
(760.71(G))

Submitter: James Conrad, Rockbestors-Surprenant Cable Corp.
Comment on Proposal No: 3-298
Recommendation: Reject proposal 3-298.
Substantiation: 760.71(G) is for the Listing and marking of cables that have passed all the UL requirements specific to each type of cable. For "CI" cables you must first be listed as a "FPL" cable per UL 1424 (see Attachment "A" that I have provided as an excerpt from UL 2196). Next, you must pass UL 2196 as stated paragraph 4.3a (see Attachment "B" that I have provided as an excerpt from UL 2196). The cables must be installed without conduit "free air". This is not an option as the submitter indicated in his substantiation. UL Melville had concerns about cables tested in conduit and the standard "UL 2196" was changed so only cables tested in free air could qualify for the "CI" suffix.

If the question is "can an Electrical Circuit Protective System be used to meet the requirements of survivability" the answer is yes and it is already allowed in NFPA 72. In fact, when you look in the 2002 NFPA 72 Handbook (see Attachment "C" that I have provided as an excerpt from NFPA 72 Handbook), it talks about 2-hour rated cable or cable system. The cable system is an Electrical Circuit Protective System and NFPA 72 Handbook gives an example of this using fire rated MI cable.

This proposal should be rejected. The proposed wording does not belong in 760.71(G).

Note: Supporting material is available for review at NFPA Headquarters.
Panel Meeting Action: Reject
Panel Statement: The panel concludes that information on Electrical Circuit Protective Systems is appropriate in this section. See panel action and statement on Comment 3-802.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 13

3-804a Log #1310 NEC-P03 **Final Action: Accept**
(770.71)

Note: The Technical Correlating Committee understands that the Panel Action for the Comment should be "Accept" to be consistent with the actions on other comments based on the Standards Council decision on duct cable.
Submitter: Wayne G. Carson, Carson Assoc. Inc.
Comment on Proposal No: 3-286
Recommendation: Reject proposal.
Substantiation: There is no need for an additional cable category and there is no technical justification for this change
Panel Meeting Action: Reject
Panel Statement: It appears that the print line reference should have been to 760.71 and, as such, belongs to CMP 3.
Number Eligible to Vote: 13
Ballot Results: Affirmative: 12 Abstain: 1
Comment on Affirmative:
CASPARRO: See my comment on affirmative on Comment 3-189.
Explanation of Abstention:
EGESDAL: See my Explanation of Abstention for Comment 3-63.

ARTICLE 770 — OPTICAL FIBER CABLES AND RACEWAYS

16-8 Log #2161 NEC-P16 **Final Action: Accept in Principle**
(770)

Note: The Technical Correlating Committee directs that this comment be reported as "Reject" as the Technical Correlating Committee reaffirms its position not to relocate Article 770 to Chapter 8. No substantiation was presented to move the material.
Submitter: Robert W. Jensen, dbi-Telecommunications
Comment on Proposal No: 16-5a
Recommendation: Accept this proposal.
Substantiation: It appears the TCC statemen"t

"Article 770 is used for communications, signaling, and remote control, as well as power at times. Where installed as a composite cable containing power conductors, these cables are classified as electrical cables and must be installed in accordance with other requirements of Chapters 1."

This overlooks section 770.5(C). That section (shown below) defers to other parts of the code for composite electrical/optical fiber cables.

(C) Composite. These cables contain optical fibers and current-carrying electrical conductors, and shall be permitted to contain non-current-carrying conductive members such as metallic strength members and metallic vapor barriers. Composite optical fiber cables shall be classified as electrical cables in accordance with the type of electrical conductors.

Article 770 deals only with optical fiber cables <u>without current-carrying members</u>. Since the preponderant use of these cables is for communications, Article 770 should be in Chapter 8. We have reviewed article 770 and concluded that moving the article into chapter 8 will change none of the requirements.
Panel Meeting Action: Accept in Principle

Insert the following immediately after "770.2 Definitions.":"See Article 100. For the purposes of this article, the following additional definitions apply."
Panel Statement: The panel action on this comment is a recommendation to the TCC to accept this comment with this change to ensure that Article 100 definitions continue to apply.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-9 Log #996 NEC-P16 **Final Action: Accept**
(770, 800, 820 and 830)

Submitter: Stanley D. Kahn, Tri-City Electric Co., Inc.
Comment on Proposal No: 16-5
Recommendation: Renumber Articles 725, 760, 770, 800, 820 and 830 as shown in the following table.

(table shown on following page
Substantiation: The NEC Technical Correlating Committee action on proposal 3-126 was:

"The Technical Correlating Committee directs the chairs of Code-Making Panels 3 and 16 to establish a small task group to consider the sequential numbering proposed by this and similar proposals. With the numbering as accepted, the addition of a new rule to any article would result in renumbering everything following that section. The task group should consider using a larger range of numbers to allow for future expansion of the articles. The task group can develop comments to accomplish this numbering."

The task group members are:
Jim Brunssen- CMP 16
Paul Casparro- CMP 3
Sandy Egesdal- CMP 3
Stanley Kahn- CMP 16
Stanley Kaufman- CMP 16
Mark Ode- CMP 3

Implementation of the renumbering scheme in the attached table will allow ample room for insertion of future sections.
Panel Meeting Action: Accept
Panel Statement:CMP 16 requests Staff to appropriately renumber base upon meeting actions.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-10 Log #3705 NEC-P16 **Final Action: Accept**
(770, 800, 820 and 830)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 16-28
Recommendation: Reject this proposal.
Substantiation: Note: State the problem that will be resolved by your recommendation. Give the specific reason for your comment including copies of tests, research papers, fire experience, etc. If more than 200 words, it may be abstracted for publication.

The G designation of cables should be retained because it serves as a way for the Canadian manufacturers to be able to sell their products which have been listed to CSA FT4. The CSA FT4 test is similar to the UL 1581 vertical cable tray test, but is somewhat more severe.

While CMP 3 and CMP 12 have rejected this concept, CMP 16 has accepted this proposal (in part). All three of the proposals (3-172, 12-52 and 16-28) should be rejected.

As a member of the Technical Committee on Air Conditioning I see no reason for their comment on this issue, which has no involvement with wiring in cable trays.
Panel Meeting Action: Accept
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

	725	760	770	800	820	830
#	ARTICLE 725 Class 1, Class 2, and Class 3 Remote-Control, Signaling, and Power-Limited Circuits	ARTICLE 760 Fire Alarm Systems	ARTICLE 770 Optical Fiber Cables and Raceways	ARTICLE 800 Communications Circuits	ARTICLE 820 Community Antenna Television and Radio Distribution Systems	ARTICLE 830 Network-Powered Broadband Communications Systems
	I. General	I. General	I. General	I. General	I. General	I. General
1	725.1 Scope.	760.1 Scope.	770.1 Scope.	800.1 Scope.	820.1 Scope.	830.1 Scope.
2	725.2 Definitions.	760.2 Definitions.	770.2 Definitions.	800.2 Definitions.	820.2. Definitions.	830.2 Definitions.
3	725.3 Locations and Other Articles. [ROP changed to: 725.3 Other Articles.]	760.3 Locations and Other Articles. [ROP changed to: 760.3 Other Articles.]	770.3 Locations and Other Articles. [ROP changed to: 770.3 Other Articles.]	800.3 Hybrid Power and Communications Cables. [ROP changed to: 800.3 Other Articles]	820.3 Locations and Other Articles. [ROP changed to: 820.3 Other Articles.]	830.3 Other Articles (Include hazardous locations). [ROP changed to: 830.3 Other Articles.]
4						
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6			770.4 Optical Fiber Cables.			
7						
8						
9			770.5 Types.			
10						
11						
12			770.6 Raceways for Optical Fiber Cables.			
13						
14						
15					820.4 Energy Limitations.	830.4 Power Limitations.
16						
17						

	725	760	770	800	820	830
18				800.4 Equipment. [ROP changed to: 800.4 Installation of Equipment.]		
19						
20						
21	725.5 Access to Electrical Equipment Behind Panels Designed to Allow Access. [ROP changed to: 725.7 Access to Electrical Equipment Behind Panels Designed to Allow Access.]	760.5 Access to Electrical Equipment Behind Panels Designed to Allow Access. [ROP changed to: 760.7 Access to Electrical Equipment Behind Panels Designed to Allow Access.]	770.7 Access to Electrical Equipment Behind Panels Designed to Allow Access.	800.5 Access to Electrical Equipment Behind Panels Designed to Allow Access. [ROP changed to: 800.7 Access to Electrical Equipment Behind Panels Designed to Allow Access.]	820.5 Access to Electrical Equipment Behind Panels Designed to Allow Access. [ROP changed to: 820.7 Access to Electrical Equipment Behind Panels Designed to Allow Access.]	830.5 Access to Electrical Equipment Behind Panels Designed to Allow Access. [ROP changed to: 830.7 Access to Electrical Equipment Behind Panels Designed to Allow Access.]
22						
23						
24	725.6 Mechanical Execution of Work. [ROP changed to: 725.8 Mechanical Execution of Work.]	760.6 Mechanical Execution of Work. [ROP changed to: 760.8 Mechanical Execution of Work.]	770.8 Mechanical Execution of Work.	800.6 Mechanical Execution of Work. [ROP changed to: 800.8 Mechanical Execution of Work.]	820.8 Mechanical Execution of Work.	830.8 Mechanical Execution of Work.
				[ROP moved: (800.8 Hazardous (Classified) Locations.) to 800.3]		
25						
26						

	725	760	770	800	820	830
27	725.9 Class 1, Class 2, and Class 3 Circuit Grounding. [Note: 725.9 was omitted from of the ROP Preprint.]	760.9 Fire Alarm Circuit and Equipment Grounding.				
28						
29						
30	725.10 Class 1, Class 2, and Class 3 Circuit Identification	760.10 Fire Alarm Circuit Identification				
31	725.9 Safety-Control Equipment. [ROP changed to: 725.11 Safety-Control Equipment.]	760.11 Fire Alarm Circuits Extending Beyond One Building.				
32						
33						
34	725.15 Class 1, Class 2, and Class 3 Circuit Requirements.	760.15 Fire Alarm Circuit Requirements.				
35						
36						
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38						
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	725	760	770	800	820	830
40				II. Wires and Cables Outside and Entering Buildings	II. Cables Outside and Entering Buildings	II. Cables Outside and Entering Buildings
						830.10 Entrance Cables.
42						
43						
44				800.10 Overhead Communications Wires and Cables. [ROP changed to: 800.11 Overhead Communications Wires and Cables.]	820.10 Outside Cables [ROP changed to: 820.11 Overhead Cables.]	830.11 Aerial Cables.
45						
46						
47				800.11 Underground Circuits Entering Buildings. [ROP changed to: 800.12 Underground Circuits Entering Buildings.]	820.11 Entering Buildings. [ROP changed to: 820.12 Underground Circuits Entering Buildings.]	830.12 Underground Circuits Entering Buildings.
48						
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	725	760	770	800	820	830
50				800.12 Circuits Requiring Primary Protectors. [ROP changed to: 800.13 Circuits Requiring Primary Protectors.] ROP 16-149 extracted the listing requirements for drop wire and created new section 800.81.		
51						
52						
53				800.13 Lightning Conductors. [ROP changed to: 800.14 Lightning Conductors.]		
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	725	760	770	800	820	830
	II. Class 1 Circuits	II. Non–Power-Limited Fire Alarm (NPLFA) Circuits				
60	725.21 Class 1 Circuit Classifications and Power Source Requirements.	760.21 NPLFA Circuit Power Source Requirements.				
61		.				
62						
63	725.23 Class 1 Circuit Overcurrent Protection.	760.23 NPLFA Circuit Overcurrent Protection.				
64						
65						
66	725.24 Class 1 Circuit Overcurrent Device Location.	760.24 NPLFA Circuit Overcurrent Device Location.				
67						
68						
69	725.25 Class 1 Circuit Wiring Methods.	760.25 NPLFA Circuit Wiring Methods.				
70						
71						
72	725.26 Conductors of Different Circuits in Same Cable, Enclosure, or Raceway.	760.26 Conductors of Different Circuits in Same Cable, Enclosure, or Raceway.				
73						
74						
75	725.27 Class 1 Circuit Conductors.	760.27 NPLFA Circuit Conductors.				

	725	760	770	800	820	830
76						
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78	725.28 Number of Conductors in Cable Trays and Raceway, and Derating.	760.28 Number of Conductors in Cable Trays and Raceways, and Derating.				
79						
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81	725.29 Circuits Extending Beyond One Building.					
82						
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84		760.30 Multiconductor NPLFA Cables.				
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			II. Protection	III. Protection	III. Protection	III. Protection
90				800.30 Protective Devices.		830.30 Primary Electrical Protection.
91						
92						
93			770.33 Grounding of Entrance Cables.	800.33 Cable Grounding.	820.33 Grounding of Outer Conductive Shield of a Coaxial Cable.	830.33 Grounding or Interruption of Metallic Members of Network-Powered Broadband Communications Cables.
94						

	725	760	770	800	820	830
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			IV. Grounding Methods	IV. Grounding Methods	IV. Grounding Methods	IV. Grounding Methods
100				800.40 Cable and Primary Protector Grounding.	820.40 Cable Grounding.	830.40 Cable, Network Interface Unit, and Primary Protector Grounding.
101						
102						
103					820.41 Equipment Grounding.	
104						
105						
106				800.41 Primary Protector Grounding and Bonding at Mobile Homes. [ROP changed to: 800.42 Primary Protector Grounding and Bonding at Mobile Homes.]	820.42 Bonding and Grounding at Mobile Homes.	830.42 Bonding and Grounding at Mobile Homes.
107						
108						
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	725	760	770	800	820	830
	III. Class 2 and Class 3 Circuits	III. Power-Limited Fire Alarm (PLFA) Circuits	III. Cables Within Buildings	V. Communications Wires and Cables Within Buildings	V. Cables Within Buildings	V. Wiring Methods Within Buildings
			[ROP deleted: 770.49 Fire Resistance of Optical Fiber Cables.	[ROP deleted: 800.49 Fire Resistance of Optical Fiber Cables.	[ROP deleted: 820.49 Fire Resistance of Optical Fiber Cables.	
110				800.48 Raceways for Communications Wires and Cables.		
111						
112						
113			770.50 Listing, Marking, and Installation of Listed Optical Fiber Cables. [ROP changed to: 770.50 Installation of Optical Fiber Cables.]	800.50 Listing, Marking, and Installation of Communications Wires and Cables. [ROP changed to: 800.50 Installation of Communications Wires and Cables.]	820.50 Listing, Marking, and Installation of Coaxial Cables. [ROP changed to: 820.50 Installation of Coaxial Cables.]	
114						
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120	725.41 Power Sources for Class 2 and Class 3 Circuits	760.41 Power Sources for PLFA Circuits.				
121	725.42 Circuit Marking.	760.42 Circuit Marking.				

	725	760	770	800	820	830
122						
123						
124	725.51 Wiring Methods on Supply Side of the Class 2 or Class 3 Power Source.	760.51 Wiring Methods on Supply Side of the PLFA Power Source.				
125						
126						
127	725.52 Wiring Methods and Materials on Load Side of the Class 2 or Class 3 Power Source.	760.52 Wiring Methods and Materials on Load Side of the PLFA Power Source.				
128						
129						
130	725.54 Installation of Conductors and Equipment in Cables, Compartments, Cable Trays, Enclosures, Manholes, Outlet Boxes, Device Boxes, and Raceways for Class 2 and Class 3 Circuits.	760.54 Installation of Conductors and Equipment in Cables, Compartments, Cable Trays, Enclosures, Manholes, Outlet Boxes, Device Boxes, and Raceways for Power-Limited Circuits.				
131						
132						

	725	760	770	800	820	830
133	725.55 Separation from Electric Light, Power, Class 1, Non–Power-Limited Fire Alarm Circuit Conductors, and Medium Power Network-Powered Broadband Communications Cables.	760.55 Separation from Electric Light, Power, Class 1, NPLFA, and Medium Power Network-Powered Broadband Communications Circuit Conductors.	770.52 Installation of Optical Fibers and Electrical Conductors. [ROP changed to: 770.55 Installation of Optical Fibers and Electrical Conductors.]	800.52 Installation of Communications Wires, Cables, and Equipment. [ROP changed to: 800.55 Installation of Communications Wires, Cables, and Equipment.	820.52 Installation of Cables and Equipment. [ROP changed to: 820.55 Installation of Cables and Equipment.	830.58 Installation of Network-Powered Broadband Communications Cables and Equipment. [ROP changed to: 830.55 Installation of Network-Powered Broadband Communications Cables and Equipment.]
134						
135						
136	725.56 Installation of Conductors of Different Circuits in the Same Cable, Enclosure, or Raceway.	760.56 Installation of Conductors of Different PLFA Circuits, Class 2, Class 3, and Communications Circuits in the Same Cable, Enclosure, or Raceway.				
137						
138						
139	725.57 Installation of Circuit Conductors Extending Beyond One Building.					
140						
141						

	725	760	770	800	820	830
142		760.57 Conductor Size.				
143						
144						
145	725.58 Support of Conductors.	760.58 Support of Conductors.				
146						
147						
148		760.59 Current-Carrying Continuous Line-Type Fire Detectors.				
149						
150						
151						830.54 Medium Power Network-Powered Broadband Communications System Wiring Methods. [ROP changed to: 830.60 Medium Power Network-Powered Broadband Communications System Wiring Methods.]
152						
153						

	725	760	770	800	820	830
154	725.61 Applications of Listed Class 2, Class 3, and PLTC Cables.	760.61 Applications of Listed PLFA Cables.	770.53Applications of Listed Optical Fiber Cables and Raceways. [ROP changed to: 770.61Applications of Listed Optical Fiber Cables and Raceways.]	800.53 Applications of Listed Communications Wires and Cables and Communications Raceways. [ROP changed to: 800.61 Applications of Listed Communications Wires and Cables and Communications Raceways.]	820.53 Applications of Listed CATV Cables. [ROP changed to: 820.61 Applications of Listed CATV Cables.]	830.55 Low Power Network-Powered Broadband Communications System Wiring Methods. [ROP changed to: 830.61 Low Power Network-Powered Broadband Communications System Wiring Methods.]
155						
156						
157						830.56 Protection Against Physical Damage. [ROP changed to: 830.62 Protection Against Physical Damage.]
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160						830.57 Bends. [ROP changed to: 830.63 Bends.]
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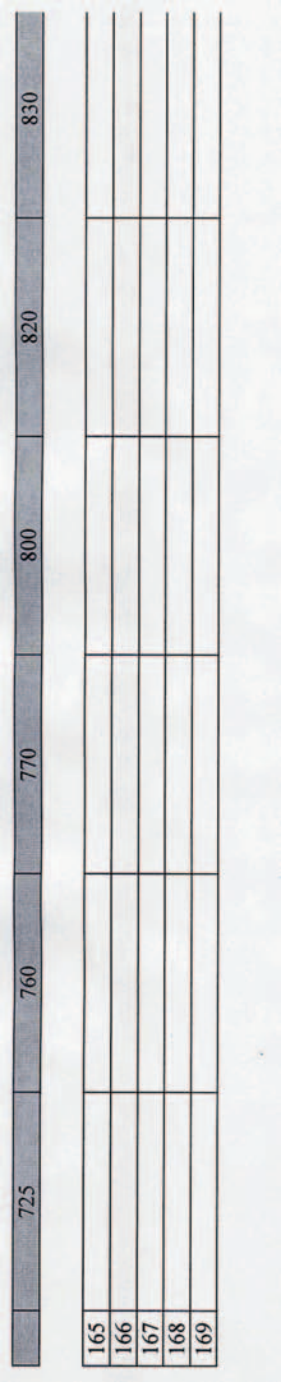
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	725	760	770	800	820	830

	V Listing Requirements	V Listing Requirements	IV Listing Requirements	VI Listing Requirements	VI Listing Requirements	VI Listing Requirements
170				800.4 Equipment [ROP changed to: 800.80 Equipment.]		
171						
172						
173				[ROP 16-149 created: 800.81 Drop wire & cable.]		
174						
175						
176		760. 31 NPLFA Cables. [ROP changed to: 760. 81 NPLFA Cables.]				
177						
178						

	725	760	770	800	820	830
179	725.71 Class 2, Class 3, and Type PLTC Cables. [ROP changed to: 725.82 Class 2, Class 3, and Type PLTC Cables.]	760.71 PLFA Cables and Insulated Continuous Line-Type Fire Detectors. [ROP changed to: 760.82 PLFA Cables and Insulated Continuous Line-Type Fire Detectors.]	770.51 Optical Fiber Cables. [ROP changed to: 770.82 Optical Fiber Cables.]	800.51 Communications Wires and Cables. [ROP changed to: 800.82 Communications Wires and Cables.]	820.51 Additional Listing Requirements. [ROP changed to: 820.82 Coaxial Cables.]	830.5 Network-Powered Broadband Communications Equipment and Cables. [ROP changed to: 830.82 Network-Powered Broadband Communications Equipment and Cables.]
180						
181						
182			770.51 Optical Fiber Raceways. [ROP changed to: 770.83 Optical Fiber Raceways.	800.51 Communications Raceways. [ROP changed to: 800.83 Communications Raceways.]		
183						

16-11 Log #31 NEC-P16 **Final Action: Accept in Part**
(770.2)

Submitter: Stanley Kaufman, CableSafe, Inc.
Comment on Proposal No: 16-9
Recommendation: Continue to accept the proposal in principle.
Substantiation: The sources of the proposed definitions are shown in the table below:

Term	Source
Air Duct	NFPA 90A-2002, 3.3.5
Ceiling Cavity Plenum	NFPA 90A-2002, 4.3.10.2
Raised Floor Plenum	NFPA 90A-2002, 4.3.10.6.1
Duct Distribution Plenum	NFPA 90A-2002, 4.3.10.3
Apparatus Casing Plenum	NFPA 90A-2002, 4.3.10.4
Air-Handling Unit Plenum	NFPA 90A-2002, 4.3.10.5

Panel Meeting Action: Accept in Part
Add a definition of air duct as follows:
"Air Duct. A conduit or passageway for conveying air to or from heating, cooling, air conditioning, or ventilating equipment, but not including the plenum. [**97**, 1-2.6, 2003]"
Panel Statement: The definition of "Air Duct" is to be retained. This definition is an extract from NFPA 97-2003.
Delete all other definitions from Proposal 16-9. These definitions are not required because they are not being used.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 2
Explanation of Negative:
JENSEN: Delete the term "air duct" in the Panel meeting action. This air ducts definition is taken from NFPA 97 and the Standards Council Decision 03-10-25 states that harmonization is to be done with 90A once they are complete. I support the Standards Council Decision 03-10-25. OHDE: I am voting negative on the panel action and panel statement. Panel statement and submitter's substantiation are in conflict with each other. Submitter original source of the definition of "air duct" was the NFPA 90A-2002 Standard and acceptance of this definition would be in violation of Standards Council Decision 03-10-25. As a last minute ditch effort, the definition of "air duct" was retained because it appeared in another NFPA document. The definition of "air duct" is an extract from NFPA 97-2003.

16-12 Log #1792 NEC-P16 **Final Action: Accept in Part**
(770.2)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-9
Recommendation: Continue to Accept in Principle.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.
In the Proposal stage, Panel 3 did not accept the use of air duct, air handling rooms, apparatus casing plenum, ceiling cavity plenum, duct distribution plenum, and raised floor plenum, within Section 300.22, or in Articles 725 and 760 and did not accept the concept of including these definitions in Article 100. In the Proposal stage, Panel 16 accepted the concept of these definitions in Article 100 and also accepted the use of these terms in Articles 770, 800, 820, and 830.
The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.
The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.
One of the major differences involved definitions for terms used within these articles and also terms that would be used in Section 300.22 dealing with ducts, plenums, and other spaces used for environmental air.
The Task Group members who were available for the teleconferences recommended accepting the definitions for "Ceiling Cavity Plenum" and "Raised Floor Plenums" but not the remainder of the definitions. The members felt that the other definitions were not clear and concise enough but should be revised b y the NFPA 90A committee before submitting to the NEC.
The Task Group further suggested that Panel 16 place the remainder of these definitions in Articles 800, 820, and 830 in the definition sections for each article, if the Panel members felt the definitions would be of benefit in these articles.
The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. form Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Accept in Part
Add a definition of air duct as follows:
"Air Duct. A conduit or passageway for conveying air to or from heating, cooling, air conditioning, or ventilating equipment, but not including the plenum. [**97**, 1-2.6, 2003]"
Panel Statement: The definition of "Air Duct" is to be retained. This definition is an extract from NFPA 97-2003.
Delete all other definitions from Proposal 16-9. These definitions are not required because they are not being used.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 2
Explanation of Negative:
JENSEN: Delete the term "air duct" in the Panel meeting action. This air ducts definition is taken from NFPA 97 and the Standards Council Decision 03-10-25 states that harmonization is to be done with 90A once they are complete. I support the Standards Council Decision 03-10-25. OHDE: See my Explanation of Negative vote on Comment 16-11.

16-13 Log #2549 NEC-P16 **Final Action: Reject**
(770.2)

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 16-9
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 16-37.
Panel Meeting Action: Reject
Panel Statement: The submitter's substantiation is not germane to the subject of definitions. Proposal 16-9 pertains to definitions.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-14 Log #2583 NEC-P16 **Final Action: Reject**
(770.2)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 16-9
Recommendation: Reject this proposal.
Substantiation: • The submitter states that the TC on Air Conditioning (NFPA 90A) "has primary responsibility for fire protection in ducts and plenums." In 90A, Chapter 4 (HVAC Systems), Section 4.1.4 mandates that "Electrical wiring and equipment shall be installed in accordance with NFPA 70, National Electrical Code," Chapter 6 (Controls) Section 6.1 states that "The installation of electrical wiring and equipment associated with the operation and control of air-conditioning and ventilating systems shall be in accordance with NFPA 70, National Electrical Code." Through these two sections, 90A defers to the NEC for wiring in these spaces.
• The 2002 edition of NFPA 90A lists requirements for electrical wires and cables and optical fiber cables in ceiling cavity plenums and raised floor plenums: "...they shall be listed as noncombustible or limited combustible or meet the requirements of NFPA 262 (plenum cables)". When this language was appealed to the Standards Council in 2002, the Standards Council denied the appeal but directed the Technical Committee to "harmonize the fire flammability and smoke production test requirements for plenum cables so as to produce a single minimum acceptable performance level." We understand that during an August 2003 meeting, the 90A Technical Committee accomplished this directive by developing a proposal to require the fire characteristics of the "air duct" (limited combustible) cables - and not the cables listed to NFPA 262 - in the raised floor plenums and ceiling cavity plenums. If NFPA 90A does have jurisdiction over this issue, it is premature for the NEC to be acting on these proposals when the matter is still unsettled in 90A. The next revision cycle for 90A is 2005. The 90A Technical Committee proposal will require comments from the public. Comments are not due until October 1, 2004 and NFPA 90A is not voted on until May, 2005, one year after the NEC. No changes should be made in the NEC until this matter is settled in 90A and until the Standards Council clarifies who really has jurisdiction over this matter.
• The submitter also states that 90A only mentions "electrical wires and cables and optical fiber cables" for use in ceiling cavity plenums and raised floor plenums and that there is a need for wires and cables in various other plenums and air ducts. The implication is that the proponent is introducing a new cable for these spaces in order to correlate with material requirements in 90A. If there is a need for a cable for these spaces and if 90A truly has jurisdiction, why were proposals not submitted to 90A during the 2002 cycle? Perhaps the reason that non-metallic cable material requirements are not listed in other types of plenums covered in 90A is that non-metallic cables do not belong in these spaces. Dividing plenums into different type spaces and then adding air ducts has been a marketing strategy that clouds the issue of where "plenum cables" have historically been permitted. This does not serve either the public or existing plenum cable producers well.

• The submitter of the proposal was a Panel 16 member during the 2002 NEC cycle when these cables were called "limited combustible" cables. He submitted the following affirmative comment in his vote on Comment 16-88 (May 2001 ROC): "In the panel discussion of limited combustible cables, some panel members were concerned that establishing these cables was a first step and that in later code cycles these cables would be required. Their concern obviously involved the added cost of the high-performance materials currently used in limited combustible cables. I have confidence that panel 16 will not accept any proposals requiring limited combustible cables unless presented with compelling safety issues that we have not yet heard." We still have not heard any compelling safety issue justifying the requirement for this cable - just statements concerning jurisdictional and correlation issues. There has been no technical substantiation to require this cable.

Panel Meeting Action: Reject

Panel Statement: The submitter's substantiation is not germane to the subject of definitions. Proposal 16-9 pertains to definitions.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-15 Log #2518v NEC-P16 **Final Action: Reject**
(770.2)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)

Comment on Proposal No: 16-9

Recommendation: Reject this proposal.

Substantiation: See our companion comment on Proposal 1-69.

Panel Meeting Action: Reject

Panel Statement: The submitter's substantiation is not germane to the subject of definitions. Proposal 16-9 pertains to definitions.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-16 Log #3826 NEC-P16 **Final Action: Accept**
(770.2)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association

Comment on Proposal No: 16-9

Recommendation: *Reject the definitions of the various types of plenum contained within this proposal.*

Substantiation: * There is no need for these definitions in the NEC. These definitions are not contained in NFPA 90A, but, more importantly, are not needed in the NEC. Acceptance of proposals using these terms exclusively by CMP 16 is not enough justification, in view of the rejection of proposals using these terms by CMP 3 in Articles 300, 725 and 760, to put the terms into the NEC.

* This comment recommends rejection of a subdivision of "other spaces used for environmental air" and rejection of granting priority to NFPA 90A on choices of wiring methods.

* The input from CMP 3 and from the NEC Technical Coordinating Committee makes it clear that the terminology used in 300.22 has served the NEC well and needs no change. It has also become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods.

* It has already been shown in detail by the fire hazard and fire risk analysis presented together with my original proposals (see for example the section on pages 2080-2091 of the NEC-ROP of the substantiation for my proposal 3-130) that there is no need to change the requirements, or limit the application, for wiring methods in plenums, because the fire safety record is excellent.

* The definition of "air duct" is unnecessary in Articles 770, 800 and 820, as it has been adopted as a general NEC definition by CMP 1 in Article 100.

* I understand that this comment represents a change in some of the concepts the submitter believed when the proposal was submitted, but "even old dogs can learn".

Panel Meeting Action: Accept

Panel Statement: See panel action and statement on Comment 16-79.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

Comment on Affirmative:

OHDE: I agree with the panel action however I disagree with the panel statement. The panel statement for Comment 16-79 states that definition of "air duct" is to be retained. The original source of the definition of "air duct" was extracted from NFPA 90A-2002 Standard and acceptance of this definition would be in violation of Standards Council Decision 03-10-25. As a last minute ditch effort, the definition of "air duct" was retained because it appeared in another NFPA document. The defintion of "air duct" is an extract from NFPA 97-2003.

16-17 Log #1908 NEC-P16
Final Action: Reject
(770.2, 800-2, 820-2, 830-2)

Submitter: Donald G. Ouellette, Teknor Apex Co.

Comment on Proposal No: 16-9

Recommendation: Change the following definitions and text:

"Ceiling Cavity Plenum" - replace with "ceiling cavity" everywhere (by definition, not a "plenum")

• Ceiling cavities are not plenums (300.22(B) & (C)).

"Raised Floor Plenum" - replace with "raised floor cavity" everywhere (by definition, not a "plenum")

• Raised floor cavities are not plenums (300.22 (B) &(C)).

• This excludes raised floor cavities not also used for environmental air which are addressed elsewhere (e.g., Article 645).

Delete the following definitions and/or associated text:

• "Duct Distribution Plenum" - Ducts and plenums are different spaces, by definition.

• Replace with "plenum" everywhere

• "Air-Handling Unit Room Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

• "Apparatus Casing Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

• "Inaccessible" - Not defined and not meaningful as referenced.

Combine remaining common definitions under article 100 (See Articles 725, 760, 770, 800, 820, and 830.)

Substantiation: In the mid 1970's the NFPA 255 test, (referred to at that time as the ASTM E-84), was deemed inappropriate for wire and cables because there was no provision for mounting cables in this test designed for building materials. The NFPA 255 test then known as ASTM E-84, Steiner Tunnel Test was modified to accommodate testing wires and cables and as a result a steel ladder suspended in the approximate center of the fire rig to simulate a horizontal cable tray. The modified ASTM E-84 was then named UL-190, Steiner Tunnel Fire Test. In addition to cable mounting differences there also remains another very important difference in comparing the NFPA 255 to the UL-910 (now known as NFPA 262). This very important difference is the test time duration. The proposed NFPA 255 has a test duration time of 10 minutes. The test time duration of the UL-910 (NFPA 262 test) is 20 minutes. This is important because fluoropolymer insulating and jacketing materials do not begin to burn until temperatures reach >1100°F. Furthermore, Underwriters Laboratories has since issued a new UL standard, UL 2424, and is now accepting applications to list Limited Combustible, CMD Cables. The UL 2424 standard has omitted NFPA 262, a 20-minute duration test, in favor of NFPA 255, a 10-minute duration test.

The effects of favoring NFPA 255 (10 minute test) versus NFPA 262 (20 minute test) have not been studied across all plenum cable designs. If the NFPA 255 test protocol is to be the test method for wires and cables, then consideration must be given to extend the test time of NFPA 255 for wires and cables to 20 minutes.

In 1998, the Fire Protection Research Foundation, FPRF, conducted a study called "International Limited Combustible Plenum Cable Fire Test Project". Teknor Apex Company participated in this research project. The final report to this project was printed in March 2001. The cable samples consisted of only 4 UTP, unshielded twisted pairs made from various insulating and jacketing materials. The decision to use NFPA 255 and NFPA 259 building materials test methods was not a consensus decision. The facts are that NFPA 255 and NFPA 259 are clearly described as: NFPA 255, Standard Method of Test of Surface Burning Characteristics of Building Materials - NFPA 259, Standard Method for Potential Heat of Building Materials. Despite objections from a minority of sponsors the project moved forward utilizing these test methods previously deemed inappropriate during a time period when 4 pair UTP consisting of cables made of all fluoropolymer materials already existed.

Panel Meeting Action: Reject

Panel Statement: The definitions of plenums are no longer needed.

See Article 100 for a definition of accessible. It is not necessary to define inaccessible as "accessible" is defined.

See panel action and statement on Comments 16-76, 16-391, and 16-674.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-18 Log #1311 NEC-P16 **Final Action: Accept in Part**
(770.2, 800-2 and 820-2)

Submitter: Wayne G. Carson, Carson Assoc. Inc.

Comment on Proposal No: 16-9

Recommendation: Reject proposal.

Substantiation: This proposal introduces new terms "ceiling cavity plenums" and "raised floor plenums" which are not defined in the code and are not needed. This issue is adequately addressed in 300.22. There is no technical justification provided for why this change is necessary.

Panel Meeting Action: Accept in Part

Add a definition of air duct as follows:

"Air Duct. A conduit or passageway for conveying air to or from heating, cooling, air conditioning, or ventilating equipment, but not including the plenum. [**97**, 1-2.6, 2003]"

Panel Statement: The definition of "Air Duct" is to be retained. This definition is an extract from NFPA 97-2003.

Delete all other definitions from Proposal 16-9. These definitions are not required because they are not being used.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Negative: 2

Explanation of Negative:

JENSEN: Delete the term "air duct" in the Panel meeting action. This air ducts definition is taken from NFPA 97 and the Standards Council Decision 03-10-25 states that harmonization is to be done with 90A once they are complete. I support the Standards Council Decision 03-10-25. OHDE: I am voting negative on the panel action and panel statement. The panel should have accepted this comment as the definition of "air duct" was retained. The original source of the definition of "air duct" was extracted from NFPA 90A-2002 Standard and acceptance of this definition would be in violation of Standards Council Decision 03-10-25. As a last minute ditch effort, the definition of "air duct" was retained because it appeared in another NFPA document. The defintion of "air duct" is an extract from NFPA 97-2003.

16-19 Log #1913 NEC-P16 **Final Action: Reject**
(770.2, 800.2, 820.2, 830.2)

Submitter: Grant P. Watkins, Confluent Photonics Corporation

Comment on Proposal No: 16-9

Recommendation: Articles: 770.2, 800.2, 820.2, 830.2 (and elsewhere as appropriate)

Change the following definitions and text:

"Ceiling Cavity Plenum" - replace with "ceiling cavity" everywhere (by definition, not a "plenum")

• Ceiling cavities are not plenums (300.22(B&C)).

"Raised Floor Plenum" - replace with "raised floor cavity" everywhere (by definition, not a "plenum")

• Raised floor cavities are not plenums (300.22(B&C)).

• This excludes raised floor cavities not also used for environmental air which are addressed elsewhere (e.g., Article 645).

Delete the following definitions and/or associated text:

• "Duct Distribution Plenum" - Ducts and plenums are different spaces, by definition.

• Replace with "plenum" everywhere

• "Air-Handling Unit Room Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

• "Apparatus Casing Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

• "Inaccessible" - Not defined and not meaningful as referenced.

Combine remaining common definitions under article 100 (See sections 725, 760, 770, 800, 820, and 830).

Substantiation: Detail

• Erroneous and extraneous definitions need to be removed or corrected to prevent confusion when interpreting the associated requirements.

• Ceiling cavities and raised floor cavities are, by definition, not plenums and therefore should not be referred to as such in any context. They can be, and routinely are, collectively grouped into the classification "other spaces used for environmental air". (See Article 300.22(C).

• Requirements for "inaccessible" wiring and cabling should not be included, as it is extraneous and excessive. Requirements should be driven by the definition of the space (e.g., other spaces used for environmental air). These requirements, along with the requirements for removing abandoned cable are sufficient and germane.

• All definitions should be placed in Article 100 to ensure they are consistently used and referenced.

Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air", such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:

• Eliminating or correcting erroneous definitions

• Consolidating definitions in Article 100.

2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)

4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data.)

- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.

- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety

- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.

- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject

Panel Statement: The definitions of plenums are no longer needed. See Article 100 for the definition of "accessible". It is not necessary to define inaccessible, since "accessible" is defined.

See panel action and statement on Comments 16-76, 16-391, and 16-674.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-20 Log #2804 NEC-P16 **Final Action: Reject**
(770.2, 800.2, 820.2, 830.2)

Submitter: Paul Schmugge, Pirelli Cables & Systems North America
Comment on Proposal No: 16-9
Recommendation: Revise text to read as follows:
Articles: 770.2, 800.2, 820.2, 830.2 (and elsewhere as appropriate)
Change the following definitions and text:
"Ceiling Cavity Plenum" - replace with "ceiling cavity" everywhere (by definition, not a "plenum")
• Ceiling cavities are not plenums (300.22(B&C)).
"Raised Floor Plenum" - replace with "raised floor cavity" everywhere (by definition, not a "plenum")
• Raised floor cavities are not plenums (300.22(B&C)).
• This excludes raised floor cavities not also used for environmental air which are addressed elsewhere (e.g., Article 645).
Delete the following definitions and/or associated text:
• "Duct Distribution Plenum" - Ducts and plenums are different spaces, by definition.
• Replace with "plenum" everywhere
• "Air-Handling Unit Room Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.
• "Apparatus Casing Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.
• "Inaccessible" - Not defined and not meaningful as referenced.
Combine remaining common definitions under article 100 (See sections 725, 760, 770, 800, 820, and 830).
Substantiation: Detail
• Erroneous and extraneous definitions need to be removed or corrected to prevent confusion when interpreting the associated requirements.
• Ceiling cavities and raised floor cavities are, by definition, not plenums and therefore should not be referred to as such in any context. They can be, and routinely are, collectively grouped into the classification "other spaces used for environmental air". (See Article 300.22(C).
• Requirements for "inaccessible" wiring and cabling should not be included, as it is extraneous and excessive. Requirements should be driven by the definition of the space (e.g., other spaces used for environmental air). These requirements, along with the requirements for removing abandoned cable are sufficient and germane.
• All definitions should be placed in Article 100 to ensure they are consistently used and referenced.
Comment Discussion
The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air", such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.
Specific actions recommended include:
1. Harmonize on appropriate definitions, as well as:
• Eliminating or correcting erroneous definitions
• Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)
Comment Rationale
In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:
- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data.)
- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.
The primary objectives of this comment, and associated comments, can be summarized as the needs to:
• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums
• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.
• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.
Panel Meeting Action: Reject
Panel Statement: The definitions of plenums are no longer needed. See Article 100 for the definition of "accessible". It is not necessary to define inaccessible, since "accessible" is defined.
See panel action and statement on Comments 16-76, 16-391, and 16-674.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-21 Log #2972 NEC-P16 **Final Action: Reject**
(770.2, 800.2, 820.2, 830.2)

Submitter: Sean Foley, AFL Telecommunications
Comment on Proposal No: 16-9
Recommendation: Revise text to read as follows:
Articles: 770.2, 800.2, 820.2, 830.2 (and elsewhere as appropriate)
Change the following definitions and text:
"Ceiling Cavity Plenum" - replace with "ceiling cavity" everywhere (by definition, not a "plenum")
• Ceiling cavities are not plenums (300.22(B&C)).
"Raised Floor Plenum" - replace with "raised floor cavity" everywhere (by definition, not a "plenum")
• Raised floor cavities are not plenums (300.22(B&C)).
• This excludes raised floor cavities not also used for environmental air which are addressed elsewhere (e.g., Article 645).
Delete the following definitions and/or associated text:
• "Duct Distribution Plenum" - Ducts and plenums are different spaces, by definition.
• Replace with "plenum" everywhere
• "Air-Handling Unit Room Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.
• "Apparatus Casing Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

• "Inaccessible" - Not defined and not meaningful as referenced.

Combine remaining common definitions under article 100 (See sections 725, 760, 770, 800, 820, and 830).

Substantiation: Detail

• Erroneous and extraneous definitions need to be removed or corrected to prevent confusion when interpreting the associated requirements.

• Ceiling cavities and raised floor cavities are, by definition, not plenums and therefore should not be referred to as such in any context. They can be, and routinely are, collectively grouped into the classification "other spaces used for environmental air". (See Article 300.22(C).

• Requirements for "inaccessible" wiring and cabling should not be included, as it is extraneous and excessive. Requirements should be driven by the definition of the space (e.g., other spaces used for environmental air). These requirements, along with the requirements for removing abandoned cable are sufficient and germane.

• All definitions should be placed in Article 100 to ensure they are consistently used and referenced.

Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air", such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:

• Eliminating or correcting erroneous definitions

• Consolidating definitions in Article 100.

2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)

4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data.)

- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.

- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety

- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.

- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject

Panel Statement: The definitions of plenums are no longer needed. See Article 100 for the definition of "accessible". It is not necessary to define inaccessible, since "accessible" is defined.

See panel action and statement on Comments 16-76, 16-391, and 16-674.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-22 Log #2995 NEC-P16 **Final Action: Reject**

(770.2, 800.2, 820.2, 830.2)

Submitter: James Walter Clark, Timberland Mechanical Services

Comment on Proposal No: 16-9

Recommendation: Sections: 770.2, 800.2, 820.2, 830.2 (and elsewhere as appropriate)

Change the following definitions and text:

- "Ceiling Cavity Plenum" - replace with "ceiling cavity" everywhere (by definition, not a "plenum")

- Ceiling cavities are not plenums (300.22(B) & (C).

- "Raised Floor Plenum" - replace with "raised floor cavity" everywhere (by definition , not a "plenum")

- Raised floor cavities are not plenums (300.22(B) & (C)

- This excludes raised floor cavities not also used for environmental air which are addressed elsewhere (e.g., Article 645)

Delete the following definitions and or associated text:

- "Duct Distribution Plenum" - Ducts and plenums are different spaces, by definition.

- Replace with "plenum" everywhere

- "Air-Handling Unit Room Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

- "Apparatus Casing Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

- "Inaccessible" - Not defined and not meaningful as referenced.

Combine remaining common definitions under Article 100 (See Articles 725, 760, 770, 800, 820 and 830).

Substantiation: Detail

- Erroneous and extraneous definitions need to be removed or corrected to prevent confusion when interpreting the associated requirements.

- Ceiling cavities and raised floor cavities are, by definition, not plenums and therefore should not be referred to as such in any context. They can be, and routinely are, collectively grouped into the classification "other spaces used for environmental air". (see 300.22(c)

- Requirements for "inaccessible" wiring and cabling should not be included, as it is extraneous and excessive. Requirements should be driven by the definition of the space (e.g., other spaces used for environmental air). These requirements, along with the requirements for removing abandoned cable are sufficient and germane.

- All definitions should be placed in Article 100 to ensure they are consistently used and referenced.

Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various articles and sections with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and

raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820 and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
- Eliminating or correcting erroneous definitions
- Consolidating definitions in Article 100

2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)

4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the state for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises end users (i.e., fiber-to-the-end user). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

- Maintain the viability of listed "plenums" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety.
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
- Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.
- Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
- Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.
- Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However; "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject

Panel Statement: The definitions of plenums are no longer needed. See Article 100 for the definition of "accessible". It is not necessary to define inaccessible, since "accessible" is defined.

See panel action and statement on Comments 16-76, 16-391, and 16-674.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-23 Log #3321 NEC-P16 **Final Action: Reject**

(770.2, 800.2, 820.2, 830.2)

Submitter: Robert Pollock, Corning Cable Systems

Comment on Proposal No: 16-9

Recommendation: Articles: 770.2, 800.2, 820.2, 830.2 (and elsewhere as appropriate)

Change the following definition and text:

"Ceiling Cavity Plenum" - replace with "ceiling cavity" everywhere (by definition, not a "plenum")

- Ceiling cavities are not plenums (300.22(B) &(C)).

"Raised floor Plenum" - replace with "raised floor cavity" everywhere (by definition, not a "plenum")

- Raised floor cavities are not plenums (300.22(B) &(C)).
- This excludes raised floor cavities not also used for environmental air which are addressed elsewhere (e.g., Article 645).

Delete the following definitions and or associated text:

- "Duct Distribution Plenum" - Ducts and plenums are different spaces, by definition.
- Replace with "plenum" everywhere
- "Air-Handling Unit Room Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.
- "Apparatus Casing Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.
- "Inaccessible" - Not defined and not meaningful as referenced.

Combine remaining common definitions under Article 100 (See sections 725, 760, 770, 800, 820, and 830).

Detail

•Erroneous and extraneous definitions need to be removed or corrected to prevent confusion when interpreting the associated requirements.

• Ceiling cavities and raised floor cavities are, by definition, not plenums and therefore should not be referred to as such in any context. They can be, and routinely are, collectively grouped into the classification "other spaces used for environmental air." (See Article 300.22(C).

• Requirements for "inaccessible" wiring and cabling should not be included, as it is extraneous and excessive. Requirement should be driven by the definition of the space (e.g., other spaces used for environmental air). These requirements, along with the requirements for removing abandoned cable are sufficient and germane.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
- Eliminating or correcting erroneous definitions
- Consolidating definitions in Article 100.

2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)

4. Clarify listing requirements for wire and cables in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefit. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).

- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises end users (i.e., fiber-to-the-end user). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reinterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kband for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However: "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, three are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject

Panel Statement: The definitions of plenums are no longer needed. See Article 100 for the definition of "accessible". It is not necessary to define inaccessible, since "accessible" is defined.

See panel action and statement on Comments 16-76, 16-391, and 16-674.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-24 Log #3351 NEC-P16 **Final Action: Reject**
(770.2, 800.2, 820.2, 830.2)

Submitter: Jean Baer, Supeiror Essex

Comment on Proposal No: 16-9

Recommendation: Articles: 770.2, 800.2, 820.2, 830.2 (and elsewhere as appropriate)

Change the following definitions and text:

"Ceiling Cavity Plenum" - replace with "ceiling cavity" everywhere (by definition, not a "plenum")

• Ceiling cavities are not plenums (300.22(B&C)).

"Raised Floor Plenum" - replace with "raised floor cavity" everywhere (by definition, not a "plenum")

• Raised floor cavities are not plenums (300.22(B&C)).

• This excludes raised floor cavities not also used for environmental air which are addressed elsewhere (e.g., Article 645).

Delete the following definitions and/or associated text:

• "Duct Distribution Plenum" - Ducts and plenums are different spaces, by definition.

• Replace with "plenum" everywhere

• "Air-Handling Unit Room Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

• "Apparatus Casing Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

• "Inaccessible" - Not defined and not meaningful as referenced.

Combine remaining common definitions under article 100 (See sections 725, 760, 770, 800, 820, and 830).

Substantiation: Detail

• Erroneous and extraneous definitions need to be removed or corrected to prevent confusion when interpreting the associated requirements.

• Ceiling cavities and raised floor cavities are, by definition, not plenums and therefore should not be referred to as such in any context. They can be, and routinely are, collectively grouped into the classification "other spaces used for environmental air". (See Article 300.22(C).

• Requirements for "inaccessible" wiring and cabling should not be included, as it is extraneous and excessive. Requirements should be driven by the definition of the space (e.g., other spaces used for environmental air). These requirements, along with the requirements for removing abandoned cable are sufficient and germane.

• All definitions should be placed in Article 100 to ensure they are consistently used and referenced.

Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air", such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
• Eliminating or correcting erroneous definitions
• Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data.)
- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject

Panel Statement: The definitions of plenums are no longer needed. See Article 100 for the definition of "accessible". It is not necessary to define inaccessible, since "accessible" is defined.

See panel action and statement on Comments 16-76, 16-391, and 16-674.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-25 Log #3376 NEC-P16 **Final Action: Reject**
(770.2, 800.2, 820.2, 830.2)

Submitter: Matt Brown, US Conec

Comment on Proposal No: 16-9

Recommendation: Articles: 770.2, 800.2, 820.2, 830.2 (and elsewhere as appropriate)

Change the following definitions and text:

"Ceiling Cavity Plenum" - replace with "ceiling cavity" everywhere (by definition, not a "plenum")

• Ceiling cavities are not plenums (300.22(B&C)).

"Raised Floor Plenum" - replace with "raised floor cavity" everywhere (by definition, not a "plenum")

• Raised floor cavities are not plenums (300.22(B&C)).

• This excludes raised floor cavities not also used for environmental air which are addressed elsewhere (e.g., Article 645).

Delete the following definitions and/or associated text:

• "Duct Distribution Plenum" - Ducts and plenums are different spaces, by definition.

• Replace with "plenum" everywhere

• "Air-Handling Unit Room Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

• "Apparatus Casing Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

• "Inaccessible" - Not defined and not meaningful as referenced.

Combine remaining common definitions under article 100 (See sections 725, 760, 770, 800, 820, and 830).

Substantiation: Detail

• Erroneous and extraneous definitions need to be removed or corrected to prevent confusion when interpreting the associated requirements.

• Ceiling cavities and raised floor cavities are, by definition, not plenums and therefore should not be referred to as such in any context. They can be, and routinely are, collectively grouped into the classification "other spaces used for environmental air". (See Article 300.22(C).

• Requirements for "inaccessible" wiring and cabling should not be included, as it is extraneous and excessive. Requirements should be driven by the definition of the space (e.g., other spaces used for environmental air). These requirements, along with the requirements for removing abandoned cable are sufficient and germane.

• All definitions should be placed in Article 100 to ensure they are consistently used and referenced.

Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air", such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:

• Eliminating or correcting erroneous definitions

• Consolidating definitions in Article 100.

2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)

4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data.)

- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.

- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety

- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.

- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject
Panel Statement: The definitions of plenums are no longer needed. See Article 100 for the definition of "accessible". It is not necessary to define inaccessible, since "accessible" is defined.
See panel action and statement on Comments 16-76, 16-391, and 16-674.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-26 Log #3558 NEC-P16 **Final Action: Reject**
(770.2, 800.2, 820.2, 830.2)

Submitter: Michael J. McLear, Madison Cable Corporation
Comment on Proposal No: 16-9
Recommendation: Revise text to read as follows:
Articles: 770.2, 800.2, 820.2, 830.2 (and elsewhere as appropriate)
Change the following definitions and text:
"Ceiling Cavity Plenum" - replace with "ceiling cavity" everywhere (by definition, not a "plenum")
• Ceiling cavities are not plenums (300.22(B&C)).
"Raised Floor Plenum" - replace with "raised floor cavity" everywhere (by definition, not a "plenum")
• Raised floor cavities are not plenums (300.22(B&C)).
• This excludes raised floor cavities not also used for environmental air which are addressed elsewhere (e.g., Article 645).
Delete the following definitions and/or associated text:
• "Duct Distribution Plenum" - Ducts and plenums are different spaces, by definition.
• Replace with "plenum" everywhere
• "Air-Handling Unit Room Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.
• "Apparatus Casing Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.
• "Inaccessible" - Not defined and not meaningful as referenced.
Combine remaining common definitions under article 100 (See sections 725, 760, 770, 800, 820, and 830).
Substantiation: Detail
• Erroneous and extraneous definitions need to be removed or corrected to prevent confusion when interpreting the associated requirements.
• Ceiling cavities and raised floor cavities are, by definition, not plenums and therefore should not be referred to as such in any context. They can be, and routinely are, collectively grouped into the classification "other spaces used for environmental air". (See Article 300.22(C).
• Requirements for "inaccessible" wiring and cabling should not be included, as it is extraneous and excessive. Requirements should be driven by the definition of the space (e.g., other spaces used for environmental air). These requirements, along with the requirements for removing abandoned cable are sufficient and germane.
• All definitions should be placed in Article 100 to ensure they are consistently used and referenced.
Comment Discussion
The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air", such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.
Specific actions recommended include:
1. Harmonize on appropriate definitions, as well as:
• Eliminating or correcting erroneous definitions
• Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)
Comment Rationale
In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:
- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data.)
- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.
The primary objectives of this comment, and associated comments, can be summarized as the needs to:
• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums
• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.
• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.
Panel Meeting Action: Reject
Panel Statement: The definitions of plenums are no longer needed. See Article 100 for the definition of "accessible". It is not necessary to define inaccessible, since "accessible" is defined.
See panel action and statement on Comments 16-76, 16-391, and 16-674.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-27 Log #3566 NEC-P16 **Final Action: Reject**
(770.2, 800.2, 820.2, 830.2)

Submitter: Doug Coleman, Corning Cable Systems
Comment on Proposal No: 16-9
Recommendation: Revise text to read as follows:
Articles: 770.2, 800.2, 820.2, 830.2 (and elsewhere as appropriate)
Change the following definitions and text:
"Ceiling Cavity Plenum" - replace with "ceiling cavity" everywhere (by definition, not a "plenum")
• Ceiling cavities are not plenums (300.22(B&C)).
"Raised Floor Plenum" - replace with "raised floor cavity" everywhere (by definition, not a "plenum")
• Raised floor cavities are not plenums (300.22(B&C)).

• This excludes raised floor cavities not also used for environmental air which are addressed elsewhere (e.g., Article 645).

Delete the following definitions and/or associated text:

• "Duct Distribution Plenum" - Ducts and plenums are different spaces, by definition.

• Replace with "plenum" everywhere

• "Air-Handling Unit Room Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

• "Apparatus Casing Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

• "Inaccessible" - Not defined and not meaningful as referenced.

Combine remaining common definitions under article 100 (See sections 725, 760, 770, 800, 820, and 830).

Substantiation: Detail

• Erroneous and extraneous definitions need to be removed or corrected to prevent confusion when interpreting the associated requirements.

• Ceiling cavities and raised floor cavities are, by definition, not plenums and therefore should not be referred to as such in any context. They can be, and routinely are, collectively grouped into the classification "other spaces used for environmental air". (See Article 300.22(C).

• Requirements for "inaccessible" wiring and cabling should not be included, as it is extraneous and excessive. Requirements should be driven by the definition of the space (e.g., other spaces used for environmental air). These requirements, along with the requirements for removing abandoned cable are sufficient and germane.

• All definitions should be placed in Article 100 to ensure they are consistently used and referenced.

Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air", such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:

• Eliminating or correcting erroneous definitions

• Consolidating definitions in Article 100.

2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)

4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data.)

- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.

- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety

- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.

- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject

Panel Statement: The definitions of plenums are no longer needed. See Article 100 for the definition of "accessible". It is not necessary to define inaccessible, since "accessible" is defined.

See panel action and statement on Comments 16-76, 16-391, and 16-674.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-28 Log #3574 NEC-P16 **Final Action: Reject**
(770.2, 800.2, 820.2, 830.2)

Submitter: Brian P. Rawson, IBM COrporation

Comment on Proposal No: 16-9

Recommendation: Revise text to read as follows:

Articles: 770.2, 800.2, 820.2, 830.2 (and elsewhere as appropriate)

Change the following definitions and text:

"Ceiling Cavity Plenum" - replace with "ceiling cavity" everywhere (by definition, not a "plenum")

• Ceiling cavities are not plenums (300.22(B&C)).

"Raised Floor Plenum" - replace with "raised floor cavity" everywhere (by definition, not a "plenum")

• Raised floor cavities are not plenums (300.22(B&C)).

• This excludes raised floor cavities not also used for environmental air which are addressed elsewhere (e.g., Article 645).

Delete the following definitions and/or associated text:

• "Duct Distribution Plenum" - Ducts and plenums are different spaces, by definition.

• Replace with "plenum" everywhere

• "Air-Handling Unit Room Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

• "Apparatus Casing Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

• "Inaccessible" - Not defined and not meaningful as referenced.

Combine remaining common definitions under article 100 (See sections 725, 760, 770, 800, 820, and 830).

Substantiation: Detail

• Erroneous and extraneous definitions need to be removed or corrected to prevent confusion when interpreting the associated requirements.

• Ceiling cavities and raised floor cavities are, by definition, not plenums and therefore should not be referred to as such in any context. They can be, and routinely are, collectively grouped into the classification "other spaces used for environmental air". (See Article 300.22(C).

• Requirements for "inaccessible" wiring and cabling should not be included, as it is extraneous and excessive. Requirements should be driven by the definition of the space (e.g., other spaces used for environmental air). These requirements, along with the requirements for removing abandoned cable are sufficient and germane.

• All definitions should be placed in Article 100 to ensure they are consistently used and referenced.

Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air", such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:

• Eliminating or correcting erroneous definitions

• Consolidating definitions in Article 100.

2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)

4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data.)

- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.

- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety

- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.

- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject

Panel Statement: The definitions of plenums are no longer needed. See Article 100 for the definition of "accessible". It is not necessary to define inaccessible, since "accessible" is defined.

See panel action and statement on Comments 16-76, 16-391, and 16-674.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-29 Log #3889 NEC-P16 **Final Action: Reject**

(770.2, 800.2, 820.2, 830.2)

Submitter: John A. Jay, Corning

Comment on Proposal No: 16-9

Recommendation: Revise text to read as follows:

Articles: 770.2, 800.2, 820.2, 830.2 (and elsewhere as appropriate)

Change the following definitions and text:

"Ceiling Cavity Plenum" - replace with "ceiling cavity" everywhere (by definition, not a "plenum")

• Ceiling cavities are not plenums (300.22(B&C)).

"Raised Floor Plenum" - replace with "raised floor cavity" everywhere (by definition, not a "plenum")

• Raised floor cavities are not plenums (300.22(B&C)).

• This excludes raised floor cavities not also used for environmental air which are addressed elsewhere (e.g., Article 645).

Delete the following definitions and/or associated text:

• "Duct Distribution Plenum" - Ducts and plenums are different spaces, by definition.

• Replace with "plenum" everywhere

• "Air-Handling Unit Room Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

• "Apparatus Casing Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

• "Inaccessible" - Not defined and not meaningful as referenced.

Combine remaining common definitions under article 100 (See sections 725, 760, 770, 800, 820, and 830).

Substantiation: Detail

• Erroneous and extraneous definitions need to be removed or corrected to prevent confusion when interpreting the associated requirements.

• Ceiling cavities and raised floor cavities are, by definition, not plenums and therefore should not be referred to as such in any context. They can be, and routinely are, collectively grouped into the classification "other spaces used for environmental air". (See Article 300.22(C).

• Requirements for "inaccessible" wiring and cabling should not be included, as it is extraneous and excessive. Requirements should be driven by the definition of the space (e.g., other spaces used for environmental air). These requirements, along with the requirements for removing abandoned cable are sufficient and germane.

• All definitions should be placed in Article 100 to ensure they are consistently used and referenced.

Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air", such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:

• Eliminating or correcting erroneous definitions

• Consolidating definitions in Article 100.

2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)

4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data.)

- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.

- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety

- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.

- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject

Panel Statement: The definitions of plenums are no longer needed. See Article 100 for the definition of "accessible". It is not necessary to define inaccessible, since "accessible" is defined.

See panel action and statement on Comments 16-76, 16-391, and 16-674.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-30 Log #3040 NEC-P16 **Final Action: Reject**
(770.2, 800.2, 820.2 and 830.2)

Submitter: William Tenkate, EIS Wire & Cable Co.

Comment on Proposal No: 16-9

Recommendation: Articles: 770.2, 800.2, 820.2, 830.2 (and elsewhere as appropriate)

Change the following definitions and text:

"Ceiling Cavity Plenum" - replace with "ceiling cavity" everywhere (by definition, not a "plenum")

• Ceiling cavities are not plenums (300.22(B&C)).

"Raised Floor Plenum" - replace with "raised floor cavity" everywhere (by definition, not a "plenum")

• Raised floor cavities are not plenums (300.22(B&C)).

• This excludes raised floor cavities not also used for environmental air which are addressed elsewhere (e.g., Article 645).

Delete the following definitions and/or associated text:

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• Replace with "plenum" everywhere

• "Air-Handling Unit Room Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

• "Apparatus Casing Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

• "Inaccessible" - Not defined and not meaningful as referenced.

Combine remaining common definitions under article 100 (See sections 725, 760, 770, 800, 820, and 830).

Substantiation: Detail

• Erroneous and extraneous definitions need to be removed or corrected to prevent confusion when interpreting the associated requirements.

• Ceiling cavities and raised floor cavities are, by definition, not plenums and therefore should not be referred to as such in any context. They can be, and routinely are, collectively grouped into the classification "other spaces used for environmental air". (See Article 300.22(C).

• Requirements for "inaccessible" wiring and cabling should not be included, as it is extraneous and excessive. Requirements should be driven by the definition of the space (e.g., other spaces used for environmental air). These requirements, along with the requirements for removing abandoned cable are sufficient and germane.

• All definitions should be placed in Article 100 to ensure they are consistently used and referenced.

Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air", such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:

• Eliminating or correcting erroneous definitions

• Consolidating definitions in Article 100.

2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)

4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data.)

- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.

- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject

Panel Statement: The definitions of plenums are no longer needed. See Article 100 for the definition of "accessible". It is not necessary to define inaccessible, since "accessible" is defined.

See panel action and statement on Comments 16-76, 16-391, and 16-674.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-31 Log #3614 NEC-P16 **Final Action: Reject**
(770.2, 800.2, 820.2 and 830.2)

Submitter: Charles D. Marion, II, Marion Fiber Splice Inc.

Comment on Proposal No: 16-9

Recommendation: Articles 725.2, 760.2, 770.2, 800.2, 820.2, 830.2 (As appropriate)

Delete the following definitions:

"Duct Distribution Plenum" – replace with "plenum" everywhere

• Ducts and plenums are different spaces, by definition.

"Ceiling Cavity Plenum" – replace with "ceiling cavity" everywhere (by definition, no a "plenum")

• Ceiling cavities are not plenums [300.22(B and C).]

"Raised Floor Plenum" – replace with "raised floor cavity" everywhere (by definition, no a "plenum")

• Raised floor cavities are not plenums [300.22(B and C).]

• This does not include raised floor cavities not used for environmental air which are addressed elsewhere.

"Inaccessible" and associated text – Not defined and not meaningful as referenced

Combine remaining common definitions under Article 100 (See Sections 725, 760, 770, 800, 820, and 830).

Substantiation: Erroneous definitions need to be removed or corrected

All definitions should be placed in Article 100 to ensure they are consistently used and referenced.

Detail

• Ceiling cavities and raised floor cavities are, by definition, not plenums and therefore should not be referred to as such in any context.

• They can be, and routinely are, collectively grouped into the classification "other spaces used for environmental air." [See Article 30.22(C).]

• Requirements for "inaccessible" wiring and cabling should not be included, as it is extraneous and excessive. Requirements should be driven by the definition of the space (e.g., other spaces used for environmental air). These requirements, along with the requirements for removing abandoned cable are germane and adequate.

The primary objectives of this comment, and associated comments, can be summarized as:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
– Such cables have a proven track record for safety
– The report on an investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Reiterate that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums unless specifically associated with the operation of the duct or plenum, to include the sensing, monitoring, handling, or control of environmental air within the duct or plenum, or with the associated systems such as fire alarm and suppression.

• Encourage the NFPA to recognize that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications supporting sprawling business complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• No significant consideration has apparently been given to what alternative viable structured cabling solutions may exist or can be developed, if any

Comment Discussion

The purpose of this comment, and associated comments, is improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding, wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document (see link below).

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:

• Eliminating or correcting erroneous definitions

• Consolidating definitions in Article 100.

2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
– Plenums and air ducts, vs.
– Other spaces used for environmental air
– ceiling cavities and raised floor cavities

4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)
– Plenums and ducts, vs.
– Other spaces used for environmental air
– ceiling cavities and raised floor cavities

5. Allow substitution hierarchy to be employed as appropriate, by avoiding redundant requirements in the sections addressed above.

– The use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they would be needed, when such products exist. This flexibility is allowed per the NEC substitution hierarchy.

Panel Meeting Action: Reject

Panel Statement: The definitions of plenums are no longer needed. See Article 100 for the definition of "accessible". It is not necessary to define inaccessible, since "accessible" is defined.

See panel action and statement on Comments 16-76, 16-391, and 16-674.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-32 Log #2184 NEC-P16 **Final Action: Reject**
(770.2, 800.2, 820.2 and 830.2 (and elsewhere as appropriate))

Submitter: Ken Chauvin, Corning Cable Systems
Comment on Proposal No: 16-9
Recommendation: Articles: 770.2, 800.2, 820.2, 830.2 (and elsewhere as appropriate)

Change the following definitions and text:

"Ceiling Cavity Plenum" - replace with "ceiling cavity" everywhere (by definition, not a "plenum")

• Ceiling cavities are not plenums (300.22(B&C)).

"Raised Floor Plenum" - replace with "raised floor cavity" everywhere (by definition, not a "plenum")

• Raised floor cavities are not plenums (300.22(B&C)).

• This excludes raised floor cavities not also used for environmental air which are addressed elsewhere (e.g., Article 645).

Delete the following definitions and/or associated text:

• "Duct Distribution Plenum" - Ducts and plenums are different spaces, by definition.

• Replace with "plenum" everywhere

• "Air-Handling Unit Room Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

• "Apparatus Casing Plenum" - Extraneous, as requirements same as for other air ducts or (true) plenums. Not meaningful as referenced.

• "Inaccessible" - Not defined and not meaningful as referenced.

Combine remaining common definitions under article 100 (See sections 725, 760, 770, 800, 820, and 830).

Substantiation: Detail

• Erroneous and extraneous definitions need to be removed or corrected to prevent confusion when interpreting the associated requirements.

• Ceiling cavities and raised floor cavities are, by definition, not plenums and therefore should not be referred to as such in any context. They can be, and routinely are, collectively grouped into the classification "other spaces used for environmental air". (See Article 300.22(C).

• Requirements for "inaccessible" wiring and cabling should not be included, as it is extraneous and excessive. Requirements should be driven by the definition of the space (e.g., other spaces used for environmental air). These requirements, along with the requirements for removing abandoned cable are sufficient and germane.

• All definitions should be placed in Article 100 to ensure they are consistently used and referenced.

Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air", such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:

• Eliminating or correcting erroneous definitions

• Consolidating definitions in Article 100.

2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)

4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data.)

- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.

- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety

- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.

- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject
Panel Statement: The definitions of plenums are no longer needed. See Article 100 for the definition of "accessible". It is not necessary to define inaccessible, since "accessible" is defined.

See panel action and statement on Comments 16-76, 16-391, and 16-674.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-33 Log #1906 NEC-P16 **Final Action: Accept in Part**
(770.2, 800.2 and 820.2)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-9
Recommendation: This proposal should be rejected and the proposed definitions of air duct, air-handling unit room plenum, apparatus casing plenum, ceiling cavity plenum, duct distribution plenum, and raised floor plenum should be deleted from the following 2005 Sections: 770-2, 800.2 and 820.2.
Substantiation: The submitter has submitted terms that has no positive effect on the National Electrical Code. These terms will add confusion and not clarity to an electrical code section that covers wiring in spacces that provide environmental air. The present language in the 2002 National Electrical Code Section 300.22(B) — Ducts or Plenums for Environmetnal Air and Section 300.22(C) — Other Space Used for Environemntal Air covers in great detail which type of wiring methods should be used and implemented in these spaces. Additional and unnecessary definitions from the NFPA 90A standard are not required or needed.

The terms air-handling unit room plenum, apparatus casing plenum, ceiling cavity plenum, duct distribution plenum and raised floor plenum as listed in the NFPA 90A standard-2002 are statements and cannot possibly be used as definitions. The submitter of this proposal has stated that the source for these - definitions is the NFPA 90A and yet the terms are used and identified differently

in the NFPA 90A than in this proposal. There is too much confusion with these terms as to how they are identified in the NFPA 90A standard and the proposed 2005 ROP for the NEC. This is a definitie correlating problem that exists and will continue to do so until it is fixed.

Chapter 3 of the NFPA 90A, Standard for the Installation of Air Conditioning and Ventilating Systems, 2002 edition lists and identifies terminology that are officially recognized as Definitions to be used throughout the NFPA 90A standard. In regards to the following terms: air duct, air-handling unit room plenum, apparatus casing plenum, ceiling cavity plenum, duct distribution plenum, and raised floor plenum; only one of hte terms is properly identified and listed as a definition. Under 3.3 General Definitions and more specifically 3.3.5—Air Duct. A conduit or passageway for conveying air to or from heating, cooling, air condtiioning, or ventilating equipment, but not including the plenum, cavity plenum, duct distribution plenum, and raised floor plenum, they are all lsited and identified in Chapter 4 of NFPA 90A standard under the heading of HVAC Systems. These 5 terms are listed and worded differently than those identical terms that are proposed in the 2005 ROP for the NEC. Here is a breakdown of the 5 terms as lsited in the 2005 ROP and also NFPA 90A, 2002 standard.

Air — Handling Unit Room Plenum as listed in NFPA 90A standard 2002; 4.3.10.5.1-Individual rooms containing an air-handling unit(s) shall gather return air from various sources and combine the return air within the room for returning to the air-handling unit.

Air — Handling Unit Room Plenum as listed in the 2005 ROP for the NEC: An individual room containing an air-handling unit(s) used to gather return air from various sources and combine the return air within the room for returning to the air-handling unit.

Apparatus Casing Plenum as listed in NFPA 90A standard; 4.3.10.4.1-A fabricated plenum and apparatus casing shall be permitted to be used for supply, return, or exhaust air service.

Apparatus Casing Plenum as listed in the 2005 ROP for the NEC: A fabricated plenum and apparatus casing used for supply, return, or exhaust air service.

Ceiling Cavity Plenum as listed in NFPA 90A standard-2002; 4.3.10.2-The space between the top of the finished ceiling and the underside of the floor of the floor or roof above shall be permitted to be used to supply air to the occupied area, or return or exhaust air from the occupied area, provided that the conditions in 4.3.10.2.1 through 4.3.10.2.8 are met:

Ceiling Cavity Plenum as listed in the 2005 ROP for the NEC: The space between the top of the finished ceiling and the underside of the floor of the floor or roof above where used to supply air to the occupied area, or return or exhaust air from the occupied area.

Duct Distribution Plenum as listed in the NFPA 90A standard-2002; 4.3.10.3-A duct enclosure used for the multiple distribution or gathering of ducts or connectors shall be constructed of materials and methods specified in 4.3.1.

Duct Distribution Plenum as listed in the 2005 ROP for the NEC: A duct enclosure used for the multiple distribution or gathering of ducts or connectors.

Raised Floor Plenum as listed in the NFPA 90A standard-2002; 4.3.10.6.1-The space between the top of the finished floor and the underside of a raised floor shall be permitted to be used to supply air to the occupied area, or return or exhaust air from or return and exhaust air from the occupied area, provided that the conditions in 4.3.10.6.2 through 4.3.10.6.8 are met:

Raised Floor Plenum as listed in the 2005 ROP for the NEC: The space between the top of the finished floor and the underside of a raised floor where used to supply air to the occupied area, or return or exhaust air from or from the occupied area.

The terms air-handling unit room plenum, apparatus casing plenum, ceiling cavity plenum, duct distribution plenum and raised floor plenum as listed in the NFPA 90A standard-2002 are statements and cannot possibly be used as definitions. The submitter of this proposal has stated that the source for these definitions is the NFPA 90A and yet the terms are used and identified differently in the NFPA 90A than in this proposal. There is too much confusion with these terms as how they are identified in the NFPA 90A standard and the proposed 2005 ROP for the NEC. This is a definite correlating problem that exists and will continue to do so until it is fixed.

This comment represents the official position of the International Brotherhood of Electrical Workers Code and Standards Committee.

Panel Meeting Action: Accept in Part

Add a definition of air duct as follows:

"Air Duct. A conduit or passageway for conveying air to or from heating, cooling, air conditioning, or ventilating equipment, but not including the plenum. [**97**, 1-2.6, 2003]"

Panel Statement: The definition of Air Duct is to be retained. This definition is an extract from NFPA 97-2003.

Delete all other definitions from Proposal 16-9. These definitions are not required because they are not being used.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Negative: 2

Explanation of Negative:

JENSEN: Delete the term "air duct" in the Panel meeting action. This air ducts definition is taken from NFPA 97 and the Standards Council Decision 03-10-25 states that harmonization is to be done with 90A once they are complete. I support the Standards Council Decision 03-10-25. OHDE: I am voting negative on the panel action and panel statement. The panel should have accepted this comment as the definition of "air duct" was retained. The original source of the definition of "air duct" was extracted from NFPA 90A-2002 Standard and acceptance of this definition would be in violation of Standards Council Decision 03-10-25. As a last minute ditch effort, the definition of "air duct" was retained because it appeared in another NFPA document. The defintion of "air duct" is an extract from NFPA 97-2003.

16-34 Log #270 NEC-P16 **Final Action: Accept**
(770.3)

Submitter: Technical Committee on Air Conditioning

Comment on Proposal No: 16-12

Recommendation: Continue to reject this proposal.

Substantiation: The Technical Committee on Air Conditioning agrees with the panel reject statement.

This comment is one in a series of comments including 16-12, 16-40, 16-60, 16-83, 16-115, 16-132, 16-138, 16-156, 16-180, 16-188, 16-195, 16-207, 16-209, 16-211, 16-228, 16-229, and 16-234.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: I agree with both the panel action and panel statement on this comment. I agree, support and commend Standards Council Decision Number 03-10-25 and also a subsequent letter issued by the Standards Council Chairman, Philip J. DiNenno written to Mr. Loren Caudill which was dated December 3, 2003. If this decision and letter was not issued and handed down, Code Making Panel 16 would be asked to make revisions or changes to the 2005 NFPA 70 that could be inconsistent with the current 2002 NFPA 90A Standard or new text revision of the upcoming 2005 NFPA 90A Standard. The decision to maintain status quo for the upcoming 2005 NEC revision cycle and to wait for the completion of the NFPA 90A revision cycle was a wise and necessary decision. This decision will also enhance both NFPA 70 and NFPA 90A Standards to be harmonized and will add better clarity and understanding toward each document.

Explanation of Abstention:

DORNA: I abstain from the panel action taken on this comment. I believe that the panel was improperly directed by the NFPA Standards Council decision 03-10-25. As a result, the panel failed to live up to its responsibility to evaluate the technical merits of this comment that was nullified by the Standards Council (SC). The SC's decision states:

"Standards Council Decision Number 03-10-25 states, in pertinent part, as follows:

The Council believes, that the best course of action for the NEC project is to generally retrain, unless absolutely necessary, from making revisions that interrelate with NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending the completion of the NFPA 90A revision cycle.

The above-quoted language explicitly states that the NEC project should, in this revision cycle refrain, unless absolutely necessary, from making any revisions to the NEC that interrelate with NFPA 90A, and should instead "maintain the status quo" - that is, the language currently existing in the 2002 edition of the NEC - on all such subjects pending the completion of the NFPA 90A revision cycle."

It is this writer's belief that, by being forced to follow the directive of the NFPA Standards Council, we as panel members have been deprived of the ability to exercise our responsibility to use our best technical judgment in evaluating the merits of this comment that was developed through the consensus process. It is one thing for the SC to identify topics that should be addressed by the relevant technical committees; it is another and inappropriate thing for the SC to take the matter out of this committee's hands at the 11th hour. This writer believes the panel should have reviewed and acted on this nullified comment based on the comment's technical and safety merit. The panel should have

been permitted to make its informed, consensus judgment on this comment and to present its determination to the Standards Council, which would then have been able to act within the consensus process. I believe the NFPA Standards Council decision to "maintain the status quo" in the NEC has pre-empted and stopped the ANSI open consensus process.

Further, and more importantly for the public, I believe that the decision by the NFPA Standards Council may lower fire and safety requirements by directing the panel to "maintain the status quo" for wire and cable in the NEC – even though the consensus judgment of this NEC code panel would have been to incorporate important improvements already mandated by NFPA 90A (2002 edition).

Therefore, the 2005 edition of the NEC will fail to include improved safety requirements mandated by NFPA 90A and advertised by the NFPA as "essential" to installers. As a result, I fear that architecture and engineering professionals, whom the NFPA asks to rely on NFPA codes, will be confused and misled by the 2005 edition of the NEC.

For these reasons, I must abstain from the panel action on this comment.

KAHN: I cannot vote to either "Affirm" or "Vote Negative" on the panel action since I would not be voting on the merits of the comment but rather by direction of the Standards Council as cited in the panel statement. Under this directive, it may have been more prudent to "Hold for Further Study" but such an action is impractical in that it would generate hundreds of proposals for the 2008 NEC, many of which would not be germane. The "future study" is the development of the 2005 NFPA 90A Standard that establishes performance criteria upon which these sections of the NEC should be based.

The directive of the Standards Council notes that the TIA procedure could be followed where there is a "safety" issue. This procedure is cumbersome and is not subject to the same public review as the NEC revision process. Development of the NEC using consensus and public review is essential to its acceptance as a national standard.

The Standards Council directive even precluded consideration of comments relative to harmonization of the NEC with NFPA 90A-2002. In addition, actons could have been taken on numerous comments where the wording could have been modified to harmonize the NEC with NFPA 90A-2002. The directive circumvents recommended NEC procedures to insure harmonization of the various Standards incorporated into NFPA 5000.

The Technical Correlating Committee directed that a Task Group be appointed to resolve the differences in actions between Panels 3 and 16. The Task Group was successful and prepared approximately 170 Comments that were submitted to both panels resolving the differences and recommending action. These comments would have resulted in changes to the 2002 NEC and, therefore, were not evaluated by CMP 16 on their merits.

Finally, the Standards Council directive is an insult to the members of CMP 16 who devoted many, many hours to reviewing these comments, studying the issues and preparing statements of their positions.

This is the only instance in my 28 years serving on NEC panels where I am forced to abstain from agreeing or disagreeing with a panel action.

16-35 Log #1706 NEC-P16 **Final Action: Accept**
(770.3)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-12
Recommendation: Continue to reject.
Substantiation:I agree with the panel action to reject proposal 16-12. No technical substantiation has been provided that a change to the 2002 NEC language is needed or required. This comment represents the official position of the International Brotherhood of Electrical Workers Code and Standards Committee.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-36 Log #1784 NEC-P16 **Final Action: Accept**
(770.3)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-12
Recommendation: Continue to reject.
Substantiation: The Panel 3/Panel 16 Correlation Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 16's action and substantiation.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-37 Log #2684 NEC-P16 **Final Action: Accept**
(770.3)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 16-12
Recommendation: Continue to reject this proposal.
Substantiation: CFRA agrees with the panel action.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-38 Log #3852 NEC-P16 **Final Action: Reject**
(770.3)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 16-12
Recommendation: Revise to read as follows:

770.3 Locations and Other Articles. Circuits and equipment shall comply with 770.3(A) and (B). Only those sections of Article 300 referenced in this article shall apply to optical fiber cables and raceways.

(A) Spread of Fire or Products of Combustion. The requirements of 300.21 for electrical installations shall also apply to installations of optical fiber cables and raceways. The accessible portion of abandoned optical fiber cables shall not be permitted to remain.

(B) Ducts, Plenums, and Other Air-Handling Spaces. The requirements of 300.22 for electric wiring shall also apply to installations of optical fiber cables and raceways where they are installed in ducts or plenums or other space used for environmental air. Wiring methods installed in spaces covered by Section 300.22 (C) shall be permitted to extend not more than 150 mm (6 in.) beyond the limits of the space into a space covered by section 300.22 (B). Wiring methods installed in spaces covered by Section 300.22 (C) shall also be permitted to extend not more than 150 mm (6 in.) into inaccessible spaces covered by section 300.22 (C).

Exception: As permitted in 770.53(A).

Do not make any other changes to section 770.3, including restrictions in the use of plenum cables.

Substantiation: This comment has two main objectives: (1) improving on the original proposal, which had as its primary intent to make it clear that wiring systems should be permitted to extend up to 6 inches into a more restrictive environment, without developing any limitations for their use in less restrictive environments and (2) recommending no change in the applications of the wiring methods to be used in ducts, plenums and other air-handling spaces.

Explanation:

* It is important that installers of wiring in plenums and other spaces used for environmental air be able to complete installations without having to change wiring methods in order to terminate their installation just outside the plenum area, because that will help them and prevent unwarranted increases in wiring installation costs. There are multiple examples in the NEC where materials are permitted to extend slightly beyond the original space, including the following: 110.26 (3), 210.52 (5) Exception, 300.50 (A) Exceptions 2 and 3, 426.22 (b), 520.42, 550.13 (G) (3), and Table 830.12. Moreover, the concept of using 6 inches as a small distance is used over 30 times in the NEC.

* This comment recognizes that CMP 16 has introduced a new concept: "inaccessible areas" of plenum spaces (or of "other spaces used for environmental air") with the intention of prohibiting some 300.22 (C) wiring methods from being used in those areas. That concept has not been approved by CMP 3 and I support that rejection. However if continued to be accepted by CMP 16 and then approved by the membership and by Standards Council, the revised articles 770, 800, 820 and 830 in NEC-2005 would contain the concept of "inaccessible areas" and create confusion by forcing some users to keep changing wiring methods as they work their way through plenums. Acceptance of this comment would solve that problem. Of course, even if the concept of "inaccessible"areas of plenum spaces is ultimately rejected (as I feel it should), that part of this comment could then still be a useful clarification or could be eliminated after the fact by the membership, the NEC Technical Correlating Committee or Standards Council.

* This comment recommends continued rejection of a subdivision of "other spaces used for environmental air" and continued rejection of granting priority to NFPA 90A on choices of wiring methods.

* The input from CMP 3 and from the NEC Technical Coordinating Committee makes it clear that the terminology used in 300.22 has served the NEC well and needs no change. It has also become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, as a member of the Technical Committee on Air Conditioning, I believe the NEC panels should continue making their own choices regarding wiring methods.

* It has already been shown in detail by the fire hazard and fire risk analysis presented together with my original proposals (see for example the section on pages 2427-2431 of the NEC-ROP of the substantiation for this proposal of mine) that there is no need to change the requirements, or limit the application, for wiring methods in plenums, because the fire safety record is excellent.

This comment is one of a series of comments on Articles 300, 725, 760, 770, 800, 820 and 830, regarding "plenum cables". The philosophy behind all the comments is that the NEC is OK as published in 2002, but that 2 minor changes might represent improvements: (i) the clarification of the 6 inch extension of a wiring method into a more restricted environment and (ii) the clarification in the Fine Print Notes that a cable listed to NFPA 262 is listed both based on its "low-smoke" characteristics and its "low-flame-spread" characteristics, and that the two are not listed separately.

Also see comments from the chairman of the Technical Correlating Committee.

Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-39 Log #3331 NEC-P16 **Final Action: Reject**
(770.3, 800.3, 820.3 and 830.3)

Submitter: Robert Wessels, CommScope Inc.
Comment on Proposal No: 16-15
Recommendation: Accept proposals which include duct cable as an option.
Substantiation: CommScope supports the inclusion of duct cable in the NEC for forced air duct applications. Standard plenum cable certified to NFPA 262 has proved to be a very safe product over the years and the additional duct cable specification provides more options for telecommunications and control cable installations. It is important that we maintain the viability of listed "plenum" (i.e., OFNP, CMP, etc.) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air) because:

- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise risk factor to building occupants.

It is critical that we provide the optimum blend of product safety and cost effectiveness when considering these standards. Having both duct and plenum cables available as options for consumers is the best solution.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-40 Log #3835 NEC-P16 **Final Action: Accept in Principle in Part**
(770.3, 820.3, 830.3)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 16-15
Recommendation: *Reject this proposal and also reject the corresponding changes in article 800.*

Substantiation: There is no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should be rejected by CMP 16. As stated by Mr. Harold Ohde in his negative on CMP action on proposal 16-9: "Other codes should not be deciding on the typed of wiring methods to be used in these spaces. The electrical experts are capable of doing this and it is covered quite well in 300.22. The more we let those outside of the NEC make these decisions the more we weaken adoption of the NEC. In addition, we could make the change and there is nothing that requires a jurisdiction to even adopt 90A."

See further information contained in my comment on proposal 16-46.

Panel Meeting Action: Accept in Principle in Part

Panel Statement: See CMP 16 action on Comment 16-42 rejecting Proposal 16-15.

CMP 16 rejects the part of the recommendation to act on corresponding changes in Article 800, because they are not part of Proposal 16-15.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-41 Log #3868 NEC-P16 **Final Action: Reject**
(770.3(A))

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association

Comment on Proposal No: 16-13

Recommendation: *There is no consistency in the NEC on the removal of abandoned cables. This is primarily an issue with cables in Articles 645, 725, 760, 770, 800, 820 and 830. The wording should be as follows consistently: "Abandoned [cable type] cables shall be removed." It should also be contained in the section on applications of cables.*

770.3 Locations and Other Articles. Circuits and equipment shall comply with 770.3(A) and (B). Only those sections of Article 300 referenced in this article shall apply to optical fiber cables and raceways.

(A) Spread of Fire or Products of Combustion. The requirements of 300.21 for electrical installations shall also apply to installations of optical fiber cables and raceways. Abandoned ~~The accessible portion of abandoned~~ cables shall be removed.

Substantiation: The issue here is the interpretation of the action required with respect to what is accessible. The issue of "accessible" cables creates confusion that makes the enforcement of the removal of abandoned cable "dicey" because it is unclear what "accessible" means. The NEC defines the following terms in Article 100:

Accessible (as applied to equipment). Admitting close approach; not guarded by locked doors, elevation, or other effective means.

Accessible (as applied to wiring methods). Capable of being removed or exposed without damaging the building structure or finish or not permanently closed in by the structure or finish of the building.

Accessible, Readily (Readily Accessible). Capable of being reached quickly for operation, renewal, or inspections without requiring those to whom ready access is requisite to climb over or remove obstacles or to resort to portable ladders, and so forth.

The phrase "the accessible portion of abandoned cables" is much vaguer than the definitions in the code, because the term "accessible portion" is not defined. Therefore, accessible portion is probably considered that length of cable that is within a few feet of the opening, and that can be cut off by reaching in. That is clearly not the intent of the code provision: the entire length of cable that can be pulled out should be removed.

Another possible interpretation is that this refers to excluding from removal those cables installed in the areas that CMP 16 calls "inaccessible ceiling cavity plenums and inaccessible raised floor plenums". The concept of those "inaccessible areas" was rejected by CMP 3 as inappropriate because there is no known fire safety problem with the present type of wiring methods, but it was approved by CMP 16. If this concept is approved, and the wording of "abandoned cables" includes the "accessible portion" concept, it would clearly mean that the NEC would permit some cables to be left permanently in place once abandoned. This was soundly rejected by the membership several times, in a concept upheld by Standards Council.

It is pretty obvious that the concept of removal of abandoned cable is not one where someone should try to tear down a building or cause structural damage to it just to remove cables "permanently closed in by the structure or finish of the building". I believe that we must trust in the intelligence of our code officials and electrical inspectors that they will not demand such actions. If there is a feeling that this is a possibility (which I cannot believe), it might be worth adding a Fine Print Note to the effect that removal of abandoned cables should not cause structural damage to the building. An example follows:

FPN: Removal of abandoned cables is not intended to cause structural damage to buildings.

Clearly, "the accessible portion of abandoned cables" is a misleading phrase which can lead to abundant misinterpretation. It should be eliminated in favor of the simpler "abandoned cables".

Panel Meeting Action: Reject

Panel Statement: See CMP 16 action and statement on Comment 16-310.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14 Negative: 1

Explanation of Negative:

OHDE: I am voting negative on both the panel action and the panel statement. I agree withsubmitter's substantiation and the real issue here is the interpretation of the term "accessible" versus the phrase "The accessible portion of abandoned cable". The term "accessible portion" is vague and is not defined and should be as this wording can have many different interpretations. This would be very difficult to enforce because of the unclear meaning of this term. Article 100 does define the term "accessible" and these definitions are quite clear and concise in regards to their meaning and applications. The panel statement for comments 16-310 and 16-654 state that definition of "Accessible (as applied to wiring methods)" in Article 100 applies. This definition does not have the same meaning or interpretation for the phrase "accessible portion". "The accessible portion of abandoned (type) cables shall not be permitted to remain" can be found in the proposed 2005 NEC in 770.3, 800.3, 820.3 and 830.3.

16-42 Log #252 NEC-P16 **Final Action: Accept**
(770.3(B))

Submitter: Technical Committee on Air Conditioning

Comment on Proposal No: 16-15

Recommendation: Reject our proposal.

Substantiation: Elimination of the exceptions can lead to confusion in understanding the requirements of these sections. That's what happened when the exception in section 725.3(C) in the 1999 NEC was eliminated and replaced with positive language.

Panel Meeting Action: Accept

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-43 Log #1485 NEC-P16 **Final Action: Accept in Principle**
(770.3(B))

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals

Comment on Proposal No: 16-15

Recommendation: Continue rejecting this proposal.

Substantiation: • This comment recommends rejection of a subdivision of "other spaces used for environmental air" and continued rejection of granting priority to NFPA 90A on choices of wiring methods.

• The input from CMP 3 and from the NEC Technical Coordinating Committee makes it clear that the terminology used in 300.22 has served the NEC well and needs no change. It has also become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods.

• It has already been shown in detail by the fire hazard and fire risk analysis presented together with my original proposals (see for example the section on pages 2080-2091 of the NEC-ROP of the substantiation for my proposal 3-130) that there is no need to change the requirements, or limit the application, for wiring methods in plenums, because the fire safety record is excellent.

• I understand that this comment represents a change in some of the concepts the submitter believed when the proposal was submitted, but "even old dogs can learn".

Panel Meeting Action: Accept in Principle

Panel Statement: See CMP 16 action on Comment 16-42.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-44 Log #2494 NEC-P16 **Final Action: Accept in Principle**
(770.3(B))

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 16-15
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 16-37.
Panel Meeting Action: Accept in Principle
Panel Statement: See CMP 16 action on Comment 16-42.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-45 Log #2518eee NEC-P16 **Final Action: Accept in Principle**
(770.3(B))

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 16-15
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept in Principle
Panel Statement: See CMP 16 action on Comment 16-42.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-46 Log #1312 NEC-P16 **Final Action: Accept in Principle**
(770.3(B), 820-3(B) and 820-3(B))

Submitter: Wayne G. Carson, Carson Assoc. Inc.
Comment on Proposal No: 16-15
Recommendation: Reject proposal.
Substantiation: These definitions are not needed in the code as the issue is adequately addressed in 300.22. There is no technical justification provided why this change is necessary.
Panel Meeting Action: Accept in Principle
Panel Statement: See CMP 16 action on Comment 16-42.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-47 Log #2816 NEC-P16 **Final Action: Reject**
(770.3(B) & 820.3(B))

Submitter: Paul Schmugge, Pirelli Cables & Systems North America
Comment on Proposal No: 16-15
Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:
Replace current Sections 770.3(B) and 820.3(B) as indicated below:
Notes:
1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For
• 770: **OFNP** and **OFCP** (as is below)
• 820: **CATVP** (delete other ***bolded*** text)
2) Renumber Sections as appropriate.
Replace Section 770.3(B) and 820.3(B) with all of the following:
(B) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.
(C) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply to installations for electric wire, cables, **and raceways** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables **and plenum optical fiber raceways** shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities.
Substantiation: Comment Discussion
The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.
Specific actions recommended include:
1. Harmonize on appropriate definitions, as well as:
- Eliminating or correcting erroneous definitions
- Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)
Comment Rationale
In regards to structured cabling installations that support intrabuilding communications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:
- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.
The primary objectives of this comment, and associated comments, can be summarized as the needs to:
• Maintain viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety.
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.
• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.
• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.
Panel Meeting Action: Reject

Panel Statement: CMP 16 accepted Comment 16-42 to reject Proposal 16-15, because the change from an exception to positive language would lead to confusion in understanding the requirements of the section.

The alternate text suggested in this comment would also cause confusion.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-48 Log #3064 NEC-P16 **Final Action: Reject**

(770.3(B) & 820.3(B))

Submitter: James Walter Clark, Timberland Mechanical Services

Comment on Proposal No: 16-15

Recommendation: With respect to cabling in ducts, plenums and otehr spaces used for environmental air (ceiling and raised floor cavities), add the following clarifications related to the requirements for cables placed in such spaces:

Replace Sections 770.3(B) & 820.3(B) as indicated below:

Notes:

•1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For

•770: **OFNP** aqnd **OFCP** (as is below)

• 820: **CATVP** (delete other ***bolded*** text)

2) Renumber Sections as appropriate.

(B) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.

(C) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply to installations for electric wire, cables, ***and raceways*** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables ***and plenum optical fiber raceways*** shall also be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floow cavities.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:

• Eliminating or correcting erroneous definitions

• Consolidating definitions in Article 100.

2. Clarify references in the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles.; (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)

4. Clarify listing requirements for wire and cables in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefit. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).

- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.

- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety

- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.

- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reinterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kband for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However: "dust cable" can act as a fuel source despite its low-smoke characteristics. Since, three are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set of damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject

Panel Statement: See CMP 16 statement on Comment 16-47.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-49 Log #3325 NEC-P16 **Final Action: Reject**

(770.3(B), 820.3(B))

Submitter: Robert Pollock, Corning Cable Systems

Comment on Proposal No: 16-15

Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.3(B) , 820.3(B) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For

• 770: **OFNP** and **OFCP** (as is below)

• 820: **CATVP** (delete other **bolded** text)

2) Renumber Sections as appropriate.

Replace Section 770.3(B), 820.3(B) with all of the following:

(B) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.

(C) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply to installations for electric wires, cables, and raceways where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables and plenum optical fiber raceways shall also be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
• Eliminating or correcting erroneous definitions
• Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cables in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefit. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises end users (i.e., fiber-to-the-end user). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed “plenum” (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reinterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kband for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building’s exterior. However: “duct cable” can act as a fuel source despite its low-smoke characteristics. Since, three are no provisions for a listed device to detect toxins emanating from a burning “duct cable” in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject
Panel Statement: See CMP 16 statement on Comment 16-47.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-50 Log #3341 NEC-P16 **Final Action: Reject**
(770.3(B), 820.3(B))

Submitter: Grant P. Watkins, Confluent Photonics Corporation
Comment on Proposal No: 16-15
Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace Section 770.3(B) and 820.3(B) as appropriate:

Note: The relevant cables types need to be inserted in the text below as appropriate for each Article. For

• 770: **OFNP** and **OFCP**
• 820: **CATVP** (delete other **bolded** text)

With all of:

(B) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(C) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.

(C) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply to installations for electric wire, cables, and raceways where they are installed in other spaces used for environmental air. Type OFNP and OFCP cables and plenum optical fiber raceways shall also be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in “other places used for environmental air,” such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended included:

1. Harmonize on appropriate definitions, as well as:
• Eliminating or correcting erroneous definitions
• Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

• Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).

• Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements

• Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises end users (i.e., fiber-to-the-end user). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

• Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed “plenum” (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in

effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject
Panel Statement: See CMP 16 statement on Comment 16-47.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-51 Log #3353 NEC-P16 **Final Action: Reject**
(770.3(B)& 820.3(B))

Submitter: Jean Baer, Supeiror Essex
Comment on Proposal No: 16-15
Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.3(B) & 820.3(B) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For

• 770: **OFNP** and **OFCP** (as is below)

• 820: **CATVP** (delete other **bolded** text)

2) Renumber Sections as appropriate.

Replace Section 770.3(B) & 820.3(B) with all of the following:

(B) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.

(C) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply to installation for electric wire, cables **and raceways** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables **and plenum optical fiber raceways** shall also be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended included:

1. Harmonize on appropriate definitions, as well as:
   • Eliminating or correcting erroneous definitions
   • Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

• Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).

• Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements

• Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises end users (i.e., fiber-to-the-end user). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

• Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject
Panel Statement: See CMP 16 statement on Comment 16-47.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-52 Log #3884 NEC-P16 **Final Action: Reject**
(770.3(B), 820.3(B))

Submitter: John A. Jay, Corning
Comment on Proposal No: 16-15
Recommendation: With respect to cabling in ducts, plenums and otehr spaces used for environmental air (ceiling and raised floor cavities), add the following clarifications related to the requirements for cables placed in such spaces:

Replace Sections 770.3(B) & 820.3(B) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For

•770: **OFNP** aqnd **OFCP** (as is below)

• 820: **CATVP** (delete other ***bolded*** text)

2) Renumber Sections as appropriate.

(B) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.

(C) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply to installations for electric wire, cables, ***and raceways*** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables ***and plenum optical fiber raceways*** shall also be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floow cavities.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding communications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety.
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject
Panel Statement: See CMP 16 statement on Comment 16-47.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-53 Log #819 NEC-P16 **Final Action: Accept**
(770.3(B), 820.3(B) & 830.3 (B))

Submitter: Technical Correlating Committee on National Electrical Code®
Comment on Proposal No: 16-15
Recommendation: See Technical Correlating Committee Note on Proposal 16-9.

The Technical Correlating Committee requests that the Panel review the language of the Proposal with respect to stating a requirement in 820.3(B) and 830.3(B). This action will be considered by the Panel as a Public Comment.

Substantiation: This is a direction from the National Electrical Code Technical Correlating Committee in accordance with 3-4.2 and 3-4.3 of the Regulations Governing Committee Projects.
Panel Meeting Action: Accept
Panel Statement: CMP 16 accepts the direction of the TCC to review Proposal 16-9 and 16-15.

See CMP 16 action on Comment 16-42.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-54 Log #1907 NEC-P16 **Final Action: Accept in Principle**
(770.3(B), 820.3(B), & 830.3(B))

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-15
Recommendation: Reject this propsal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Jensen and Mr. Jones. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept in Principle
Panel Statement: See CMP 16 action on Comment 16-42.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-55 Log #1909 NEC-P16 **Final Action: Reject**
(770.3(B) and 820-3(B))

Submitter: Donald G. Ouellette, Teknor Apex Co.
Comment on Proposal No: 16-15
Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:
Replace current Sections 770.3(B) & 820.3(B) as indicated below:
Notes:
1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For
• 770: **OFNP** and **OFCP** (as is below)
• 820: **CATVP** (delete other **bolded** text)
2) Renumber Sections as appropriate.
Replace Section 770.3(B) & 820.3(B) with all of the following:
(B) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.
(C) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply to installation for electric wire, cables ~~and~~ raceways where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables and plenum optical fiber ~~raceways~~ shall also be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities.
Substantiation: In the mid 1970's the NFPA 255 test, (referred to at that time as the ASTM E-84), was deemed inappropriate for wire and cables because there was no provision for mounting cables in this test designed for building materials. The NFPA 255 test then known as ASTM E-84, Steiner Tunnel Test was modified to accommodate testing wires and cables and as a result a steel ladder suspended in the approximate center of the fire rig to simulate a horizontal cable tray. The modified ASTM E-84 was then named UL-190, Steiner Tunnel Fire Test. In addition to cable mounting differences there also remains another very important difference in comparing the NFPA 255 to the UL-910 (now known as NFPA 262). This very important difference is the test time duration. The proposed NFPA 255 has a test duration time of 10 minutes. The test time duration of the UL-910 (NFPA 262 test) is 20 minutes. This is important because fluoropolymer insulating and jacketing materials do not begin to burn until temperatures reach >1100°F. Furthermore, Underwriters Laboratories has since issued a new UL standard, UL 2424, and is now accepting applications to list Limited Combustible, CMD Cables. The UL 2424 standard has omitted NFPA 262, a 20-minute duration test, in favor of NFPA 255, a 10-minute duration test.
The effects of favoring NFPA 255 (10 minute test) versus NFPA 262 (20 minute test) have not been studied across all plenum cable designs. If the NFPA 255 test protocol is to be the test method for wires and cables, then consideration must be given to extend the test time of NFPA 255 for wires and cables to 20 minutes.
In 1998, the Fire Protection Research Foundation, FPRF, conducted a study called "International Limited Combustible Plenum Cable Fire Test Project". Teknor Apex Company participated in this research project. The final report to this project was printed in March 2001. The cable samples consisted of only 4 UTP, unshielded twisted pairs made from various insulating and jacketing materials. The decision to use NFPA 255 and NFPA 259 building materials test methods was not a consensus decision. The facts are that NFPA 255 and NFPA 259 are clearly described as: NFPA 255, Standard Method of Test of Surface Burning Characteristics of Building Materials - NFPA 259, Standard Method for Potential Heat of Building Materials. Despite objections from a minority of sponsors the project moved forward utilizing these test methods previously deemed inappropriate during a time period when 4 pair UTP consisting of cables made of all fluoropolymer materials already existed.
Panel Meeting Action: Reject
Panel Statement: See CMP 16 statement on Comment 16-47.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-56 Log #2984 NEC-P16 **Final Action: Reject**
(770.3(B) and 820-3(B))

Submitter: Sean Foley, AFL Telecommunications
Comment on Proposal No: 16-15
Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:
Replace current Sections 770.3(B) & 820.3(B) as indicated below:
Notes:
1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For
• 770: **OFNP** and **OFCP** (as is below)
• 820: **CATVP** (delete other **bolded** text)
2) Renumber Sections as appropriate.
Replace Section 770.3(B) & 820.3(B) with all of the following:
(B) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.
(C) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply to installation for electric wire, cables **and raceways** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables **and plenum optical fiber raceways** shall also be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities.
Substantiation: Comment Discussion
The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.
Specific actions recommended included:
1. Harmonize on appropriate definitions, as well as:
• Eliminating or correcting erroneous definitions
• Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)
Comment Rationale
In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:
• Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
• Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements
• Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises end users (i.e., fiber-to-the-end user). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
• Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.
The primary objectives of this comment, and associated comments, can be summarized as the needs to:
• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.
• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject
Panel Statement: See CMP 16 statement on Comment 16-47.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-57 Log #2987 NEC-P16 **Final Action: Reject**
(770.3(B) and 820-3(B))

Submitter: Sean Foley, AFL Telecommunications
Comment on Proposal No: 16-15
Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.3(B) & 820.3(B) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For

• 770: **OFNP** and **OFCP** (as is below)

• 820: **CATVP** (delete other **bolded** text)

2) Renumber Sections as appropriate.

Replace Section 770.3(B) & 820.3(B) with all of the following:

(B) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.

(C) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply to installation for electric wire, cables **and raceways** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables **and plenum optical fiber raceways** shall also be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended included:

1. Harmonize on appropriate definitions, as well as:
   • Eliminating or correcting erroneous definitions
   • Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

• Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).

• Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements

• Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises end users (i.e., fiber-to-the-end user). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

• Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject
Panel Statement: See CMP 16 statement on Comment 16-47.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-58 Log #2188 NEC-P16 **Final Action: Reject**
(770.3(B) and 820.3(B))

Submitter: Ken Chauvin, Corning Cable Systems
Comment on Proposal No: 16-15
Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 725.61(C) & 760.61(A) as appropriate:

Note:

The relevant cables types need to be inserted in the text below as appropriate for each Article. For

725: **CL2P** and **CL3P**
760: **FPLP**

Replace Section 725.61(A) & 760.61(A) with all of the following:

(A) Ducts or Plenums. The requirements of 300.22(B) shall apply for elctric wire and cable where installed in ducts or plenums used for environmental air.

(B) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply to installations for electric wire and cables where they are installed in other spaces used for environmental air. Type **CL2P** and **CL3P**

cables shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities. Other listed cable types installed in compliance with 300.22 shall also be permitted.

Tables, and Figures 725.61 and 760.61

Delete references to listed "duct cables" as follows and

- 725.61: CMD, CL3D, and CL2D
- 760.61: FPLD

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended included:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises end users (i.e., fiber-to-the-end user). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

- Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
  - Such cables have a proven track record for safety
  - Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
  - The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
- Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.
- Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
- Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.
- Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject

Panel Statement: See CMP 16 statement on Comment 16-47.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-59 Log #2956 NEC-P16 **Final Action: Reject**

(770.3(B) and 820.3(B))

Submitter: Sean Foley, AFL Telecommunications

Comment on Proposal No: 16-15

Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.3(B) and 820.3(B) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For

- 770: **OFNP** and **OFCP** (as is below)
- 820: **CATVP** (delete other ***bolded*** text)

2) Renumber Sections as appropriate.

Replace Section 770.3(B) and 820.3(B) with all of the following:

(B) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.

(C) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply to installations for electric wire, cables, **and raceways** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables **and plenum optical fiber raceways** shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding communications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.

- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety.

- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.

- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject

Panel Statement: See CMP 16 statement on Comment 16-47.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-60 Log #3044 NEC-P16 **Final Action: Reject**
(770.3(B) and 820.3(B))

Submitter: William Tenkate, EIS Wire & Cable Co.

Comment on Proposal No: 16-15

Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.3(B) and 820.3(B) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For

• 770: **OFNP** and **OFCP** (as is below)

• 820: **CATVP** (delete other ***bolded*** text)

2) Renumber Sections as appropriate.

Replace Section 770.3(B) and 820.3(B) with all of the following:

(B) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.

(C) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply to installations for electric wire, cables, **and raceways** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables **and plenum optical fiber raceways** shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding communications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).

- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.

- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety.

- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.

- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source

despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject

Panel Statement: See CMP 16 statement on Comment 16-47.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-61 Log #3372 NEC-P16 **Final Action: Reject**
(770.3(B) and 820.3(B))

Submitter: Randy Harris, Day One Communications Inc.

Comment on Proposal No: 16-15

Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace Section 770.3(B) and 820.3(B) as appropriate:

Note: The relevant cables types need to be inserted in the text below as appropriate for each Article. For

- 770: **OFNP** and **OFCP**
- 820: **CATVP** (delete other **bolded** text)

With all of:

(B) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(C) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.

(C) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply to installations for electric wire, cables, and raceways where they are installed in other spaces used for environmental air. Type OFNP and OFCP cables and plenum optical fiber raceways shall also be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended included:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises end users (i.e., fiber-to-the-end user). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

- Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
  - Such cables have a proven track record for safety
  - Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
  - The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
- Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.
- Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
- Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.
- Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject

Panel Statement: See CMP 16 statement on Comment 16-47.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-62 Log #3375 NEC-P16 **Final Action: Reject**
(770.3(B) and 820.3(B))

Submitter: Matt Brown, US Conec

Comment on Proposal No: 16-15

Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.3(B) & 820.3(B) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For

- 770: **OFNP** and **OFCP** (as is below)
- 820: **CATVP** (delete other **bolded** text)

2) Renumber Sections as appropriate.

Replace Section 770.3(B) & 820.3(B) with all of the following:

(B) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.

(C) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply to installation for electric wire, cables **and raceways** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables **and plenum optical fiber raceways** shall also be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended included:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises end users (i.e., fiber-to-the-end user). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

- Maintain the viability of listed “plenum” (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
  - Such cables have a proven track record for safety
  - Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
  - The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
- Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.
- Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
- Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.
- Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building’s exterior. However, “duct cable” can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning “duct cable” in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject

Panel Statement: See CMP 16 statement on Comment 16-47.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-63 Log #3557 NEC-P16 **Final Action: Reject**
(770.3(B) and 820.3(B))

Submitter: Michael J. McLear, Madison Cable Corporation

Comment on Proposal No: 16-15

Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.3(B) and 820.3(B) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For
- 770: **OFNP** and **OFCP** (as is below)
- 820: **CATVP** (delete other ***bolded*** text)

2) Renumber Sections as appropriate.

Replace Section 770.3(B) and 820.3(B) with all of the following:

(B) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.

(C) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply to installations for electric wire, cables, **and raceways** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables **and plenum optical fiber raceways** shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in “other places used for environmental air,” such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding communications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

- Maintain viability of listed “plenum” (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
  - Such cables have a proven track record for safety.
  - Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.

- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject
Panel Statement: See CMP 16 statement on Comment 16-47.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-64 Log #3562 NEC-P16 **Final Action: Reject**
(770.3(B) and 820.3(B))

Submitter: Doug Coleman, Corning Cable Systems
Comment on Proposal No: 16-15
Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.3(B) and 820.3(B) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For

• 770: **OFNP** and **OFCP** (as is below)

• 820: **CATVP** (delete other ***bolded*** text)

2) Renumber Sections as appropriate.

Replace Section 770.3(B) and 820.3(B) with all of the following:

(B) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.

(C) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply to installations for electric wire, cables, **and raceways** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables **and plenum optical fiber raceways** shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding communications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety.
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject
Panel Statement: See CMP 16 statement on Comment 16-47.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-65 Log #3617 NEC-P16 **Final Action: Reject**
(770.3(B) and 820.3(B))

Submitter: Charles D. Marion, II, Marion Fiber Splice Inc.
Comment on Proposal No: 16-15
Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:
Replace Section 770.3(B) and 820.3(B) as appropriate:
Note: The relevant cables types need to be inserted in place of OFNP/OFCP and OFND/OFCD as appropriate for each Article.
• 770: As is below
• 820: CATVP and CATVD
With:
(B) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) for electric wiring shall also apply to installations of optical fiber cables and raceways where they are installed in ducts or plenums used for environmental air. Type OFND and OFCD cables shall be permitted when associated with the operation of the duct or plenum to include the sensing, monitoring, handling, or control of environmental air with the duct or plenum, as well as supporting the associated equipment such as fire alarm and suppression.
• Placing cables in ducts and true plenums should be avoided where alternate pathways exist such as ceiling cavity and raised floor spaces, even when such cables are associated with the sensing, monitoring or control of the air distribution system and associated components.
• Communications cables not specifically associated the operation of the air distribution systems shall not be placed in ducts or plenums, regardless of flame and smoke performance.
(C) Other Spaces Used for Environmental Air. The requirements of 300.22(C) for electric wiring shall also apply to installations of optical fiber cables and raceways where they are installed in other space used for environmental air, such as ceiling cavities and raised floor cavities. Type OFNP and OFCP cables and plenum optical fiber raceways shall be permitted.
Substantiation: In regards to structured cabling supporting intrabuilding telecommunications systems, it is imperative to avoid changes that directly or indirectly effect, or which otherwise set the stage for, the development of unnecessary and extraneous requirements that severely and negatively affect, and or unnecessarily limit, viable solutions to real-world requirements. To do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:
– Significantly complicate intrabuilding structured cabling requirements with no substantive, definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
– Critically limit the availably product sets compliant to the revised requirements or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
– Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser), resulting in significant delays in realizing improvements to endusers' Quality-of-Life and access to on-demand services.
– Limit the flexibility and upgrade potential of newer structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.
The primary objectives of this comment, and associated comments, can be summarized as:
• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
– Such cables have a proven track record for safety
– The report on an investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
• Reiterate that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums unless specifically associated with the operation of the duct or plenum, to include the sensing, monitoring, handling, or control of environmental air within the duct or plenum, or with the associated systems such as fire alarm and suppression.
• Encourage the NFPA to recognize that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications supporting sprawling business complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
• No significant consideration has apparently been given to what alternative viable structured cabling solutions may exist or can be developed, if any

Comment Discussion
The purpose of this comment, and associated comments, is improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding, wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document (see link below).
Specific actions recommended include:
1. Harmonize on appropriate definitions, as well as:
• Eliminating or correcting erroneous definitions
• Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
– Plenums and air ducts, vs.
– Other spaces used for environmental air
– ceiling cavities and raised floor cavities
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)
– Plenums and ducts, vs.
– Other spaces used for environmental air
– ceiling cavities and raised floor cavities
5. Allow substitution hierarchy to be employed as appropriate, by avoiding redundant requirements in the sections addressed above.
– The use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they would be needed, when such products exist. This flexibility is allowed per the NEC substitution hierarchy.
Panel Meeting Action: Reject
Panel Statement: See CMP 16 statement on Comment 16-47.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-66 Log #3599 NEC-P16 **Final Action: Reject**
(770.3(B) and 8203(B))

Submitter: Alfred D. Messineo, Calm Technologies Inc.
Comment on Proposal No: 16-15
Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:
Replace Section 770.3(B) and 820.3(B) as appropriate:
Note: The relevant cables types need to be inserted in the text below as appropriate for each Article. For
• 770: **OFNP** and **OFCP**
• 820: **CATVP** (delete other **bolded** text)
With all of:
(B) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(C) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.
(C) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply to installations for electric wire, cables, and raceways where they are installed in other spaces used for environmental air. Type OFNP and OFCP cables and plenum optical fiber raceways shall also be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities.
Substantiation: Comment Discussion
The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.
Specific actions recommended included:
1. Harmonize on appropriate definitions, as well as:
• Eliminating or correcting erroneous definitions
• Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

• Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).

• Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements

• Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises end users (i.e., fiber-to-the-end user). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

• Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Reject
Panel Statement: See CMP 16 statement on Comment 16-47.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-67 Log #32 NEC-P16 **Final Action: Accept**
(770.6)

Submitter: Stanley Kaufman, CableSafe, Inc.
Comment on Proposal No: 16-17
Recommendation: Continue to accept this proposal in principle and revise 770.6 as shown below:

770.6 Raceways for Optical Fiber Cables. Installations of raceways shall comply with (A) through (D) below:

(A) Chapter 3 Raceways. Listed optical fiber cable shall be permitted to be installed in any type of listed raceway permitted in Chapter 3 where that listed raceway is installed in accordance with Chapter 3. Where optical fiber cables are installed within raceway without current-carrying conductors, the raceway fill tables of Chapter 3 and Chapter 9 shall not apply. Where nonconductive optical fiber cables are installed with electric conductors in a raceway, the raceway fill tables of Chapter 3 and Chapter 9 will apply.

(B) Optical Fiber Raceways. Listed optical fiber cable shall be permitted to be installed in listed plenum optical fiber raceway, listed riser optical fiber raceway or listed general-purpose optical fiber raceway installed in accordance with 770.61 and 362.24 through 362.56, where the requirements applicable to electrical nonmetallic tubing shall apply.

(C) Innerduct. Listed plenum optical fiber raceway, listed riser optical fiber raceway or listed general-purpose optical fiber raceway installed in accordance with 770.61 shall be permitted to be installed as innerduct in any type of listed raceway permitted in Chapter 3.

(D) Entering Buildings. Unlisted underground or outside plant construction plastic innerduct entering the building from the outside shall be terminated and firestopped at the point of entrance.

Substantiation: The changes are editorial and were made to comply with the NEC style manual.
Panel Meeting Action: Accept
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-68 Log #820 NEC-P16 **Final Action: Accept**
(770.6)

Submitter: Technical Correlating Committee on National Electrical Code®
Comment on Proposal No: 16-17
Recommendation: The Technical Correlating Committee directs that the Panel clarify the Panel Action on this Proposal and correlate the actions with Proposal 16-5. The Technical Correlating Committee recognizes that the numbering and lack of titles is not in accordance with the NEC Style Manual. This action will be considered by the Panel as a Public Comment.
Substantiation: This is a direction from the National Electrical Code Technical Correlating Committee in accordance with 3-4.2 and 3-4.3 of the Regulations Governing Committee Projects.
Panel Meeting Action: Accept
Panel Statement: CMP 16 accepts the direction of the TCC to review Proposal 16-17.

See CMP 16 action on Comment 16-67.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-69 Log #3139 NEC-P16 **Final Action: Accept**
(770.7)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-19
Recommendation: Continue to reject.
Substantiation: We agree with both the panel action and the panel statement to reject proposal 16-19. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-70 Log #953 NEC-P16 **Final Action: Reject**
(770.8)

Submitter: Dorothy Kellogg, American Chemistry Council
Comment on Proposal No: 16-20
Recommendation: The installation shall also conform with 300.4(D) ~~and 300.11.~~
Substantiation: The inclusion of 300.11 into 770.8 introduces overly restrictive requirements. Panel 16 added the reference to 300.11, but did not furnish any technical support that a safety issue exists justifying the additional installation requirements of 300.11.
Panel Meeting Action: Reject
Panel Statement: Section 300.11 is appropriate for all cables regardless of whether the cable is an optical fiber cable, communications cable, coaxial cable, or network-powered broadband cable.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 10 Negative: 5
Explanation of Negative:
BRUNSSEN: Comment 16-70 should be accepted. The securing and support requirements of 300.11 are overly restrictive and are inappropriate for optical fiber (OF) cables. Section 300.11 is applicable to power cable assemblies that are heavier and larger than OF cables. An OF cable may be only one-eighth inch in diameter and does not carry the voltage and current associated with power cables. Modifications typically involve the installation of a single, or at most, a few additional OF cables. 300.11(C) does not permit cables to be used as a support. However, as a communications system evolves, OF cables are often installed over an extended period of time and lashed together in a "cable assembly". It is overly restrictive to specify that each addition of a single OF cable require installation of additional and separate supports. Such added requirements serve only to unnecessarily increase installation costs. The Panel has cited neither a safety hazard nor provided technical justification for the addition of the reference to 300.11. Note that the Panel acknowledges in the Panel Statement for comment 16-71 regarding the very same issue: "CMP 16 understands that the proposal as modified by the panel is not the original intent of the submitter. However, the panel sustains its action."
DORNA: I agree and support Mr. Brunssen's explanation on this comment.
HUGHES: This comment should have been accepted. Imposing the requiremnts of NEC 300.11 for this application will result in unnecessary supports being required by the Code. 300.11 is intended to apply to power wiring and not the cabling covered in the scope of this Article. JOHNSON: I agree with the submitter's substantiation in this comment. Compliance with Section 300.11 is overly restrictive for applications of fiber optic cable installations. 300.11 is appropriate for power assemblies which are larger and heavier than fiber optic cables. Fiber optic cables are smaller in diameter and lighter weight. There is no justification to disallow supporting an additional fiber optic cable by lashing it to an existing bundle of properly supported cables. Additional fiber optic cables will not cause undue strain on the existing cable support system.
JONES: No evidence or technical support was provided showing that a need or a safety issue exists justifying the reference to the additional installation requirements of 300.11. The panel has acknowledged that this additional requirement was not the intent of the submitter of the original proposal. No attempt was made by the panel to create a panel proposal that would flag this insertion during the comment stage.
Comment on Affirmative:
OHDE: I agree with both the panel action and panel statement on this comment. 300.11 is appropriate for all cables regardless of whether the cable is an optical fiber cable, communication cable, coaxial cable, or network-powered broadband cable.

16-71 Log #1191 NEC-P16 **Final Action: Reject**
(770.8)

Submitter: James E. Brunssen, Telcordia Technologies, Inc.
Comment on Proposal No: 16-20
Recommendation: Revise text to read as follows:
In the final sentence of the CMP 16 rewrite of 770.8, delete the text "and 300.11" as follows: "The installation shall also conform with 300.4(D) ~~and 300.11~~."
Substantiation: The requirement added by CMP 16 that the installation conform to 300.11 is overly restrictive and is inappropriate for optical fiber (OF) cables. 300.11 is appropriate for power cable assemblies that are heavier and larger than OF cables. An OF cable may be only one-eighth inch in diameter and does not carry the voltage and current associated with power cables. Modifications typically involve the installation of a single, or at most, a few additional OF cables. 300.11(C) does not permit cables to be used as a support. However, as a communications system evolves, OF cables are often installed over an extended period of time and lashed together in a "cable assembly". It is overly restrictive to specify that each addition of a single OF cable require installation of additional and separate supports. Further, the panel did not provide substantiation for the addition of the reference to 300.11, and as the submitter of the original proposal, the addition of the reference to 300.11 does not meet my intent.
Panel Meeting Action: Reject
Panel Statement: CMP 16 understands that the proposal as modified by the panel is not the original intent of the submitter. However, the panel sustains its action.
Section 300.11 is appropriate for all cables regardless of whether the cable is an optical fiber cable, communications cable, coaxial cable, or network-powered broadband cable.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 10 Negative: 5
Explanation of Negative:
BRUNSSEN: Comment 16-71 should be accepted. The securing and support requirements of 300.11 are overly restrictive and are inappropriate for optical fiber (OF) cables. Section 300.11 is applicable to power cable assemblies that are heavier and larger than OF cables. An OF cable may be only one-eighth inch in diameter and does not carry the voltage and current associated with power cables. Modifications typically involve the installation of a single, or at most, a few additional OF cables. 300.11(C) does not permit cables to be used as a support. However, as a communications system evolves, OF cables are often installed over an extended period of time and lashed together in a "cable assembly". It is overly restrictive to specify that each addition of a single OF cable require installation of additional and separate supports. Such added requirements serve only to unnecessarily increase installation costs. The Panel has cited neither a safety hazard nor provided technical justification for the addition of the reference to 300.11. Note that the Panel acknowledges in the Panel Statement: "CMP 16 understands that the proposal as modified by the panel is not the original intent of the submitter. However, the panel sustains its action."
DORNA: I agree and support Mr. Brunssen's explanation on this comment.
HUGHES: This comment should have been accepted. Imposing the requiremnts of NEC 300.11 for this application will result in unnecessary supports being required by the Code. 300.11 is intended to apply to power wiring and not the cabling covered in the scope of this Article. JOHNSON: I agree with Mr. Brunssen's substantiation in this comment. Compliance with Section 300.11 is overly restrictive for applications of fiber optic cable installations. 300.11 is appropriate for power assemblies which are larger and heavier than fiber optic cables. Fiber optic cables are smaller in diameter and lighter weight. There is no justification to disallow supporting an additional fiber optic cable by lashing it to an existing bundle of properly supported cables. Additional fiber optic cables will not cause undue strain on the existing cable support system.
JONES: See my explanation of negative vote on Comment 16-70.**Comment on Affirmative:**
OHDE: See my Affirmative Comment for Comment 16-70.

16-72 Log #2157 NEC-P16 **Final Action: Accept in Principle in Part**
(770.8)

Submitter: Robert W. Jensen, dbi-Telecommunications
Comment on Proposal No: 16-20
Recommendation: Continue to accept this proposal in principle.
Delete text as follows:
Delete "and 300.11" from the last sentence.
Substantiation: Reference to 300.11 is inappropriate for optical fiber cables, These cables do not have to be "securely fastened in place" in order to have a safe installation.
Panel Meeting Action: Accept in Principle in Part
CMP 16 accepts that part of the comment that is to accept the proposal in principle.
CMP 16 rejects the deletion of "and 300.11".
Panel Statement: Section 300.11 is appropriate for all cables regardless of whether the cable is an optical fiber cable, communications cable, coaxial cable, or network-powered broadband cable.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 10 Negative: 5
Explanation of Negative:
BRUNSSEN: Comment 16-72 should be accepted. The securing and support requirements of 300.11 are overly restrictive and are inappropriate for optical fiber (OF) cables. Section 300.11 is applicable to power cable assemblies that are heavier and larger than OF cables. An OF cable may be only one-eighth inch in diameter and does not carry the voltage and current associated with power cables. Modifications typically involve the installation of a single, or at most, a few additional OF cables. 300.11(C) does not permit cables to be used as a support. However, as a communications system evolves, OF cables are often installed over an extended period of time and lashed together in a "cable assembly". It is overly restrictive to specify that each addition of a single OF cable require installation of additional and separate supports. Such added requirements serve only to unnecessarily increase installation costs. The Panel

has cited neither a safety hazard nor provided technical justification for the addition of the reference to 300.11. Note that the Panel acknowledges in the Panel Statement for comment 16-71 regarding the very same issue: "CMP 16 understands that the proposal as modified by the panel is not the original intent of the submitter. However, the panel sustains its action."

DORNA: I agree and support Mr. Brunssen's explanation on this comment.

HUGHES: This comment should have been accepted. Imposing the requiremnts of NEC 300.11 for this application will result in unnecessary supports being required by the Code. 300.11 is intended to apply to power wiring and not the cabling covered in the scope of this Article. JOHNSON: Compliance with Section 300.11 is overly restrictive for applications of fiber optic cable installations. 300.11 is appropriate for power assemblies which are larger and heavier than fiber optic cables. Fiber optic cables are smaller in diameter and lighter weight. There is no justification to disallow supporting an additional fiber optic cable by lashing it to an existing bundle of properly supported cables. Additional fiber optic cables will not cause undue strain on the existing cable support system.

JONES: See my explanation of negative vote on Comment 16-70.

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-70.

16-73 Log #3131 NEC-P16 **Final Action: Accept**
(770.8)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-20
Recommendation: This proposal should be continued to be accepted in principle.
Substantiation: We agree with both the panel action and the panel statement. 300-11 is appropriate for all cables regardless if the cable is an optical fiber cable assembly or power cable assembly. The addition of the FPN is appropriate and a good reference for installing cables. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 15
Ballot Results: Affirmative: 10 Negative: 5
Explanation of Negative:

BRUNSSEN: Comment 16-73 should be rejected, as well as the addition of the reference to 300.11 added by the Panel in Proposal 16-20. The securing and support requirements of 300.11 are overly restrictive and are inappropriate for optical fiber (OF) cables. Section 300.11 is applicable to power cable assemblies that are heavier and larger than OF cables. An OF cable may be only one-eighth inch in diameter and does not carry the voltage and current associated with power cables. Modifications typically involve the installation of a single, or at most, a few additional OF cables. 300.11(C) does not permit cables to be used as a support. However, as a communications system evolves, OF cables are often installed over an extended period of time and lashed together in a "cable assembly". It is overly restrictive to specify that each addition of a single OF cable require installation of additional and separate supports. Such added requirements serve only to unnecessarily increase installation costs. The Panel has cited neither a safety hazard nor provided technical justification for the addition of the reference to 300.11. Note that the Panel acknowledges in the Panel Statement for comment 16-71 regarding the very same issue: "CMP 16 understands that the proposal as modified by the panel is not the original intent of the submitter. However, the panel sustains its action."

DORNA: I agree and support Mr. Brunssen's explanation on this comment.

HUGHES: This comment should have been accepted. Imposing the requiremnts of NEC 300.11 for this application will result in unnecessary supports being required by the Code. 300.11 is intended to apply to power wiring and not the cabling covered in the scope of this Article. JOHNSON: Compliance with Section 300.11 is overly restrictive for applications of fiber optic cable installations. 300.11 is appropriate for power assemblies which are larger and heavier than fiber optic cables. Fiber optic cables are smaller in diameter and lighter weight. There is no justification to disallow supporting an additional fiber optic cable by lashing it to an existing bundle of properly supported fiber optic cables. Additional fiber optic cables will not cause undue strain on the existing fiber optic support system.

JONES: See my explanation of negative vote on Comment 16-70.

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-70.

16-74 Log #3132 NEC-P16 **Final Action: Accept**
(770.8, 800.6, 820.6 and 830.6)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-21
Recommendation: This proposal should be continued to be accepted in principle in part.
Substantiation: We agree with both the panel action and the panel statement. 300-11 is appropriate for all cables regardless if the cable is an optical fiber cable, communication cable, coaxial cable, network-powered broadband cable assemblies or power cable assembly. The addition of the FPN is appropriate and a good reference for installing cables. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 15
Ballot Results: Affirmative: 11 Negative: 4
Explanation of Negative:

BRUNSSEN: Comment 16-74 should be rejected, as well as the addition of the reference to 300.11 added by the Panel in Proposal 16-21. The securing and support requirements of 300.11 are overly restrictive and are inappropriate for communications conductors (OF, twisted-pair, and COAX). Section 300.11 is appropriate for power cable assemblies that are heavier and larger than communications cables. For example, a communications cable used for premises wiring is typically less than one-quarter inch in diameter, contains four separately insulated 26 AWG conductors, and operates at 48 volts DC with available power of less than 100 volt-amperes. Modification of premises communications circuits typically involve the installation of a single, or at most, a few additional communications cables. 300.11(C) does not permit cables to be used as a support. However, as a communications system evolves, communications cables are often installed over an extended period of time and lashed together in a "cable assembly". It is overly restrictive to specify that each addition of a single communications "cable" require installation of additional and separate supports. Such added requirements serve only to unnecessarily increase installation costs. The Panel has cited neither a safety hazard nor provided technical justification for the addition of the reference to 300.11. Note that the Panel acknowledges in the Panel Statement for comment 16-71 regarding the very same issue: "CMP 16 understands that the proposal as modified by the panel is not the original intent of the submitter. However, the panel sustains its action."

DORNA: I agree and support Mr. Brunssen's explanation on this comment.

JOHNSON: Compliance with Section 300.11 is overly restrictive for applications of fiber optic cable installations. 300.11 is appropriate for power assemblies which are larger and heavier than fiber optic cables. Fiber optic cables are smaller in diameter and lighter weight. There is no justification to disallow supporting an additional fiber optic cable by lashing it to an existing bundle of properly supported fiber optic cables. Additional fiber optic cables will not cause undue strain on the existing fiber optic support system.

JONES: See my explanation of negative vote on Comment 16-70.**Comment on Affirmative:**

OHDE: See my Affirmative Comment for Comment 16-70.

16-75 Log #3544 NEC-P16 **Final Action: Reject**
(770.24)

Submitter: Leif O. Pihl, IBEW LU 292
Comment on Proposal No: 16-22
Recommendation: Delete the later portion of the proposal that reads:

"FPN No. 2: See also 770.6." Split the proposals first FPN into two sentences, one in enforceable code, and one in a FPN. The newly revised language should read:

770.24 Bending Radius. use the cable manufacturer's specifications and/or guidelines for minimum bending radius.

FPN: Note that the industry defacto standard is to maintain a minimum radius of 20 x the diameter of the cable.

This change deletes the extra FPN and does include enforceable code.
Substantiation: Please see the substantiation in the original proposal. It discusses the safety issues regarding securing the conduits for fiber optic cable.
Panel Meeting Action: Reject
Panel Statement: The comment pertains to a performance issue and not to a safety issue.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-76 Log #233 NEC-P16 **Final Action: Accept in Principle**
(770.50)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-31
Recommendation: Continue to accept this proposal.
Substantiation: Continued acceptance of this proposal will remove a conflict between NFPA 70 and NFPA 90A. NFPA 90A does not permit cables that are not listed for the application in air ducts, ceiling cavity plenums, raised floor plenums, duct distribution plenums, apparatus casing plenums and air-handling room plenums.
Panel Meeting Action: Accept in Principle
Revise section 770.50 Exception No. 1 as follows:
"Exception No. 1: Unlisted outside plant optical fiber cables shall be permitted within buildings in spaces other than risers, air ducts, plenums, and other space used for environmental air, where the length of unlisted optical fiber cable within the building, measured from its point of entrance, does not exceed 15 m (50 ft) and the unlisted outside plant optical fiber cable enters the building from the outside and is terminated in an enclosure."
Panel Statement: The revised text accomplishes the same objective as the original proposal without requiring the definition of all the plenum spaces.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 2
Explanation of Negative:
JENSEN: Delete the term "air duct" in the Panel meeting action of Exception No. 1. Air ducts are not defined and this comment goes against Standards Council Decision 03-10-25. OHDE: I am voting negative on both the panel action and panel statement. The revisedSection 770.50 Exception No. 1 as stated in Comment 16-76 uses the term "air duct". The original source of the definition of "air duct" was the NFPA 90A-2002 Standard and acceptance of this definition would be in violation of Standards Council Decision 03-10-25. As a last minute ditch effort, the definition of "air duct" was retained because it appeared in another NFPA document. The definiton of "air duct" is an extract from NFPA 97-2003.

16-77 Log #234 NEC-P16 **Final Action: Accept in Principle**
(770.50)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-30
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from the Technical Committee on Air Conditioning on proposal 16-31.
Panel Meeting Action: Accept in Principle
Panel Statement: See panel action and statement on Comment 16-76.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 2
Explanation of Negative:
JENSEN: Delete the term "air duct" in the Panel meeting action of Exception No. 1. Air ducts are not defined and this comment goes against Standards Council Decision 03-10-25. OHDE: See my Explanation of Negative vote on Comment 16-76.

16-78 Log #235 NEC-P16 **Final Action: Accept in Principle**
(770.50)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-26
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from the Technical Committee on Air Conditioning on proposal 16-31.
Panel Meeting Action: Accept in Principle
Panel Statement: See panel action and statement on Comment 16-76.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 2
Explanation of Negative:
JENSEN: Delete the term "air duct" in the Panel meeting action of Exception No. 1. Air ducts are not defined and this comment goes against Standards Council Decision 03-10-25. OHDE: See my Explanation of Negative vote on Comment 16-76.

16-79 Log #242 NEC-P16 **Final Action: Accept in Part**
(770.50)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-9
Recommendation: Continue to accept this proposal in principle.
Substantiation: Continued acceptance of this proposal will improve correlation between NFPA 70 and NFPA 90A by providing for the definition and use of air handling system component terminology.
The sources of the proposed definitions are shown in the table below:

Term	Source
Air Duct	NFPA 90A-2002, 3.3.5
Ceiling Cavity Plenum	NFPA 90A-2002, 4.3.10.2
Raised Floor Plenum	NFPA 90A-2002, 4.3.10.6.1
Duct Distribution Plenum	NFPA 90A-2002, 4.3.10.3
Apparatus Casing Plenum	NFPA 90A-2002, 4.3.10.4
Air-Handling Unit Plenum	NFPA 90A-2002, 4.3.10.5

Panel Meeting Action: Accept in Part
Add a definition of air duct as follows:
"Air Duct. A conduit or passageway for conveying air to or from heating, cooling, air conditioning, or ventilating equipment, but not including the plenum. [**97**, 1-2.6, 2003]"
Panel Statement: The definition of "Air Duct " is to be retained. This definition is an extract from NFPA 97-2003.
Delete all other definitions from Proposal 16-9. These definitions are not required, because they are not being used.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 2
Explanation of Negative:
JENSEN: Delete the term "air duct" in the Panel meeting action. This air ducts definition is taken from NFPA 97 and the Standards Council Decision 03-10-25 states that harmonization is to be done with 90A once they are complete. I support the Standards Council Decision 03-10-25. OHDE: See my Explanation of Negative vote on Comment 16-11.

16-80 Log #320 NEC-P16 **Final Action: Reject**
(Table 770.50)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-29
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from the Technical Committee on Air Conditioning on proposal 16-37.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-81 Log #490 NEC-P16 **Final Action: Accept in Principle**
(770.50)

Submitter: Allen C. Weidman, The Society of the Plastics Industry, Inc.
Comment on Proposal No: 16-131
Recommendation: Continue to Accept this proposal.
Substantiation: Continued acceptance of this proposal will improve fire safety by prohibiting non-fire-resistant cables from being run in air ducts, ceiling cavity plenums, raised floor plenums, duct distribution plenums, apparatus casing plenums and air-handling room plenums.
Panel Meeting Action: Accept in Principle

Panel Statement: See panel action and statement on Comment 16-76.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 2
Explanation of Negative:
JENSEN: Delete the term "air duct" in the Panel meeting action of Exception No. 1. Air ducts are not defined and this comment goes against Standards Council Decision 03-10-25. OHDE: See my Explanation of Negative vote on Comment 16-76.

16-82 Log #1555 NEC-P16 **Final Action: Accept**
(Table 770.50)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 16-29
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.
The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.
There is no need for any additional environmental air space identifiers or cable type designators.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-83 Log #1636 NEC-P16 **Final Action: Reject**
(Table 770.50)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-29
Recommendation: Continue to Accept in Principle.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.
The task group agrees with Panel 16's action and statement.
The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.
The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.
One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.
The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.
The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-84 Log #2337 NEC-P16 **Final Action: Accept**
(770.50)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 16-29
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.
The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).
In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.
By allowing and specifying the use of "duct cable," this proposal supports the

use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-85 Log #2683 NEC-P16 **Final Action: Accept in Part**
(770.50)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association

Comment on Proposal No: 16-9

Recommendation: Continue to accept this proposal in principle.

Substantiation: Continued acceptance of this proposal will improve correlation between NFPA 70 and NFPA 90A by providing for the definition and use of air handling system component terminology.

Panel Meeting Action: Accept in Part

Add a definition of air duct as follows:

"Air Duct. A conduit or passageway for conveying air to or from heating, cooling, air conditioning, or ventilating equipment, but not including the plenum. [**97**, 1-2.6, 2003]"

Panel Statement: The definition of "Air Duct" is to be retained. This definition is an extract from NFPA 97-2003.

Delete all other definitions from Proposal 16-9. These definitions are not required, because they are not being used.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Negative: 2

Explanation of Negative:

JENSEN: Delete the term "air duct" in the Panel meeting action. This air ducts definition is taken from NFPA 97 and the Standards Council Decision 03-10-25 states that harmonization is to be done with 90A once they are complete. I support the Standards Council Decision 03-10-25. OHDE: See my Explanation of Negative vote on Comment 16-11.

16-86 Log #2685 NEC-P16 **Final Action: Reject**
(Table 770.50)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association

Comment on Proposal No: 16-29

Recommendation: Continue to accept this proposal in principle.

Substantiation: See the comment from CFRA on Proposal 16-37.

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-87 Log #2518w NEC-P16 **Final Action: Accept**
(770.50)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)

Comment on Proposal No: 16-29

Recommendation: Reject this proposal.

Substantiation: See our companion comment on Proposal 1-69.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-88 Log #3753 NEC-P16 **Final Action: Accept**
(770.50)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association

Comment on Proposal No: 16-29

Recommendation: Reject this proposal - Also reject the references to NFPA 90A in fine print notes and the creation of the new category of air duct cables and the subdivision of plenums. Revise the FPN to 770.51 as follows, and make no other changes.

~~FPN: One method of defining low smoke-producing cables is by establishing an acceptable value of the smoke produced when tested in accordance with NFPA 262-1999, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces, to a maximum peak optical density of 0.5 and a maximum average optical density of 0.15. Similarly, one method of defining fire-resistant cables is by defining maximum allowable flame travel distance of 1.52 m (5 ft) when tested in accordance with the same test.~~

FPN: One method of defining a cable that is low smoke-producing cable and fire-resistant cable is that the cable exhibits a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.52 m (5 ft) or less when tested in accordance with NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces.

Substantiation: There is no need for a new category of OFND and OFCD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should be rejected by CMP 16.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 16-37.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-89 Log #821 NEC-P16 **Final Action: Accept**
(Table 770.50, 770.51, 770.53, Table 800.50, 800.51, 800.52, 800.53, Table 800.53, Table 820.53, and Table 830.58)

Submitter: Technical Correlating Committee on National Electrical Code®
Comment on Proposal No: 16-28
Recommendation: The Technical Correlating Committee directs the panel to reconsider the proposal to correlate with the action taken on Proposal 3-172. This action will be considered by the panel as a public comment.
Substantiation: This is a direction from the National Electrical Code Technical Correlating Committee in accordance with 3-4.2 and 3-4.3 of the Regulations Governing Committee Projects.
Panel Meeting Action: Accept
Panel Statement: The panel accepts the direction of the TCC to reconsider the correlation Proposal 3-172.

The panel rejects Proposal 16-28.

See Comments 16-10 and 16-90.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

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16-90 Log #106 NEC-P16 **Final Action: Accept**
(Table 770.50, 770.51, 770.53, Table 800.50, 800.51, 800.52, 800.53, Table 820.53, Table 830.58)

Submitter: Gerald Lee Dorna, Belden Wire & Cable
Comment on Proposal No: 16-28
Recommendation: Reject Proposal 16-28 and keep the designation "CMG" in Articles 770, 800, 820 and 830.
Substantiation: As I believe the Technical Correlating Committee did not review this proposal and as it was pointed out to the submitter which made a similar proposal to CMP-3 and was told by CMP-3 on the submitter's proposal 3-172, that the application for the use of these cables are found in the NEC and, therefore, these references to the "G" cables can remain based on the TCC determination. Therefore, I request that CMP-16 REJECT proposal 16-28 with the substantiation: "The applications for the use of these cables are found in both Articles 725 and 760, so these references to "G" cables can remain based on the TCC determination. See these application references in Table 725.61 and Figure 725.61 and 760.61(D) FPN, Figure 760.61 and Table 760.61."

Subsequently, this would keep the NEC and the Canadian Electrical Code harmonized.

Panel Meeting Action: Accept
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-91 Log #2518y NEC-P16 **Final Action: Accept**
(770.50, 770.53, Figure 770.53, Table 770.50)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 16-34
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-92 Log #1313 NEC-P16 **Final Action: Reject**
(770.50 Exception No. 1)

Submitter: Wayne G. Carson, Carson Assoc. Inc.
Comment on Proposal No: 16-31
Recommendation: Reject proposal.
Substantiation: This proposal includes new terms "ceiling cavity plenums" and "raised floor plenums" which are not defined in the code and are not needed. This issue is presently addressed in 300.22 adequately. There is no technical justification provided why this change is necessary.
Panel Meeting Action: Reject
Panel Statement: The panel action on Comment 16-76 eliminated use of the terms "ceiling cavity plenum" and "raised floor plenum".

The text enumerates the prohibited spaces rather than referring a communications installer to the power wiring requirements in 300.22.

CMP 16 notes that technical substantiation is, in fact, provided in Proposal 16-31.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-93 Log #1716 NEC-P16 **Final Action: Reject**
(770.50 Exception No. 1)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-25
Recommendation: This proposal should have been "Accept in Principle" with the following revised text for 770-50 Exception No. 1:

Unlisted outside plant optical fiber cables shall be permitted where the length of the cable within the building, measured from its point of entrance, does not exceed 15m (50 ft.) and the cable enters the building from the outside and is terminated in an enclosure.

Substantiation: The submitter has submitted terms that has no positive effect on the National Electrical Code. These terms will add confusion and not clarity to an electrical code section that covers wiring in spaces that provide environmental air. The present language in the 2002 National Electrical Code Section 300.22(B) - Ducts or Plenums for Environmental Air and Section 300.22(C) - Other Space Used for Environmental Air covers in great detail which type of wiring methods should be used and implemented in these spaces. Code Making Panel 3, which has the responsibility for Section 300-22 has not made any changes to this section in the 2005 ROP stage that would allow any changes to be permitted in these spaces (See Proposal 3-94 panel statement).

The terms air-handling unit room plenum, apparatus casing plenum, ceiling cavity plenum, duct distribution plenum and raised floor plenum as listed in the NFPA 90A Standard - 2002 are statements and cannot possibly be used as definitions. The submitter of this proposal has stated that the source for these - definitions is the NFPA 90A and yet the terms are used and identified differently in the NFPA 90A than in this proposal. There is too much confusion with these terms as how they are identified in the NFPA 90A Standard and the proposed 2005 ROP for the NEC. This is a definite correlating problem that exists and will continue to do so until it is fixed.

Chapter 3 of the NFPA 90A - Standard for the Installation of Air Conditioning and Ventilating Systems - 2002 edition lists and identifies terminology that are officially recognized as Definitions to be used throughout the NFPA 90A Standard. In regards to the following terms: air duct, air-handling unit room plenum, apparatus casing plenum, ceiling cavity plenum, duct distribution plenum, and raised floor plenum; only one of the terms is properly identified and listed as a definition. Under 3.3 General Definitions and more specifically 3.3.5 - Air Duct. A conduit or passageway for conveying air to or from heating, cooling, air conditioning, or ventilating equipment, but not including the plenum, cavity plenum, duct distribution plenum, and raised floor plenum, they are all listed and identified in Chapter 4 of NFPA 90A Standard under the heading of HVAC Systems. These 5 terms are listed and worded differently than those identical terms that are proposed in the 2005 ROP for the NEC. Here is a breakdown of the 5 terms as listed in the 2005 ROP and also NFPA 90A - 2002 Standard.

Air - Handling Unit Room Plenum as listed in NFPA 90A Standard - 2002; 4.3.10.5.1 - Individual rooms containing an air-handling unit(s) shall gather

return air from various sources and combine the return air within the room for retuning to the air-handling unit.

Air - Handling Unit Room Plenum as listed in the 2005 ROP for the NEC: An individual room containing an air-handling unit(s) used to gather return air from various sources and combine the return air within the room for returning to the air-handling unit.

Apparatus Casing Plenum as listed in NFPA 90A Standard; 4.3.10.4.1 - A fabricated plenum and apparatus casing shall be permitted to be used for supply, return, or exhaust air service.

Apparatus Casing Plenum as listed in the 2005 ROP for the NEC: A fabricated plenum and apparatus casing used for supply, return or exhaust air service.

Ceiling Cavity Plenum as listed in NFPA 90A Standard - 2002; 4.3.10.2 - The space between the top of the finished ceiling and the underside of the floor of the floor or roof above shall be permitted to be used to supply air to the occupied area, or return or exhaust air from the occupied area, provided that the conditions in 4.3.10.2.1 through 4.3.10.2.8 are met.

Ceiling Cavity Plenum as listed in the 2005 ROP for the NEC: The space between the top of the finished ceiling and the underside of the floor of the floor or roof above where used to supply air to the occupied area, or return or exhaust air from the occupied area.

Duct Distribution Plenum as listed in the NFPA 90A Standard - 2002: 4.3.10.3 - A duct enclosure used for the multiple distribution or gathering of ducts or connectors shall be constructed of materials and methods specified in 4.3.1.

Duct Distribution Plenum as listed in the 2005 ROP for the NEC: A duct enclosure used for the multiple distribution or gathering of ducts or connectors.

Raised Floor Plenum as listed in the NFPA 90A Standard - 2002: 4.3.10.6.1 - The space between the top of the finished floor and the underside of a raised floor shall be permitted to be used to supply air to the occupied area, or return or exhaust air from or return and exhaust air from the occupied area, provided that the conditions in 4.3.10.6.2 through 4.3.10.6.8 are met.

Raised Floor Plenum as listed in the 2005 ROP for the NEC: The space between the top of the finished floor and the underside of a raised floor where used to supply air to the occupied area, or return or exhaust air from or from the occupied area.

The terms air-handling unit room plenum, apparatus casing plenum, ceiling cavity plenum, duct distribution plenum and raised floor plenum as listed in the NFPA 90A Standard - 2002 are statements and cannot possibly be used as definitions. The submitter of this proposal has stated that the source for these - definitions is the NFPA 90A and yet the terms are used and identified differently in the NFPA 90A than in this proposal. There is too much confusion with these terms as how they are identified in the NFPA 90A Standard and the proposed 2005 ROP for the NEC. This is a definite correlating problem that exists and will continue to do so until it is fixed.

This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.

Panel Meeting Action: Reject

Panel Statement: The revised text accepted by the panel in its action on Comment 16-76 explicitly enumerates the places where entrance cable is prohibited. The text enumerates the prohibited spaces rather than referring a communications installer to the power wiring requirements in 300.22.

As worded, the original comment would continue to allow unlisted outside plant cable in risers, which is not the panel's intent.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-94 Log #1717 NEC-P16 **Final Action: Reject**

(770.50 Exception No. 1)

Submitter: Michael I. Callanan, IBEW

Comment on Proposal No: 16-26

Recommendation:I agree with panel action to "Accept in Principle" with the following revised text for 770-50 Exception No. 1: Unlisted outside plant optical fiber cables shall be permitted where the length of the cable within the building, measured from its point of entrance, does not exceed 15m (50 ft.) and the cable enters the building from the outside and is terminated in an enclosure.

Substantiation: The submitter has submitted terms that has no positive effect on the National Electrical Code. These terms will add confusion and not clarity to an electrical code section that covers wiring in spaces that provide environmental air. The present language in the 2002 National Electrical Code Section 300.22(B) - Ducts or Plenums for Environmental Air and Section 300.22(C) - Other Space Used for Environmental Air covers in great detail which type of wiring methods should be used and implemented in these spaces. Code Making Panel 3, which has the responsibility for Section 300-22 has not made any changes to this section in the 2005 ROP stage that would allow any changes to be permitted in these spaces (See Proposal 3-94 panel statement).

The terms air-handling unit room plenum, apparatus casing plenum, ceiling cavity plenum, duct distribution plenum and raised floor plenum as listed in the NFPA 90A Standard - 2002 are statements and cannot possibly be used as definitions. The submitter of this proposal has stated that the source for these - definitions is the NFPA 90A and yet the terms are used and identified differently in the NFPA 90A than in this proposal. There is too much confusion with these terms as how they are identified in the NFPA 90A Standard and the proposed 2005 ROP for the NEC. This is a definite correlating problem that exists and will continue to do so until it is fixed.

Chapter 3 of the NFPA 90A - Standard for the Installation of Air Conditioning and Ventilating Systems - 2002 edition lists and identifies terminology that are officially recognized as Definitions to be used throughout the NFPA 90A Standard. In regards to the following terms: air duct, air-handling unit room plenum, apparatus casing plenum, ceiling cavity plenum, duct distribution plenum, and raised floor plenum; only one of the terms is properly identified and listed as a definition. Under 3.3 General Definitions and more specifically 3.3.5 - Air Duct. A conduit or passageway for conveying air to or from heating, cooling, air conditioning, or ventilating equipment, but not including the plenum, cavity plenum, duct distribution plenum, and raised floor plenum, they are all listed and identified in Chapter 4 of NFPA 90A Standard under the heading of HVAC Systems. These 5 terms are listed and worded differently than those identical terms that are proposed in the 2005 ROP for the NEC. Here is a breakdown of the 5 terms as listed in the 2005 ROP and also NFPA 90A - 2002 Standard.

Air - Handling Unit Room Plenum as listed in NFPA 90A Standard - 2002; 4.3.10.5.1 - Individual rooms containing an air-handling unit(s) shall gather return air from various sources and combine the return air within the room for retuning to the air-handling unit.

Air - Handling Unit Room Plenum as listed in the 2005 ROP for the NEC: An individual room containing an air-handling unit(s) used to gather return air from various sources and combine the return air within the room for returning to the air-handling unit.

Apparatus Casing Plenum as listed in NFPA 90A Standard; 4.3.10.4.1 - A fabricated plenum and apparatus casing shall be permitted to be used for supply, return, or exhaust air service.

Apparatus Casing Plenum as listed in the 2005 ROP for the NEC: A fabricated plenum and apparatus casing used for supply, return or exhaust air service.

Ceiling Cavity Plenum as listed in NFPA 90A Standard - 2002; 4.3.10.2 - The space between the top of the finished ceiling and the underside of the floor of the floor or roof above shall be permitted to be used to supply air to the occupied area, or return or exhaust air from the occupied area, provided that the conditions in 4.3.10.2.1 through 4.3.10.2.8 are met.

Ceiling Cavity Plenum as listed in the 2005 ROP for the NEC: The space between the top of the finished ceiling and the underside of the floor of the floor or roof above where used to supply air to the occupied area, or return or exhaust air from the occupied area.

Duct Distribution Plenum as listed in the NFPA 90A Standard - 2002: 4.3.10.3 - A duct enclosure used for the multiple distribution or gathering of ducts or connectors shall be constructed of materials and methods specified in 4.3.1.

Duct Distribution Plenum as listed in the 2005 ROP for the NEC: A duct enclosure used for the multiple distribution or gathering of ducts or connectors.

Raised Floor Plenum as listed in the NFPA 90A Standard - 2002: 4.3.10.6.1 - The space between the top of the finished floor and the underside of a raised floor shall be permitted to be used to supply air to the occupied area, or return or exhaust air from or return and exhaust air from the occupied area, provided that the conditions in 4.3.10.6.2 through 4.3.10.6.8 are met.

Raised Floor Plenum as listed in the 2005 ROP for the NEC: The space between the top of the finished floor and the underside of a raised floor where used to supply air to the occupied area, or return or exhaust air from or from the occupied area.

The terms air-handling unit room plenum, apparatus casing plenum, ceiling cavity plenum, duct distribution plenum and raised floor plenum as listed in the NFPA 90A Standard - 2002 are statements and cannot possibly be used as definitions. The submitter of this proposal has stated that the source for these - definitions is the NFPA 90A and yet the terms are used and identified differently in the NFPA 90A than in this proposal. There is too much confusion with these terms as how they are identified in the NFPA 90A Standard and the proposed 2005 ROP for the NEC. This is a definite correlating problem that exists and will continue to do so until it is fixed.

This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.

Panel Meeting Action: Reject

Panel Statement: The revised text accepted by the panel in its action on Comment 16-76 explicitly enumerates the places where entrance cable is prohibited. The text enumerates the prohibited spaces rather than referring a communications installer to the power wiring requirements in 300.22.

As worded, the original comment would continue to allow unlisted outside plant cable in risers, which is not the panel's intent.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-95 Log #1718 NEC-P16 **Final Action: Reject**
(770.50 Exception No. 1)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-30
Recommendation: I agree with panel action to "Accept in Principle" with the following revised text for 770-50 Exception No. 1:

Unlisted outside plant optical fiber cables shall be permitted where the length of the cable within the building, measured from its point of entrance, does not exceed 15m (50 ft.) and the cable enters the building from the outside and is terminated in an enclosure.

Substantiation: The submitter has submitted terms that has no positive effect on the National Electrical Code. These terms will add confusion and not clarity to an electrical code section that covers wiring in spaces that provide environmental air. The present language in the 2002 National Electrical Code Section 300.22(B) - Ducts or Plenums for Environmental Air and Section 300.22(C) - Other Space Used for Environmental Air covers in great detail which type of wiring methods should be used and implemented in these spaces. Code Making Panel 3, which has the responsibility for Section 300-22 has not made any changes to this section in the 2005 ROP stage that would allow any changes to be permitted in these spaces (See Proposal 3-94 panel statement).

The terms air-handling unit room plenum, apparatus casing plenum, ceiling cavity plenum, duct distribution plenum and raised floor plenum as listed in the NFPA 90A Standard - 2002 are statements and cannot possibly be used as definitions. The submitter of this proposal has stated that the source for these - definitions is the NFPA 90A and yet the terms are used and identified differently in the NFPA 90A than in this proposal. There is too much confusion with these terms as how they are identified in the NFPA 90A Standard and the proposed 2005 ROP for the NEC. This is a definite correlating problem that exists and will continue to do so until it is fixed.

Chapter 3 of the NFPA 90A - Standard for the Installation of Air Conditioning and Ventilating Systems - 2002 edition lists and identifies terminology that are officially recognized as Definitions to be used throughout the NFPA 90A Standard. In regards to the following terms: air duct, air-handling unit room plenum, apparatus casing plenum, ceiling cavity plenum, duct distribution plenum, and raised floor plenum; only one of the terms is properly identified and listed as a definition. Under 3.3 General Definitions and more specifically 3.3.5 - Air Duct. A conduit or passageway for conveying air to or from heating, cooling, air conditioning, or ventilating equipment, but not including the plenum, cavity plenum, duct distribution plenum, and raised floor plenum, they are all listed and identified in Chapter 4 of NFPA 90A Standard under the heading of HVAC Systems. These 5 terms are listed and worded differently than those identical terms that are proposed in the 2005 ROP for the NEC. Here is a breakdown of the 5 terms as listed in the 2005 ROP and also NFPA 90A - 2002 Standard.

Air - Handling Unit Room Plenum as listed in NFPA 90A Standard - 2002; 4.3.10.5.1 - Individual rooms containing an air-handling unit(s) shall gather return air from various sources and combine the return air within the room for retuning to the air-handling unit.

Air - Handling Unit Room Plenum as listed in the 2005 ROP for the NEC: An individual room containing an air-handling unit(s) used to gather return air from various sources and combine the return air within the room for returning to the air-handling unit.

Apparatus Casing Plenum as listed in NFPA 90A Standard; 4.3.10.4.1 - A fabricated plenum and apparatus casing shall be permitted to be used for supply, return, or exhaust air service.

Apparatus Casing Plenum as listed in the 2005 ROP for the NEC: A fabricated plenum and apparatus casing used for supply, return or exhaust air service.

Ceiling Cavity Plenum as listed in NFPA 90A Standard - 2002; 4.3.10.2 - The space between the top of the finished ceiling and the underside of the floor of the floor or roof above shall be permitted to be used to supply air to the occupied area, or return or exhaust air from the occupied area, provided that the conditions in 4.3.10.2.1 through 4.3.10.2.8 are met.

Ceiling Cavity Plenum as listed in the 2005 ROP for the NEC: The space between the top of the finished ceiling and the underside of the floor of the floor or roof above where used to supply air to the occupied area, or return or exhaust air from the occupied area.

Duct Distribution Plenum as listed in the NFPA 90A Standard - 2002: 4.3.10.3 - A duct enclosure used for the multiple distribution or gathering of ducts or connectors shall be constructed of materials and methods specified in 4.3.1.

Duct Distribution Plenum as listed in the 2005 ROP for the NEC: A duct enclosure used for the multiple distribution or gathering of ducts or connectors.

Raised Floor Plenum as listed in the NFPA 90A Standard - 2002: 4.3.10.6.1 - The space between the top of the finished floor and the underside of a raised floor shall be permitted to be used to supply air to the occupied area, or return or exhaust air from or return and exhaust air from the occupied area, provided that the conditions in 4.3.10.6.2 through 4.3.10.6.8 are met.

Raised Floor Plenum as listed in the 2005 ROP for the NEC: The space between the top of the finished floor and the underside of a raised floor where used to supply air to the occupied area, or return or exhaust air from or from the occupied area.

The terms air-handling unit room plenum, apparatus casing plenum, ceiling cavity plenum, duct distribution plenum and raised floor plenum as listed in the NFPA 90A Standard - 2002 are statements and cannot possibly be used as definitions. The submitter of this proposal has stated that the source for these - definitions is the NFPA 90A and yet the terms are used and identified differently in the NFPA 90A than in this proposal. There is too much confusion with these terms as how they are identified in the NFPA 90A Standard and the proposed 2005 ROP for the NEC. This is a definite correlating problem that exists and will continue to do so until it is fixed.

This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.

Panel Meeting Action: Reject
Panel Statement: The revised text accepted by the panel in its action on Comment 16-76 explicitly enumerates the places where entrance cable is prohibited. The text enumerates the prohibited spaces rather than referring a communications installer to the power wiring requirements in 300.22.

As worded, the original comment would continue to allow unlisted outside plant cable in risers, which is not the panel's intent.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-96 Log #1719 NEC-P16 **Final Action: Reject**
(770.50 Exception No. 1)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-31
Recommendation: I agree with panel action to "Accept in Principle" with the following revised text for 770-50 Exception No. 1:

Unlisted outside plant optical fiber cables shall be permitted where the length of the cable within the building, measured from its point of entrance, does not exceed 15m (50 ft.) and the cable enters the building from the outside and is terminated in an enclosure.

Substantiation: The submitter has submitted terms that has no positive effect on the National Electrical Code. These terms will add confusion and not clarity to an electrical code section that covers wiring in spaces that provide environmental air. The present language in the 2002 National Electrical Code Section 300.22(B) - Ducts or Plenums for Environmental Air and Section 300.22(C) - Other Space Used for Environmental Air covers in great detail which type of wiring methods should be used and implemented in these spaces. Code Making Panel 3, which has the responsibility for Section 300-22 has not made any changes to this section in the 2005 ROP stage that would allow any changes to be permitted in these spaces (See Proposal 3-94 panel statement).

The terms air-handling unit room plenum, apparatus casing plenum, ceiling cavity plenum, duct distribution plenum and raised floor plenum as listed in the NFPA 90A Standard - 2002 are statements and cannot possibly be used as definitions. The submitter of this proposal has stated that the source for these - definitions is the NFPA 90A and yet the terms are used and identified differently in the NFPA 90A than in this proposal. There is too much confusion with these terms as how they are identified in the NFPA 90A Standard and the proposed 2005 ROP for the NEC. This is a definite correlating problem that exists and will continue to do so until it is fixed.

Chapter 3 of the NFPA 90A - Standard for the Installation of Air Conditioning and Ventilating Systems - 2002 edition lists and identifies terminology that are officially recognized as Definitions to be used throughout the NFPA 90A Standard. In regards to the following terms: air duct, air-handling unit room plenum, apparatus casing plenum, ceiling cavity plenum, duct distribution plenum, and raised floor plenum; only one of the terms is properly identified and listed as a definition. Under 3.3 General Definitions and more specifically 3.3.5 - Air Duct. A conduit or passageway for conveying air to or from heating, cooling, air conditioning, or ventilating equipment, but not including the plenum, cavity plenum, duct distribution plenum, and raised floor plenum, they are all listed and identified in Chapter 4 of NFPA 90A Standard under the heading of HVAC Systems. These 5 terms are listed and worded differently than those identical terms that are proposed in the 2005 ROP for the NEC. Here is a breakdown of the 5 terms as listed in the 2005 ROP and also NFPA 90A - 2002 Standard.

Air - Handling Unit Room Plenum as listed in NFPA 90A Standard - 2002; 4.3.10.5.1 - Individual rooms containing an air-handling unit(s) shall gather return air from various sources and combine the return air within the room for retuning to the air-handling unit.

Air - Handling Unit Room Plenum as listed in the 2005 ROP for the NEC: An individual room containing an air-handling unit(s) used to gather return air from various sources and combine the return air within the room for returning to the air-handling unit.

Apparatus Casing Plenum as listed in NFPA 90A Standard; 4.3.10.4.1 - A fabricated plenum and apparatus casing shall be permitted to be used for supply, return, or exhaust air service.

Apparatus Casing Plenum as listed in the 2005 ROP for the NEC: A fabricated plenum and apparatus casing used for supply, return or exhaust air service.

Ceiling Cavity Plenum as listed in NFPA 90A Standard - 2002; 4.3.10.2 - The space between the top of the finished ceiling and the underside of the floor of the floor or roof above shall be permitted to be used to supply air to the occu-

pied area, or return or exhaust air from the occupied area, provided that the conditions in 4.3.10.2.1 through 4.3.10.2.8 are met.

Ceiling Cavity Plenum as listed in the 2005 ROP for the NEC: The space between the top of the finished ceiling and the underside of the floor of the floor or roof above where used to supply air to the occupied area, or return or exhaust air from the occupied area.

Duct Distribution Plenum as listed in the NFPA 90A Standard - 2002: 4.3.10.3 - A duct enclosure used for the multiple distribution or gathering of ducts or connectors shall be constructed of materials and methods specified in 4.3.1.

Duct Distribution Plenum as listed in the 2005 ROP for the NEC: A duct enclosure used for the multiple distribution or gathering of ducts or connectors.

Raised Floor Plenum as listed in the NFPA 90A Standard - 2002: 4.3.10.6.1 - The space between the top of the finished floor and the underside of a raised floor shall be permitted to be used to supply air to the occupied area, or return or exhaust air from or return and exhaust air from the occupied area, provided that the conditions in 4.3.10.6.2 through 4.3.10.6.8 are met.

Raised Floor Plenum as listed in the 2005 ROP for the NEC: The space between the top of the finished floor and the underside of a raised floor where used to supply air to the occupied area, or return or exhaust air from or from the occupied area.

The terms air-handling unit room plenum, apparatus casing plenum, ceiling cavity plenum, duct distribution plenum and raised floor plenum as listed in the NFPA 90A Standard - 2002 are statements and cannot possibly be used as definitions. The submitter of this proposal has stated that the source for these - definitions is the NFPA 90A and yet the terms are used and identified differently in the NFPA 90A than in this proposal. There is too much confusion with these terms as how they are identified in the NFPA 90A Standard and the proposed 2005 ROP for the NEC. This is a definite correlating problem that exists and will continue to do so until it is fixed.

This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.

Panel Meeting Action: Reject

Panel Statement: The revised text accepted by the panel in its action on Comment 16-76 explicitly enumerates the places where entrance cable is prohibited. The text enumerates the prohibited spaces rather than referring a communications installer to the power wiring requirements in 300.22.

As worded, the original comment would continue to allow unlisted outside plant cable in risers, which is not the panel's intent.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-97 Log #1822 NEC-P16 **Final Action: Accept in Principle**
(770.50 Exception No. 1)

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association

Comment on Proposal No: 16-31

Recommendation: Continue to accept these proposals.

Substantiation: The Automatic Fire Alarm Association agrees that unlisted outside plant cables should not be permitted in air ducts, risers or any type of plenum because of the increased fire hazard these non-fire-resistant cables create. Permitting these cables in air ducts or any type of plenum is a violation of NFPA 90A, Standard for the Installation of Air-Conditioning and Ventilating Systems.

Panel Meeting Action: Accept in Principle

Panel Statement: See panel action and statement on Comment 16-76.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Negative: 2

Explanation of Negative:

JENSEN: Delete the term "air duct" in the Panel meeting action of Exception No. 1. Air ducts are not defined and this comment goes against Standards Council Decision 03-10-25. OHDE: See my Explnation of Negative vote on Comment 16-76.

16-98 Log #2512 NEC-P16 **Final Action: Reject**
(770.50 Exception No. 1)

Submitter: William A. Wolfe, Steel Tube Institute of North America

Comment on Proposal No: 16-30

Recommendation: Reject this proposal.

Substantiation: See our companion proposal on 16-37.

Panel Meeting Action: Reject

Panel Statement: The submitter's substantiation, "See our companion proposal on 16-37," is not relevant to the subject of the hazards of outside plant entrance cables.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-99 Log #2513 NEC-P16 **Final Action: Reject**
(770.50 Exception No. 1)

Submitter: William A. Wolfe, Steel Tube Institute of North America

Comment on Proposal No: 16-31

Recommendation: Reject this proposal.

Substantiation: See our companion proposal on 16-37.

Panel Meeting Action: Reject

Panel Statement: The submitter's substantiation, "See our companion proposal on 16-3,7" is not relevant to the subject of the hazards of outside plant entrance cables.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-100 Log #2686 NEC-P16 **Final Action: Accept in Principle**
(770.50 Exception No. 1)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association

Comment on Proposal No: 16-31

Recommendation: Continue to accept this proposal.

Substantiation: CFRA agrees that unlisted outside plant cables should not be permitted in air ducts, risers or any type of plenum. These cables are typically constructed with completely non-fire-resistant materials, usually polyethylene which is a high molecular weight paraffin that burns like candle wax. Furthermore, permitting these cables in air ducts or any type of plenum is a violation of NFPA 90A, Standard for the Installation of Air-Conditioning and Ventilating Systems.

Panel 16 accepted the definitions of air duct, ceiling cavity plenum, raised floor plenum, duct distribution plenum, apparatus casing plenum and air-handling unit room plenum by its action on Proposal 16-9.

Panel Meeting Action: Accept in Principle

Panel Statement: See panel action and statement on Comment 16-76.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Negative: 2

Explanation of Negative:

JENSEN: Delete the term "air duct" in the Panel meeting action of Exception No. 1. Air ducts are not defined and this comment goes against Standards Council Decision 03-10-25. OHDE: See my Explanation of Negative vote on Comment 16-76.

16-101 Log #2518x NEC-P16 **Final Action: Reject**
(770.50 Exception No. 1)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)

Comment on Proposal No: 16-31

Recommendation: Reject this proposal.

Substantiation: See our companion comment on Proposal 1-69.

Panel Meeting Action: Reject

Panel Statement: The submitter's substantiation is not relevant to the subject of the hazards of outside plant entrance cables.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-102 Log #2518fff NEC-P16 **Final Action: Reject**
(770.50 Exception No. 1)

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)

Comment on Proposal No: 16-30

Recommendation: Reject this proposal.

Substantiation: See our companion comment on Proposal 1-69.

Panel Meeting Action: Reject

Panel Statement: The submitter's substantiation is not relevant to the subject of the hazards of outside plant entrance cables.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-103 Log #262 NEC-P16 **Final Action: Accept**
(770.51)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-40
Recommendation: Continue to reject this proposal.
Substantiation: The Technical Committee on Air Conditioning agrees with the panel reject statement.

This comment is one in a series of comments including 16-12, 16-40, 16-60, 16-83, 16-115, 16-132, 16-138, 16-156, 16-180, 16-188, 16-195, 16-207, 16-209, 16-211, 16-228, 16-229 and 16-234.

Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-104 Log #290 NEC-P16 **Final Action: Reject**
(770.51)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-37
Recommendation: Continue to accept this proposal in principle. Incorporate the changes from our comment on 16-128.
Substantiation: This proposal includes the changes proposed by the technical committee on air conditioning in the following proposals:

16-128, which recommended changing the fine print notes for plenum cable listing to reference NFPA 90A. The panel accepted this proposal and we issued a separate comment urging its acceptance in principle.

16-64, which recommended changing the permitted applications of "P" type plenum cable to restrict them to ceiling cavity and raised floor plenums only and thereby remove a conflict with NFPA 90A. The panel accepted this proposal in principle and we issued a separate comment urging continued acceptance in principle.

16-46, which recommended changing the listing requirements for "P" type plenum cable to list them for use in ceiling cavity and raised floor plenums only and thereby remove a conflict with NFPA 90A. The panel accepted this proposal and we issued a separate comment urging continued acceptance.

This proposal also includes changes recommended in proposals 16-65, 16-66,16-67, 16-143, 16-144, 16-145, 16-199, 16-200 and 16-201 which require the use of air duct cable in newly built inaccessible ceiling cavity plenums and newly built inaccessible raised floor plenums. We issued a separate comment urging continued acceptance in principle of these proposals.

The technical committee on air conditioning recognizes that acceptance of its proposals to restrict the listing and use of "P" type plenum cable (16-46 & 16-64) leaves users without a wiring method, other than metal raceway, for air ducts, duct distribution plenums, apparatus casing plenums and air-handling unit plenums. Wiring should be excluded from these air-handling spaces unless it is associated with the air distribution system. This proposal provides a wiring method that correlates with the requirements of NFPA 90A for supplementary materials in air handling spaces.

Furthermore, providing listing and applications for "air duct" cables correlates with the NFPA 90A requirements for listing of limited combustible cable.

The continued acceptance of this proposal in principle, beyond removing conflicts, improves correlation between NFPA 90A and NFPA 70 and provides a needed wiring method for wiring in air handling spaces other that ceiling cavity plenums and raised floor plenums.

Why is the Technical Committee on Air Conditioning submitting comments?

In action 80-60, the Standards Council assigned primary jurisdiction for combustibles in plenums to the Technical Committee on Air Conditioning and directed it to seek the cooperation of the committees on Fire Tests, National Electrical Code and Safety to Life. The Technical Committee on Air Conditioning has been cooperating with the National Electrical Code Committee by submitting a series of proposals for the 2005 NEC. It now continues that cooperation by commenting on all proposals dealing with combustibles in plenums. The purpose of the proposals and comments is to bring about correlation between NFPA 70, *National Electrical Code* and NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*. The Technical Committee on Air Conditioning established consensus on these comments through a letter ballot.

The NEC Technical Correlating Committee has acknowledged the responsibility of the Technical committee on Air Conditioning. The TCC Action on this proposal states:

"The Technical Correlating Committee understands that the Standards Council has given primary responsibility to the Technical Committee on Air-Conditioning for combustible materials in plenums in cooperation with other committees including the National Electrical Code Committee. The Chair of the Technical Correlating Committee will work with the Chair of the Technical Committee on Air-Conditioning and appoint a Task Group to review the proposals affecting correlation between Code-Making Panels 3, 16, and the Technical Committee on Air-Conditioning. In addition, the Technical Correlating Committee directs that this proposal be referred to the NFPA Committee on Air-Conditioning for comment."

NFPA 5000-2003 Building Construction and Safety Code, in Chapter 52, requires electrical systems and equipment to be designed and constructed in accordance with NFPA 70. Likewise, in Chapter 50, it requires air-conditioning and ventilating systems to be designed and constructed in accordance with NFPA 90A. NFPA 5000 has conflicting provisions for wiring in air handling spaces because of conflicts between NFPA 70 and NFPA 90A. Many of the proposals and comments from the Committee on Air-Conditioning to the National Electrical Code Committee are intended to eliminate these conflicts. These proposals and comments are part of the implementation of the Standards Council's recently issued *Scope Coordination Policy for NFPA Documents* that has the "goal of having a coordinated set of documents for the built environment".

Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-105 Log #318 NEC-P16
Final Action: Reject
(770.51)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-44
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from the Technical Committee on Air Conditioning on proposal 16-37.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-106 Log #1314 NEC-P16 **Final Action: Accept**
(770.51)

Note: The Technical Correlating Committee understands that the acceptance of Comment 16-106 reverts Table 770-50 back to the Table as it appears in the 2002 NEC.

The Technical Correlating Committee understands that the acceptance of Comment 16-106 reinstates 770.53 as it reads in the 2002 NEC except as amended by Comment 16-129, which added a new FPN to 770.53(A). The Technical Correlating Committee understands that the acceptance of Comment 16-106 reinstates 770-51 as it reads in the 2002 NEC except as amended by Comment 16-244 and others, which revised or added the FPNs to 770.51(A), (E), (F) and (G).

The Technical Correlating Committee understands that the acceptance of Comment 16-106 does not "Reject" the acceptance of the renumbering as detailed in Comment 16-9.

Submitter: Wayne G. Carson, Carson Assoc. Inc.
Comment on Proposal No: 16-37
Recommendation: Reject proposal.
Substantiation: The explanations of negative votes by Committee members Mr. Jensen, Mr. Jones and Mr. Odhe are clear and to the point. There is no need for an additional cable category and there is no technical justification for this change.

1. There is no reason to place any cables in an environmental air duct. This proposal would violate the requirements of 300.22(B).

300.22 Wiring in Ducts, Plenums, and Other Air-Handling Spaces. The provisions of this section apply to the installation and uses of electric wiring and equipment in ducts, plenums, and other air-handling spaces.

FPN: See Article 424, Part VI, for duct heaters.

(B) Ducts or Plenums Used for Environmental Air. Only wiring methods consisting of Type MI cable, Type MC cable employing a smooth or corrugated impervious metal sheath without an overall nonmetallic covering, electrical metallic tubing, flexible metallic tubing, intermediate metal conduit, or rigid metal conduit without an overall nonmetallic covering shall be installed in ducts or plenums specifically fabricated to transport environmental air. Flexible metal conduit and liquidtight flexible metal conduit shall be permitted, in lengths not to exceed 1.2 m (4 ft), to connect physically adjustable equipment and devices permitted to be in these ducts and plenum chambers. The connectors used with flexible metal conduit shall effectively close any openings in the connection. Equipment and devices shall be permitted within such ducts or plenum chambers only if necessary for their direct action upon, or sensing of, the contained air. Where equipment or devices are installed and illumination is necessary to facilitate maintenance and repair, enclosed gasketed-type luminaires (fixtures) shall be permitted.

This proposal could lead to the use of "air ducts" as a raceway for uses other than "necessary for their direct action on, or sensing of, the contained air."

2. This proposal would eliminate the requirement to remove abandoned cables other than "accessible portions of abandoned cables". The term "accessible portions" is not defined. Accessible may be those cables within arms reach and not those cables that can be removed simply by pulling them out. There is no technical substantiation provided by the committee to change the requirement to permit nonaccessible portions of abandoned cables in plenums and risers.

3. The NEC already addresses the requirements for wiring in spaces that provide environmental air. The requirements for cables within air ducts, air conditioning rooms, ceiling cavities, or raised floor cavities are addressed in 300.22(B) and 300.22(C). There has been no technical substantiation why these existing requirements have not been adequate and why new requirements need to be added to the NEC.

4. This proposal introduces a new cable designation. This change is based on an assumption that there will be a change in the existing term "other spaces used for environmental air" to two separate terms "ceiling cavity plenums" and "raised floor plenums" without any technical documentation as to the need for such a change. There has been no documentation introduced for this division of the spaces used for environmental air and will result in a restriction of wiring methods within those areas without additional technical substantiation. There has been no clear, concise substantiation, such as fire loss data, as to why additional cable type designators are necessary.

5. The scope of CMP 16 only includes articles 770, 800, 820 and 830 which share the common requirement that Section 300.22 shall apply. There are no requirements or specifications in 300.22 for the use of air-duct "D" cables (OFND, OFCD, CMD, MPD) versus the communications cables already specified. In its action on Comment 16-98 for the 2002 NEC, the Technical Correlating Committee note that it is inappropriate to attempt to include references to all products that do not have a need or r specific application rules or products that are permitted but not required by the NEC. Hence supporting the inclusion of air-duct cable is in violation of specific ruling given by the TCC on this very similar (same cable requirements but with a new name) issue during the last code cycle.

6. The substantiation notes the following: "to restrict plenum cable (OFNP, FPLP, CMP etc.) to ceiling cavity and raised floor plenums, leads one to ask are there applications where it is necessary to put cables inside of air ducts and plenums other than ceiling cavity plenums and raised floor plenums." The answer is "Yes, it is necessary to place cables inside of air ducts and plenums such as air-handling unit room plenums for various security, sensing and control applications. That then leads to the next question, "If not plenum cable (OFNP, FPLP, CMP etc), what kind of cable would meet the requirements of NFPA 90A?" This question is already answered by NEC 300.22 that has been in the code for some time, and, again no technical substantiation provided as to why there needs to be a change and a new class of cable inserted in the NEC.

7. The committee substantiation notes: "This proposal complies with the Standards Council directive by designating potential heat, flame spread index and smoke developed index for duct cable." However, "duct cable" refers to the standard NFPA 259, Standard Test Method for Potential Heat of Building Materials and NFPA 255, Standard Test Method for potential Heat of Building Materials. The scope of both NFPA 255 and 259 deals with "building materials". The NFPA Standards Council in their decision #02-07 stated the following: "The term 'limited combustible" is considered appropriate for materials of building construction as defined in NFPA 220, but is not considered appropriate for other products and materials such as electrical wire and cable". It is clear that wire and cable are not considered building materials and therefore the referenced standards are not appropriate for testing wires and cable.

8. The substantiation notes that "The use of wire, cable and nonmetallic raceway in air ducts should be allowed on a very limited basis." This proposal provides no limits on the amount of cable and does not meet the intent of "very limited basis" as noted in the 90A committee proposal.

Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-107 Log #1315 NEC-P16 **Final Action: Accept**
(770.51)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Wayne G. Carson, Carson Assoc. Inc.
Comment on Proposal No: 16-44
Recommendation: Reject proposal.
Substantiation: There is no need for an additional cable category and there is no technical justification for this change.

See also my comment submitted on Proposal 16-37.

Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-108 Log #1450 NEC-P16 **Final Action: Reject**
(770.51)

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 16-37
Recommendation: Continue to accept in principle as published in the ROP.
Substantiation: The Signaling Systems for the Protection of Life and Property TCC supports the panel action. The panel action clarifies wiring requirements in air ducts and plenums.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-109 Log #1497 NEC-P16 **Final Action: Accept in Principle**
(770.51)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals
Comment on Proposal No: 16-26
Recommendation: 770.50 Exception No. 1:
Exception No. 1: Unlisted outside plant optical fiber cables shall be permitted within buildings in spaces other than risers, ducts, plenums and other air-handling spaces (as described in Section 300.22), ~~air ducts, ceiling cavity plenums, raised floor plenums, duct distribution plenums, apparatus casing plenums, and air-handling unit room plenums~~ where the length of unlisted optical fiber cable within the building, measured from its point of entrance, does not exceed 15 m (50 ft) and the unlisted outside plant optical fiber cable enters the building from the outside and is terminated in an enclosure.
Substantiation: The language in this exception should refer to the sections of the code as described in Article 300, since there is no need to introduce these new designations of subdivisions of plenum spaces. The creation of these new subdivisions should not be accepted. The terminology in NEC 2002 is correct and needs no change.
See also the substantiation for my comments on proposal 16-59.

Panel Meeting Action: Accept in Principle
Panel Statement: See panel action and panel statement on Comment 16-76, which is editorially similar and accomplishes the submitter's purpose.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 14 Negative: 1
Explanation of Negative:
OHDE: I am voting negative on both the panel action and panel statement. This comment should have been accepted as written. The panel action for Comment 16-76 is not editorially similar nor does it accomplish the submiter's intent. The submitter submitted the following language: . . . duct, plenums and other air handling spaces (as described in Section 300.22 . . . The revised Section 770.50 Exception No. 1 as stated in Comment 16-76 uses the term air duct". The original source of the definition of "air duct" was the NFPA 90A-2002 Standard and acceptance of this definition would be in violation of Standards Council Decision 03-10-25. As a last minute ditch effort, the definition of "air duct" was retained because it appeared in another NFPA document. The definition of "air duct" is an extract from NFPA 97-2003.

16-110 Log #1553 NEC-P16 **Final Action: Accept**
(770.51)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 16-44
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.
The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.
There is no need for any additional environmental air space identifiers or cable type designators.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-111 Log #1563 NEC-P16 **Final Action: Accept**
(770.51)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 16-37
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.
The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.
There is no need for any additional environmental air space identifiers or cable type designators.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-112 Log #1620 NEC-P16 **Final Action: Reject**
(770.51)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-44
Recommendation: Continue to accept in principle.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 16's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-113 Log #1639 NEC-P16 **Final Action: Reject**
(770.51)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-37
Recommendation: Continue to Accept in Principle.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 16's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-114 Log #1724 NEC-P16 **Final Action: Accept**
(770.51)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-37
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Jensen, Mr. Jones and Mr. Ohde. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-115 Log #1727 NEC-P16 **Final Action: Accept**
(770.51)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-40
Recommendation: Continue to reject.
Substantiation: I agree with the panel action to reject proposal 16-40. No technical substantiation has been provided that a change to the 2002 NEC language is needed or required. This comment represents the official position of the International Brotherhood of Electrical Workers Code and Standards Committee.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-116 Log #1731 NEC-P16 **Final Action: Accept**
(770.51)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-44
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Jensen, Mr. Jones, and Mr. Ohde. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-117 Log #1785 NEC-P16 **Final Action: Accept**
(770.51)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-40
Recommendation: Continue to reject.
Substantiation: The Panel 3/Panel 16 Correlation Task Group, appointed by the NEC TCC, developed this comment.
The task group agrees with Panel 16's action and substantiation.
The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-118 Log #1844 NEC-P16 **Final Action: Reject**
(770.51)

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 16-37
Recommendation: Continue to accept in principle as published in the ROP.
Substantiation: The Automatic Fire Alarm Association supports the panel action. The panel action clarifies wiring requirements in air ducts and plenums.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-119 Log #2332 NEC-P16 **Final Action: Accept**
(770.51)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 16-37
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.
The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal

toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-120 Log #2338 NEC-P16 **Final Action: Accept**
(770.51)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Frank Bisbee, Communication Planning Corporation

Comment on Proposal No: 16-44

Recommendation: Reject this proposal.

Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-121 Log #2534 NEC-P16
Final Action: Accept
(770.51)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: William A. Wolfe, Steel Tube Institute of North America

Comment on Proposal No: 16-44

Recommendation: Reject this proposal.

Substantiation: See our companion proposal on 16-37.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-122 Log #2691 NEC-P16 **Final Action: Reject**
(770.51)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 16-37
Recommendation: Continue to accept this proposal in principle.
Substantiation: CFRA agrees with the panel action.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-123 Log #2697 NEC-P16 **Final Action: Accept**
(770.51)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 16-40
Recommendation: Continue to reject this proposal.
Substantiation: CFRA agrees with the panel action.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-124 Log #2704 NEC-P16 **Final Action: Reject**
(770.51)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 16-44
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from the CFRA on proposal 16-37.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-125 Log #2518z NEC-P16 **Final Action: Accept**
(770.51)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 16-37
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-126 Log #2518cc NEC-P16 **Final Action: Accept**
(770.51)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 16-44
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that

interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-127 Log #3095 NEC-P16 **Final Action: Reject**
(770.51)

Submitter: Loren M. Caudill, DuPont Electronic & Comunication Technologies
Comment on Proposal No: 16-37
Recommendation: Continue to accept this proposal in principle.
Substantiation: This allows correlation with other NFPA Standards such as NFPA 90A, NFPA 13 and NFPA 5000.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-128 Log #3277 NEC-P16 **Final Action: Accept**
(770.51)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 16-37
Recommendation: Reject this proposal.
Substantiation: The submitter indicates that this proposal was submitted in order to correlate the NEC with NFPA 90A. If it is true that NFPA 90A has jurisdiction over materials used in air ducts and plenum spaces, why is the NEC changing its requirements before the next revision cycle of 90A? The 90A Technical Committee met in August and is recommending several changes to the types of cables allowed in plenum spaces. However, their proposals will be subject to a comment period and to a membership vote that will not take place until May 2005, a full year after the NEC's.

We agree with the negative comment of Mr. Jones. The submitters of proposals to require air duct cables have not provided any technical substantiation as to why there is a need to change these requirements other than to correlate with NFPA 90A.

The issue of toxicity of the two types of cable has not been discussed. While the fire characteristics of the "air duct" cables are stated to be an improvement over the fire characteristics of the CMP cables, they are more highly toxic, according to an article that appeared in Data Communications Magazine (Copyright 1996) entitled: "Cabling: What You Don't Know Can Kill You". The article characterizes both Halogen FEP cables ("air duct" cables) and Halogen PVC cables (CMP cables) as having "high toxicity", stating that the LC50 range for FEP cables (air duct cables) is 16.1 to 77.1 while the toxicity range for the PVC cables is 10-20.6. (Toxicity is often measured using the LC50 rating, which indicates the number of grams of insulation that must be burned to kill half the mice in a lab experiment. The LC50 ratings for the article were supplied by the state of New York Hazardous Materials Bureau.) An August 23, 2003 letter that appeared on the National Electrical Code Internet Connection inquired: "How do we get the NFPA to consider another aspect of fire safety in communications cable products? Toxicity? " The writer continues: "Safety is too important to ignore. As the public and private sectors are besieged with higher insurance premiums and liability litigation about safety issues, we asked the "BIG" question. Does the testing process for fire safety measure the TOXICITY of the cables when overheated or burned? The answer is shockingly "NO". One of the writer's concerns is that while certain of the fire characteristics of the FEP cables (Air Duct Cables) appear to be superior to CMP cables, the Duct cables are, in fact, more toxic.

Note: Supporting material is available for review at NFPA Headquarters.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-129 Log #3572 NEC-P16 **Final Action: Accept in Part**
(770.51)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: James R. Hoover, DuPont, Electronic & Communication Technologies
Comment on Proposal No: 16-37
Recommendation: Continue to accept this proposal in principle. Add a Fine Print Note to 770.53(A) as follows:

FPN: See 8.14.1.5 of NFPA 13 (2002), Installation of Sprinkler Systems, for requirements for sprinklers in concealed spaces containing exposed combustibles.

Substantiation: Section 8.14.1.5 of NFPA 13 (2002), Installation of Sprinkler Systems states:

8.14.1.5 Localized Protection of Exposed Combustible Construction or Exposed Combustibles. In concealed spaces having exposed combustible construction, or containing exposed combustibles, in localized areas, the combustibles shall be protected as follows:

(1) If the exposed combustibles are in the vertical partitions or walls around all or a portion of the enclosure, a single row of sprinklers spaced not over 12 ft (3.7 m) apart nor more than 6 ft (1.8 m) from the inside of the partition shall be permitted to protect the surface. The first and last sprinklers in such a row shall not be over 5 ft (1.5 m) from the ends of the partitions.

(2) If the exposed combustibles are in the horizontal plane, the area of the combustibles shall be permitted to be protected with sprinklers on a light hazard spacing. Additional sprinklers shall be installed no more than 6 ft (1.8 m) outside the outline of the area and not more than 12 ft (1.8 m) on center along the outline. When the outline returns to a wall or other obstruction, the last sprinkler shall not be more than 6 ft (1.8 m) from the wall or obstruction.

The definition of combustible, from NFPA 5000 is:

3.3.340.2 Combustible (Material). A material that, in the form in which it is used and under the conditions anticipated, will ignite and burn; a material that does not meet the definition of noncombustible or limited-combustible.

3.3.340.10* Limited-Combustible (Material). Refers to a building construction material not complying with the definition of noncombustible material (see 3.3.340.11) that, in the form in which it is used, has a potential heat value not exceeding 3500 Btu/lb (8141 kJ/kg), where tested in accordance with NFPA 259 and includes (1) materials having a structural base of noncombustible material, with a surfacing not exceeding a thickness of 1.8 in. (3.2 mm) that has a flame spread index not greater than 50; and (2) materials, in the form and thickness used, other than as described in (1), having neither a flame spread index greater than 25 nor evidence of continued progressive combustion, and of such composition that surfaces that would be exposed by cutting through material on any plane would have neither a flame spread index greater than 25 nor evidence of continued progressive combustion. [**220:**2.1]

3.3.340.11 Noncombustible Material. A material that, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support com-

bustion, or release flammable vapors, when subjected to fire or heat. Materials that are reported as passing ASTM E 136 are considered noncombustible materials.

Since conventional plenum cables are combustible materials, sprinklers may be required when these cables are installed in concealed spaces in a building with a sprinkler system designed to meet NFPA 13. This Fine Print Note will alert building owners to refer to NFPA 13.

Per the NFPA/NFPRF Technical Report entitled "International Limited Combustible Plenum Cable Fire Test Project", March 2001, there is a very large difference in fire safety performance between plenum cables just meeting the Combustible-Exception requirements and those meeting the much safer Limited Combustible plenum cable requirements per NFPA 90A 2002:

1) Duct cables = Limited Combustibles cables = FHC 25/50/8 (Fire Spread Index / Smoke Developed Index / Potential Heat)

2) Combustible - Exception cables = FHC 25/850 (Fire Spread Index / Smoke Developed Index / "No" Potential Heat requirement)

The NFPA 13 requirements for plenum-sprinklers in sprinklered buildings with Combustible-Exception plenum cables presents recognize the additions fire safety hazards that these combustible plenum cables represent.

Panel Meeting Action: Accept in Part

Add a fine print note to 770.53(A) as follows:

"FPN: See 8.14.1.5 of NFPA 13 (2002), Installation of Sprinkler Systems, for requirements for sprinklers in concealed spaces containing exposed combustibles."

Panel Statement: The panel rejects the recommendation to continue to accept Proposal 16-37 in principle, in accordance with Standards Council Decision Number 03-10-25.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 12 Negative: 3

Explanation of Negative:

JENSEN: I agree with rejecting proposals 16-37, 16-112 and 16-177 in accordance with Standards Council Decision 03-10-25.

As for the FPN, cables and raceways are not the ONLY "noncombustible material" inside ducts, plenums, and other air-handling spaces.

If a building uses an NFPA 13 compliant sprinkler system, then all combustible material (anything, according to NFPA 5000 3.3.340.11, that does not meet ASTM E 136) including "cables and raceways installed in other spaces used for environmental air" will end up with sprinkler protection.

If the owner chooses to avoid installing NFPA 13 compliant sprinkler system protection, then the owner can address this requirement by other means. See 300.22 (C)(1) "...Other types of cables and conductors shall be installed in electrical metallic tubing, flexible metallic tubing, intermediate metal conduit, rigid metal conduit without an overall nonmetallic covering, flexible metal conduit, or, where accessible, surface metal raceway or metal wireway with metal covers or solid bottom metal cable tray with solid metal covers."

This is a design decision on the part of the owner.

If the commenter feels strongly that a FPN sending the reader to NFPA 13 is required, they should resubmit the text as a proposal to change 300.22 during the 2008 revision cycle. JONES: The substantiation provided in the associated Proposal 16-37 used NFPA 90A as part of the reason for the suggested change. The Standards Council made a decision that is identified as Number 03-10-25 plus subsequent letter by the Standards Council Chairman, Phillip DiNenno to Mr. Loren Caudill, dated December 3, 2003, which stated, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

OHDE: I am voting negative on the panel action for this comment. The submitter of this comment did not provide any substantiaon of evidence as to why this FPN should be accepted. The submitter in his substantiaion wrote in entirety Section 8.14.1.5 of NFPA 13 (2002) and also stated that this FPN will alert buildngs to refer to the NFPA 13 Standard.

16-130 Log #3707 NEC-P16 **Final Action: Accept**
(770.51)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association

Comment on Proposal No: 16-40

Recommendation: Continue rejecting this proposal and make no changes in the terminology of plenum spaces or of "other spaces used for environmental air".

Substantiation: The terminology in NEC 2002 is correct and needs no change. See also the substantiation for my comments on proposal 16-59.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-131 Log #3734 NEC-P16 **Final Action: Accept**
(770.51)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association

Comment on Proposal No: 16-37

Recommendation: *Reject this proposal - Also reject the references to NFPA 90A in fine print notes and the creation of the new category of air duct cables and the subdivision of plenums. Revise the FPN to 800.51 as follows, and make no other changes.*

~~FPN: One method of defining low smoke-producing cables is by establishing an acceptable value of the smoke produced when tested in accordance with NFPA 262-1999, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces, to a maximum peak optical density of 0.5 and a maximum average optical density of 0.15. Similarly, one method of defining fire-resistant cables is by defining maximum allowable flame travel distance of 1.52 m (5 ft) when tested in accordance with the same test.~~

FPN: One method of defining a cable that is low smoke-producing cable and fire-resistant cable is that the cable exhibits a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.52 m (5 ft) or less when tested in accordance with NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces.

Substantiation: There is no need for a new category of CMD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should be rejected by CMP 16.

This proposal should be rejected because, as stated by Mr. Paul Casparro in his negative on proposal 3-169, the NEC is not a product catalog nor is it a design manual and is not intended to contain an all-inclusive list of permitted products. CMP 3, appropriately, did not develop any applications where "duct cable" or "air duct cable" is required instead of plenum cable.

Also, as stated by Mr. Harold Ohde in his negative on similar proposal 16-37: "Further the NEC already adequately covers wiring in spaces that provide environmental air — whether these spaces are air ducts, air conditioning rooms, ceiling cavities, or raised floor cavities — in 300.22 (B) and 300.22 (C). Other codes should not be deciding on the types of wiring methods to be used in these spaces. The electrical experts are capable of doing this, and it is covered quite well in 300.22. The more we let those outside of the NEC make these decisions the more we weaken adoption of the NEC. Also, we could make the change and there is nothing that requires a jurisdiction to even adopt 90A. In addition, we do not find that the 90A Committee has even determined itself what minimum requirements are needed for testing electrical wiring. According to one of the speakers, 90A agreed to the proposals for coordination, but did not originate the proposals that introduce the new "air duct" cable. This appears to be an effort designed to purport on one hand that this is what 90A wants; then when they take it to 90A this summer it will be presented as a "done deal" at the NEC. There is far from consensus among the NEC committees and Panel 16 appears to be the strongest proponents."

If this proposal were approved, it would create a new category of cable, CMD, which are simply a subset of the present category of plenum-rated cable

(CMP) (since all cables listed to UL 2424-2002 have to meet the fire safety, mechanical and electrical requirements of traditional plenum cable), while limiting the application of the latter (traditional plenum-rated cable) without any justification based on fire hazard or fire risk. It has already been shown in detail by the fire hazard and fire risk analysis presented together with my original proposals (see for example the section on pages 2080-2091 of the NEC-ROP of the substantiation for my proposal 3-130) that there is no need to change the requirements, or limit the application, for wiring methods in plenums, because the fire safety record is excellent.

In fact, if CMP cables, i.e. traditional plenum cables meeting the requirements of NFPA 262, are to be limited in application, then cables contained in metal raceways must also be limited in application, since the work that led to the development of the requirements for plenum rated cables showed that they generate more smoke and flame spread than plenum cables meeting NFPA 262, as is clear from the following Table, containing data from the work conducted to justify the development of NFPA 262 (originally UL 910). All 11 plenum-rated cables had flame spread values not exceeding 5 ft and average optical densities not exceeding 0.15 and 10 of the 11 plenum-rated cables had peak optical densities not exceeding 0.50. On the other hand, 5 of the 17 cables in metal raceways tested had flame spread values exceeding 5 ft, 8 of the 17 cables in metal raceways tested had average optical densities exceeding 0.15 and 10 of the 17 cables in metal raceways tested had peak optical densities exceeding 0.50. This comment recognizes that cables in metal raceways are safe wiring methods for plenums. Therefore traditional plenum cables are also safe and suitable.

Furthermore, any reference to NFPA 90A is not appropriate in a Fine Print Note on fire safety characteristics of wiring methods, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

This comment is one of a series of comments on Articles 300, 725, 760, 770, 800, 820 and 830, regarding "plenum cables". The philosophy behind all the comments is that the NEC is OK as published in 2002, but that 2 minor changes might represent improvements: (i) the clarification of the 6 inch extension of a wiring method into a more restricted environment and (ii) the clarification in the Fine Print Notes that a cable listed to NFPA 262 is listed both based on its "low-smoke" characteristics and its "low-flame-spread" characteristics, and that the two are not listed separately.

Also see comments from the chairman of the Technical Correlating Committee.

(table shown on following page)

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-132 Log #3749 NEC-P16 **Final Action: Accept**
(770.51)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association

Comment on Proposal No: 16-44

Recommendation: *Reject this proposal - Also reject the references to NFPA 90A in fine print notes and the creation of the new category of air duct cables and the subdivision of plenums. Revise the FPN to 770.51 as follows, and make no other changes.*

~~FPN: One method of defining low smoke-producing cables is by establishing an acceptable value of the smoke produced when tested in accordance with NFPA 262-1999, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces, to a maximum peak optical density of 0.5 and a maximum average optical density of 0.15. Similarly, one method of defining fire-resistant cables is by defining maximum allowable flame travel distance of 1.52 m (5 ft) when tested in accordance with the same test.~~

FPN: One method of defining a cable that is low smoke-producing cable and fire-resistant cable is that the cable exhibits a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.52 m (5 ft) or less when tested in accordance with NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces.

Substantiation: There is no need for a new category of OFND and OFCD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should be rejected by CMP 16.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 16-37.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

Comment 16-131 (Log #3734)

Table 1. Flame Spread and Optical Density of Wiring Systems

Cable	Metal Raceway	Flame Spread (ft)	Peak Optical Density	Average Optical Density
Plenum Rated Coaxial Cable	None	3.0	0.12	0.015
Plenum Rated Coaxial Cable	None	3.0	0.25	0.067
Plenum Rated Coaxial Cable	None	3.0	0.45	0.13
Plenum Rated Coaxial Cable	None	3.0	0.60	0.15
Plenum Rated Fire Alarm Cable	None	3.0	0.10	0.028
Plenum Rated Fire Alarm Cable	None	3.0	0.15	0.043
Plenum Rated Inside Wiring	None	3.0	0.35	0.121
Plenum Rated Inside wiring	None	3.0	0.25	0.047
Plenum Rated Station Wire	None	3.5	0.08	0.069
Plenum Rated Station Wire	None	3.5	0.07	-
Plenum Rated Station Wire	None	3.5	0.08	-
Plenum Cable NFPA 262 Limits	None	5.0	0.50	0.15
Coaxial Cable	Steel EMT	7.0	1.85	0.37
Coaxial Cable	Steel EMT	4.5	1.00	0.11
Fire Alarm Cable	Steel EMT	4.0	0.70	0.17
Fire Alarm Cable	Steel EMT	3.5	0.50	0.09
Inside Wiring	Steel EMT	2.5	0.14	0.069
Inside Wiring	Steel EMT	2.5	0.38	0.094
Inside Wiring	Flexible Steel	2.0	0.06	0.008
Inside Wiring	Flexible Steel	2.0	0.04	0.005
Inside Wiring	Rigid Aluminum	2.0	0.20	0.045
Inside Wiring	Flexible Aluminum	2.5	0.56	0.084
Inside Wiring	Flexible Aluminum	2.5	0.31	0.051
Station Wire	Flexible Aluminum	3.5	0.85	0.222
Station Wire	Flexible Aluminum	3.5	0.66	0.157
Fire Alarm Cable	Flexible Aluminum	6.0	0.60	0.22
Fire Alarm Cable	Flexible Aluminum	5.5	1.20	0.19
Coaxial Cable	Flexible Aluminum	13.5	1.85	0.45
Coaxial Cable	Flexible Aluminum	19.5	2.15	0.32

16-133 Log #1638 NEC-P16 **Final Action: Reject**
(770.51, 770-53, Figure 770-53 and Table 770-50)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-34
Recommendation: Continue to Accept in Principle.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 16's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-134 Log #2515 NEC-P16 **Final Action: Accept**
(770.51, 770-53, Figure 770-53 and Table 770-50)

Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 16-34
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 16-37.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-135 Log #1551 NEC-P16 **Final Action: Accept**
(770.51, 770-53, Figure 770-53, Table 770-53 and Table 770-50)

Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 16-34
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.

Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-136 Log #1552 NEC-P16 **Final Action: Accept**
(770.51, 770-53, Figure 770-53, Table 770-53 and Table 770-50)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 16-43
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.

Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project

on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-137 Log #1556 NEC-P16 **Final Action: Accept**
(770.51, 770-53, Figure 770-53, Table 770-53 and Table 770-50)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 16-39
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-138 Log #1557 NEC-P16 **Final Action: Accept**
(770.51, 770-53, Figure 770-53, Table 770-53 and Table 770-50)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 16-38
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-139 Log #1558 NEC-P16 **Final Action: Accept**
(770.51, 770-53, Figure 770-53, Table 770-53 and Table 770-50)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 16-45
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-140 Log #1562 NEC-P16 **Final Action: Accept**
(770.51, 770-53, Figure 770-53, Table 770-53 and Table 770-50)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 16-41
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-141 Log #1607 NEC-P16 **Final Action: Reject**
(770.51, 770-53, Figure 770-53, Table 770-53 and Table 770-50)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-45
Recommendation: Continue to accept in principle.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 16's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-142 Log #1608 NEC-P16 **Final Action: Reject**
(770.51, 770-53, Figure 770-53, Table 770-53 and Table 770-50)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-38
Recommendation: Continue to accept in principle.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 16's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-143 Log #1609 NEC-P16 **Final Action: Reject**
(770.51, 770-53, Figure 770-53, Table 770-53 and Table 770-50)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-39
Recommendation: Continue to accept in principle.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 16's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-144 Log #1618 NEC-P16 **Final Action: Reject**
(770.51, 770-53, Figure 770-53, Table 770-53 and Table 770-50)

Submitter: Richard P. Owen, City of St. Paul, Minnesota

Comment on Proposal No: 16-43

Recommendation: Continue to accept in principle.

Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 16's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-145 Log #2519 NEC-P16 **Final Action: Accept**
(770.51, 770-53, Figure 770-53, Table 770-53 and Table 770-50)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: William A. Wolfe, Steel Tube Institute of North America

Comment on Proposal No: 16-38

Recommendation: Reject this proposal.

Substantiation: See our companion proposal on 16-37.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-146 Log #2522 NEC-P16 **Final Action: Accept**
(770.51, 770-53, Figure 770-53, Table 770-53 and Table 770-50)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: William A. Wolfe, Steel Tube Institute of North America

Comment on Proposal No: 16-39

Recommendation: Reject this proposal.

Substantiation: See our companion proposal on 16-37.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-147 Log #2525 NEC-P16 **Final Action: Accept**
(770.51, 770-53, Figure 770-53, Table 770-53 and Table 770-50)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 16-41
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 16-37.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-148 Log #2535 NEC-P16 **Final Action: Accept**
(770.51, 770-53, Figure 770-53, Table 770-53 and Table 770-50)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 16-45
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 16-37.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-149 Log #3740 NEC-P16 **Final Action: Accept**
(770.51, 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 16-39
Recommendation: Reject this proposal - Also reject the references to NFPA 90A in fine print notes and the creation of the new category of air duct cables and the subdivision of plenums. Revise the FPN to 770.51 as follows, and make no other changes.

~~FPN: One method of defining low smoke-producing cables is by establishing an acceptable value of the smoke produced when tested in accordance with NFPA 262-1999, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces, to a maximum peak optical density of 0.5 and a maximum average optical density of 0.15. Similarly, one method of defining fire-resistant cables is by defining maximum allowable flame travel distance of 1.52 m (5 ft) when tested in accordance with the same test.~~

FPN: One method of defining a cable that is low smoke-producing cable and fire-resistant cable is that the cable exhibits a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.52 m (5 ft) or less when tested in accordance with NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces.

Substantiation: There is no need for a new category of OFND and OFCD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should be rejected by CMP 16.
Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.
See further information in the comment I made to recommend rejection of proposal 16-37.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-150 Log #3742 NEC-P16 **Final Action: Accept**
(770.51, 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 16-41
Recommendation: Reject this proposal - Also reject the references to NFPA 90A in fine print notes and the creation of the new category of air duct cables and the subdivision of plenums. Revise the FPN to 770.51 as follows, and make no other changes.

~~FPN: One method of defining low smoke-producing cables is by establishing an acceptable value of the smoke produced when tested in accordance with NFPA 262-1999, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces, to a maximum peak optical density of 0.5 and a maximum average optical density of 0.15. Similarly, one method of defining fire-resistant cables is by defining maximum allowable flame travel distance of 1.52 m (5 ft) when tested in accordance with the same test.~~

FPN: One method of defining a cable that is low smoke-producing cable and fire-resistant cable is that the cable exhibits a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.52 m (5 ft) or less when tested in accordance with NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces.

Substantiation: There is no need for a new category of OFND and OFCD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should be rejected by CMP 16.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 16-37.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-151 Log #3744 NEC-P16 **Final Action: Accept**
(770.51, 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association

Comment on Proposal No: 16-42

Recommendation: Reject this proposal - Also reject the references to NFPA 90A in fine print notes and the creation of the new category of air duct cables and the subdivision of plenums. Revise the FPN to 770.51 as follows, and make no other changes.

~~FPN: One method of defining low smoke-producing cables is by establishing an acceptable value of the smoke produced when tested in accordance with NFPA 262-1999, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces, to a maximum peak optical density of 0.5 and a maximum average optical density of 0.15. Similarly, one method of defining fire-resistant cables is by defining maximum allowable flame travel distance of 1.52 m (5 ft) when tested in accordance with the same test.~~

FPN: One method of defining a cable that is low smoke-producing cable and fire-resistant cable is that the cable exhibits a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.52 m (5 ft) or less when tested in accordance with NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces.

Substantiation: There is no need for a new category of OFND and OFCD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should be rejected by CMP 16.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 16-37.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-152 Log #3746 NEC-P16 **Final Action: Accept**
(770.51, 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association

Comment on Proposal No: 16-43

Recommendation: Reject this proposal - Also reject the references to NFPA 90A in fine print notes and the creation of the new category of air duct cables and the subdivision of plenums. Revise the FPN to 770.51 as follows, and make no other changes.

~~FPN: One method of defining low smoke-producing cables is by establishing an acceptable value of the smoke produced when tested in accordance with NFPA 262-1999, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces, to a maximum peak optical density of 0.5 and a maximum average optical density of 0.15. Similarly, one method of defining fire-resistant cables is by defining maximum allowable flame travel distance of 1.52 m (5 ft) when tested in accordance with the same test.~~

FPN: One method of defining a cable that is low smoke-producing cable and fire-resistant cable is that the cable exhibits a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.52 m (5 ft) or less when tested in accordance with NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces.

Substantiation: There is no need for a new category of OFND and OFCD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should be rejected by CMP 16.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 16-37.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-153 Log #3750 NEC-P16 **Final Action: Accept**
(770.51, 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 16-45
Recommendation: *Reject this proposal - Also reject the references to NFPA 90A in fine print notes and the creation of the new category of air duct cables and the subdivision of plenums. Revise the FPN to 770.51 as follows, and make no other changes.*

~~FPN: One method of defining low smoke-producing cables is by establishing an acceptable value of the smoke produced when tested in accordance with NFPA 262-1999, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces, to a maximum peak optical density of 0.5 and a maximum average optical density of 0.15. Similarly, one method of defining fire-resistant cables is by defining maximum allowable flame travel distance of 1.52 m (5 ft) when tested in accordance with the same test.~~

FPN: One method of defining a cable that is low smoke-producing cable and fire-resistant cable is that the cable exhibits a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.52 m (5 ft) or less when tested in accordance with NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces.

Substantiation: There is no need for a new category of OFND and OFCD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should be rejected by CMP 16.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 16-37.

Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-154 Log #3751 NEC-P16 **Final Action: Accept**
(770.51, 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 16-33
Recommendation: *Reject this proposal - Also reject the references to NFPA 90A in fine print notes and the creation of the new category of air duct cables and the subdivision of plenums. Revise the FPN to 770.51 as follows, and make no other changes.*

~~FPN: One method of defining low smoke-producing cables is by establishing an acceptable value of the smoke produced when tested in accordance with NFPA 262-1999, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces, to a maximum peak optical density of 0.5 and a maximum average optical density of 0.15. Similarly, one method of defining fire-resistant cables is by defining maximum allowable flame travel distance of 1.52 m (5 ft) when tested in accordance with the same test.~~

FPN: One method of defining a cable that is low smoke-producing cable and fire-resistant cable is that the cable exhibits a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.52 m (5 ft) or less when tested in accordance with NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces.

Substantiation: There is no need for a new category of OFND and OFCD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should be rejected by CMP 16.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 16-37.

Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-155 Log #3752 NEC-P16 **Final Action: Accept**
(770.51, 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 16-34
Recommendation: *Reject this proposal - Also reject the references to NFPA 90A in fine print notes and the creation of the new category of air duct cables and the subdivision of plenums. Revise the FPN to 770.51 as follows, and make no other changes.*

~~FPN: One method of defining low smoke-producing cables is by establishing an acceptable value of the smoke produced when tested in accordance with NFPA 262-1999, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces, to a maximum peak optical density of 0.5 and a maximum average optical density of 0.15. Similarly, one method of defining fire-resistant cables is by defining maximum allowable flame travel distance of 1.52 m (5 ft) when tested in accordance with the same test.~~

FPN: One method of defining a cable that is low smoke-producing cable and fire-resistant cable is that the cable exhibits a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.52 m (5 ft) or less when tested in accordance with NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces.

Substantiation: There is no need for a new category of OFND and OFCD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should be rejected by CMP 16.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 16-37.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-156 Log #3900 NEC-P16 **Final Action: Accept**
(770.51 & 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Herbert V. Congdon, II, CC2

Comment on Proposal No: 16-37

Recommendation: Delete listing requirements for "duct cable".

Substantiation: • Duct cable is not non-combustible rather it is a fuel source. Placing this cable directly in the duct is unsafe to the occupants of the building and fire rescue personnel that may be dispatch to the incident. Rather than place this added fuel into a duct, the cable should be placed in non-combustible conduit and routed to the device within the duct.

• Air flow, per code, is difficult to achieve in many buildings. The addition of any cable will deter what can be delivered. There are no proposals that limit the amount of these cables that can occupy an air duct.

• The installation of cable within an air duct, depending upon the velocity of the air, will cause noise in the workplace environment.

• Cables in air ducts are subject to damage by installers that use sheet metal screws when maintaining air ducts. These screws are very sharp and will penetrate the sheath causing an electrical arc and possible fire from dust accumulation in air duct.

• Air ducts will not be able to be cleaned without damaging cables placed within the air duct.

• Air distribution is specified in 4.3 of NFPA 90A and includes 4.3.10 for plenums. These plenums include ceiling cavity plenums (4.3.10.2), duct distribution plenum (4.3.10.3), apparatus casing plenum (4.3.10.4), air handling unit room plenum (4.3.10.5), and raised floor plenum (4.3.10.6). While requirements are specified for cable placed in ceiling cavity plenum, and raised floor plenums (non-combustible or limited combustible with smoke requirements per NFPA 262), there are no like requirements for duct distribution plenum, or apparatus casing plenum, or air handling unit room plenum - rather they specify NFPA 255 for testing building materials. As for other areas specified in 4.3, Air distribution, there are no requirements for cable placement in the air distribution system. Following back to 4.1, General Requirements for Equipment, paragraph 4.1.4 specifies, "electrical wiring and equipment shall be installed in accordance to NFPA 70, National Electrical Code". Seems like NFPA 90A realizes that NFPA 70 is sufficient for their need.

• The NFPA 90A scope is specified for buildings that are 25,000 cubic feet or 3 stories in height. The NEC does not have this restriction. Harmonizing the code to this standard is inappropriate.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-157 Log #2518iii NEC-P16 **Final Action: Accept**
(770.51, 770.53, Figure 770.50, Table 770.53, Table 770.50)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)

Comment on Proposal No: 16-38

Recommendation: Reject this proposal.

Substantiation: See our companion comment on Proposal 1-69.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-158 Log #1835 NEC-P16 **Final Action: Reject**
(770.51, 770.53, Figure 770.53 and Table 770.50)

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association

Comment on Proposal No: 16-43

Recommendation: Continue to accept in principle.

Substantiation: The Automatic Fire Alarm Association supports the panel action, which meets the submitter's intent. The panel action clarifies wiring requirements in air ducts and plenums.

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-159 Log #2892 NEC-P16 **Final Action: Reject**
(770.51, 770.53, Figure 770.53, Table 770.50 & 770.53)

Submitter: Stanley Kaufman, CableSafe, Inc.
Comment on Proposal No: 16-37
Recommendation: Continue to accept proposal 16-37 in principle with the text as shown below.

770.154 Applications of Listed Optical Fiber Cables and Raceways. Nonconductive and conductive optical fiber cables shall comply with any of the requirements given in 770.154(A) through (E) or where cable substitutions are made as shown in 770.154(F).

(A) Air Ducts and Plenums Cables installed in air ducts and plenums shall comply with the applicable requirements of (1) or (2) below.

(1) Air Ducts. Cables installed in air ducts shall be Type OFND or OFCD and shall be associated with the air duct system. Types OFND, OFCD, OFNP, OFCP, OFNG, OFCG, OFN and OFC cables installed in compliance with Section 300.22(B) shall be permitted.

(2) Plenums. Cables installed in plenums shall comply with (a) or (b) below.

(a) Cables installed in plenums, other than ceiling cavity plenums and raised floor plenums, shall be Type OFND or Type OFCD and shall be associated with the plenum system. Where installed in an air-handling unit room plenum, Types OFND and OFCD cable shall be mechanically protected to a height of 7 feet above the floor. Types OFND, OFCD, OFNP, OFCP, OFNG, OFCG, OFN and OFC cables installed in compliance with Section 300.22(B) shall be permitted.

(b) Cables installed in accessible ceiling cavity plenums and accessible raised floor plenums shall be Type OFND, OFCD, OFNP or OFCP. Cables installed in inaccessible ceiling cavity plenums and raised floor plenums shall be Type OFND or OFCD. Types OFND, OFCD, OFNP, OFCP, OFNR, OFCR, OFNG, OFCG, OFN and OFC cables installed in compliance with 300.22(C) shall be permitted. Listed plenum optical fiber raceways shall be permitted to be installed in ceiling cavity plenums and raised floor plenums. Only Types OFND, OFCD, OFNP and OFCP cables shall be permitted to be installed in these raceways.

FPN: Plenums described in NFPA 90A-2002, Standard for the Installation of Air-Conditioning and Ventilating Systems, include air-handling unit room plenums, apparatus casing plenums, duct distribution plenums, ceiling cavity plenums, and raised floor plenums.

(B) Riser. Cables installed in risers shall comply with 770.154(B)(1), (B)(2) or (B)(3).

(1) Cables in Vertical Runs. Cables installed in vertical runs and penetrating more than one floor, or cables installed in vertical runs in a shaft, shall be Type OFNR or OFCR. Floor penetrations requiring Type OFNR or OFCR shall contain only cables suitable for air duct, plenum or riser use. Listed riser optical fiber raceways shall be permitted to be installed in vertical riser runs in a shaft from floor to floor. Only Types OFND, OFCD, OFNP, OFCP, OFNR and OFCR cables shall be permitted to be installed in these raceways.

(2) Metal Raceways or Fireproof Shafts. Types OFNG, OFN, OFCG, and OFC cables shall be permitted to be encased in a metal raceway or located in a fireproof shaft having firestops at each floor.

(3) One- and Two-Family Dwellings. Types OFNG, OFN, OFCG, and OFC cables shall be permitted in one- and two-family dwellings.

FPN: See 300.21 for firestop requirements for floor penetrations.

(C) Other Wiring Within Buildings. Cables installed in building locations other than the locations covered in 770.154(A) and (B) shall be Type OFNG, OFN, OFCG, or OFC. Such cables shall be permitted to be installed in listed general-purpose optical fiber raceways.

(D) Hazardous (Classified) Locations. Cables installed in hazardous (classified) locations shall be any type indicated in Table 770.154.

(E) Cable Trays. Listed optical fiber cables shall be permitted to be installed in cable trays.

FPN: It is not the intent to require that these optical fiber cables be listed specifically for use in cable trays.

(F) Cable Substitutions. The substitutions for optical fiber cables listed in Table 770.154 shall be permitted.

Table 770.154 Cable Substitutions

Cable Type	Permitted Substitutions
OFND	None
OFCD	OFND
OFNP	OFND
OFCP	OFND, OFCD, OFNP
OFNR	OFND, OFNP
OFCR	OFND, OFCD, OFNP, OFCP, OFNR
OFNG, OFN	OFND, OFNP, OFNR
OFCG, OFC	OFND, OFCD, OFNP, OFCP, OFNR, OFCR, OFNG, OFN

(Figure 770.154 Cable substitution hierarchy shown on following page)

770.179 Listing and Marking Requirements for Optical Fiber Cables. Optical fiber cables shall be listed in accordance with 770.179(A) through (E) and marked in accordance with Table 770.179.

(A) Types OFND and OFCD. Types OFND and OFCD nonconductive and conductive optical fiber air duct cables shall be listed as being suitable for use in ducts, plenums, and other space used for environmental air and shall also be listed as having a low potential heat value, low flame spread characteristics, and very low smoke-producing characteristics.

FPN: One method of defining a low potential heat cable is establishing an acceptable value of potential heat when tested in accordance with NFPA 259, Standard Test Method for Potential Heat of Building Materials, to a maximum potential heat value not exceeding 8141 kJ/kg (3500 BTU/lb). One method of defining low flame spread cable is establishing an acceptable value of flame spread when tested in accordance with NFPA 255, Standard Method of Test of Surface Burning Characteristics of Building Materials, to a maximum flame spread index of 25. Similarly, one method of defining very low smoke-producing cable is establishing an acceptable value when tested in accordance with NFPA 255, Standard Method of Test of Surface Burning Characteristics of Building Materials, to maximum smoke developed index of 50. These test methods and resultant values correlate with the requirements of NFPA 90A-2002, Standard for the Installation of Air-Conditioning and Ventilating System for materials installed in ducts and plenums.

(B) Types OFNP and OFCP. Types OFNP and OFCP nonconductive and conductive optical fiber plenum cables shall be listed as being suitable for use in, ceiling cavity plenums and raised floor plenums and shall also be listed as having adequate fire-resistant and low smoke-producing characteristics.

FPN: See section 4.3.10 of NFPA 90A-2002, Standard for the Installation of Air-Conditioning and Ventilating Systems for listing requirements for plenum cable.

(C) Types OFNR and OFCR. Types OFNR and OFCR nonconductive and conductive optical fiber riser cables shall be listed as suitable for use in a vertical run in a shaft or from floor to floor and shall also be listed as having fire-resistant characteristics capable of preventing the carrying of fire from floor to floor.

FPN: One method of defining fire-resistant characteristics capable of preventing the carrying of fire from floor to floor is that the cables pass the requirements of ANSI/UL 1666-1997, Standard Test for Flame Propagation Height of Electrical and Optical-Fiber Cable Installed Vertically in Shafts.

(D) Types OFNG and OFCG. Types OFNG and OFCG nonconductive and conductive general-purpose optical fiber cables shall be listed as suitable for general-purpose use, with the exception of air ducts, risers, plenums, and other spaces used for environmental air, and shall also be listed as being resistant to the spread of fire.

FPN: One method of defining resistance to the spread of fire is for the damage (char length) not to exceed 1.5 m (4 ft 11 in.) when performing the vertical flame test for cables in cable trays, as described in CSA C22.2 No. 0.3-M-1985, Test Methods for Electrical Wires and Cables.

(E) Types OFN and OFC. Types OFN and OFC nonconductive and conductive optical fiber cables shall be listed as suitable for general-purpose use, with the exception of air ducts, risers, plenums, and other spaces used for environmental air, and shall also be listed as being resistant to the spread of fire.

FPN: One method of defining resistant to the spread of fire is that the cables do not spread fire to the top of the tray in the vertical-tray flame test in ANSI/UL 1581-1991, Reference Standard for Electrical Wires, Cables, and Flexible Cords.

Another method of defining resistant to the spread of fire is for the damage (char length) not to exceed 1.5 m (4 ft 11 in.) when performing the vertical flame test for cables in cable trays, as described in CSA C22,2 No. 0-3-M-1985, Test Methods for Electrical Wires and Cables.

Table 770.179, Cable Marking

Cable Marking	Cable Type
OFND	Nonconductive optical fiber air duct cable
OFCD	Conductive optical fiber air duct cable
OFNP	Nonconductive optical fiber plenum cable
OFCP	Conductive optical fiber plenum cable
OFNR	Nonconductive optical fiber riser cable
OFCR	Conductive optical fiber riser cable
OFNG	Nonconductive optical fiber general-purpose cable
OFCG	Conductive optical fiber general-purpose cable
OFN	Nonconductive optical fiber general-purpose cable
OFC	Conductive optical fiber general-purpose cable

FPN: Cable types are listed in descending order of fire resistance rating. Within each fire resistance rating, nonconductive cable is listed first, since it may substitute for the conductive cable.

Comment 16-159 (Log #2892)

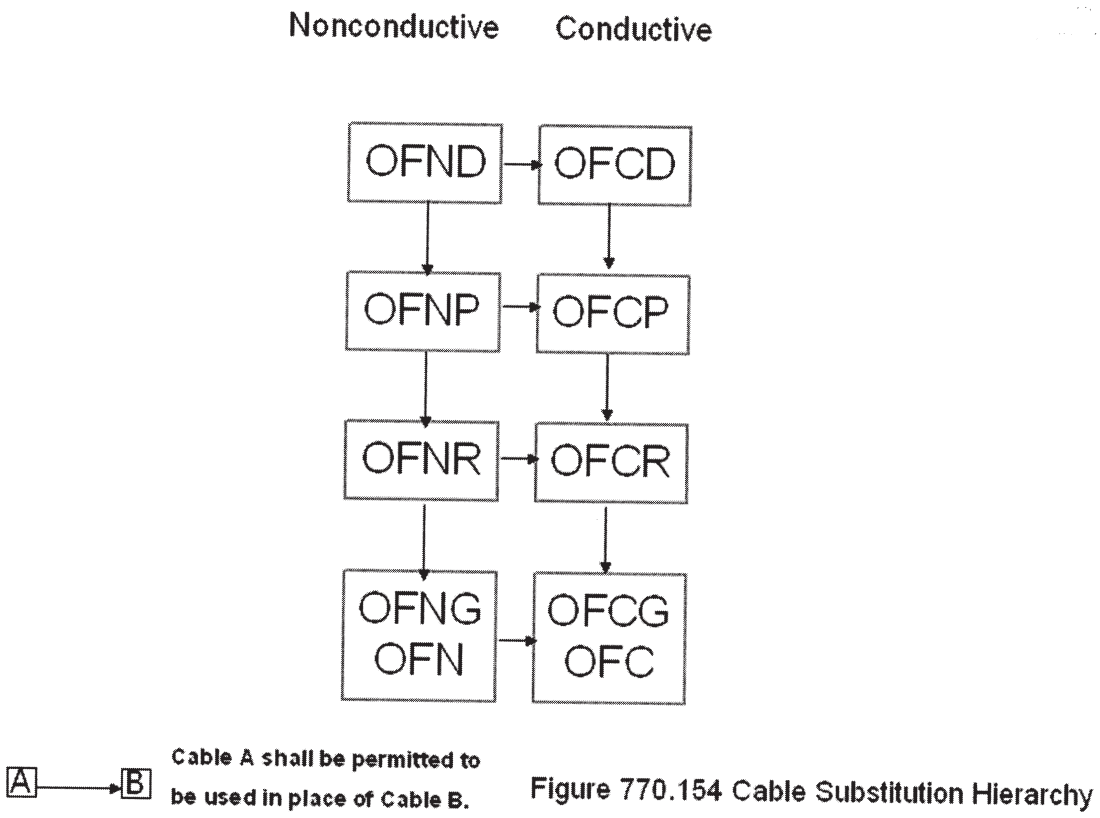

Figure 770.154 Cable substitution hierarchy.

Substantiation: The suggested text contains the following changes from the text accepted by panel sixteen's action on proposal 16-37:

1) The sections have been renumbered to use the numbering scheme proposed by the renumbering task group that was established in response to the TCC directive on proposals 3-126 and 3-223.

2) "G" cables have been restored because TCC action on proposal 16-28 required G cables to remain in the code. "G" cables were in the original proposal.

3) The change in installation requirements for optical fiber plenum raceway was incorporated from proposal 16-59a that limited the installation of plenum raceway to ceiling cavity plenums and raised floor plenums.

4) The installation requirements for risers were revised to permit air duct cable in a riser.

5) The fine print note for listing plenum cables was revised to use the text suggested by the Technical Committee on Air Conditioning in their comment on proposal 16-128.

6) The listing requirement for general-purpose cables was revised to add "air ducts" to the list of spaces these cables are not listed for.

7) Subsections titles were added to the riser applications section to match the style of Articles 800 and 820.

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-160 Log #1722 NEC-P16 **Final Action: Accept**

(770.51, 770.53 Figure 770.53, Table 770.53 and Table 770.50)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Michael I. Callanan, IBEW

Comment on Proposal No: 16-35

Recommendation: Continue to reject this proposal.

Substantiation: We agree with panel action to reject proposal 16-35 as no technical substantiation has been submitted. This comment represents the official position of the International Brotherhood of Electrical Workers codes and Standards Committee.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-161 Log #1725 NEC-P16 **Final Action: Accept**

(770.51, 770.53, Figure 770.53, Table 770.53 and Table 770.50)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Michael I. Callanan, IBEW

Comment on Proposal No: 16-38

Recommendation: Reject this proposal.

Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Jensen, Mr. Jones, and Mr. Ohde. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-162 Log #1726 NEC-P16 **Final Action: Accept**

(770.51, 770.53, Figure 770.53, Table 770.53 and Table 770.50)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Michael I. Callanan, IBEW

Comment on Proposal No: 16-39

Recommendation: Reject this proposal.

Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Jensen, Mr. Jones, and Mr. Ohde. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-163 Log #1728 NEC-P16 **Final Action: Accept**

(770.51, 770.53, Figure 770.53, Table 770.53 and Table 770.50)

Submitter: Michael I. Callanan, IBEW

Comment on Proposal No: 6-41

Recommendation: Reject this proposal.

Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Jensen, Mr. Jones, and Mr. Ohde. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.

Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-164 Log #1730 NEC-P16 **Final Action: Accept**
(770.51, 770.53, Figure 770.53, Table 770.53 and Table 770.50)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-43
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Jensen, Mr. Jones, and Mr. Ohde. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-165 Log #2518aa NEC-P16 **Final Action: Accept**
(770.51, 770.53, Figure 770.53, Table 770.53, Table 770.50)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 16-39
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-166 Log #890 NEC-P16 **Final Action: Reject**
(770.51, 800-51 & 820-51)

Submitter: Dan Kennefick, Ber-Tek a Nexans Company
Comment on Proposal No: 16-36
Recommendation: Continue to accept my proposals in principle.
Substantiation: I submitted Proposals 16-36, 16-111 and 16-176. These proposals were part of a series of proposals submitted to establish air duct cable in the NEC. The panel took the correct actions by accepting my proposals in principle and deferring to Proposals 16-37, 16-112 and 16-177 because these proposals are broader and include all the features in my proposals.
Berk-Tek continues to support the inclusion of duct cables in the NEC because of their extremely low flame spread and smoke emission properties.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-167 Log #3268 NEC-P16 **Final Action: Reject**
(770.51, 800-51 and 820-51)

Submitter: Robert Allen, Mohawk/CDT
Comment on Proposal No: 16-45
Recommendation: Continue to accept my proposal in principle.
Substantiation: I submitted proposals 16-45, 16-127 and 16-184. These proposals were part of a series of proposals submitted to establish air duct cable in the NEC. The panel took the correct actions by accepting my proposals in principle and deferring to proposals 16-37, 16-112 and 16-177 because these proposals are broader and include all the features in my proposals.
Mohawk/CDT continues to support the inclusion of duct cable in the NEC because it is significantly better than plenum cable in fire safety properties.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-168 Log #3834 NEC-P16 **Final Action: Accept**
(770.51, 800.51, 820.51, 830.51)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 16-46
Recommendation: *Reject this proposal.*
Substantiation: There is no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should be rejected by CMP 16. As stated by Mr. Harold Ohde in his negative on CMP action on proposal 16-9: "Other codes should not be deciding on the typed of wiring methods to be used in these spaces. The electrical experts are capable of doing this and it is covered quite well in 300.22. The more we let those outside of the NEC make these decisions the more we weaken adoption of the NEC. In addition, we could make the change and there is nothing that requires a jurisdiction to even adopt 90A."

This proposal should be rejected because, as stated by Mr. Melvin Sanders in his negative on CMP 3 action on proposal 3-192 "No technical documentation has been provided, such as fire loss data, as to why the existing type CL2P and CL3P plenum cable are not suitable for use in the environmental air handling spaces included in 300.22 (C)." Similarly, as stated by Mr. Ronald Jones in his negative on CMP 16 action on this proposal: "The submitter has not furnished any technical substantiation to change the present usage of plenum cables. This proposal would narrow the already accepted use of plenum cables without any documentation.". Moreover, as stated by Mr. Robert Jensen in his negative on CMP action on this proposal: "CMP 16 is only responsible for articles 770, 800, 820 and 830 which share the common requirement that Section 300.22 shall apply. There are no requirements, specifications, definitions, or descriptions of "ceiling cavity plenums, or raised floor plenums" that have been accepted by CMP 3 which is responsible for 300.22."

If this proposal were approved, it would limit the application of traditional plenum-rated cable without any justification based on fire hazard or fire risk. It has already been shown in detail by the fire hazard and fire risk analysis presented together with my original proposals (see for example the section on pages 2426-2434 of the NEC-ROP of the substantiation for my proposal 16-12) that there is no need to change the requirements, or limit the application, for wiring methods in plenums, because the fire safety record is excellent.

In fact, if OFNP, OFCP, CMP, CATVP and BLP cables, i.e. traditional plenum cables meeting the requirements of NFPA 262, are to be limited in application, then cables contained in metal raceways must also be limited in application, since the work that led to the development of the requirements for plenum rated cables showed that they generate more smoke and flame spread than plenum cables meeting NFPA 262, as is clear from the following Table, containing data from the work conducted to justify the development of NFPA 262 (originally UL 910). All 11 plenum-rated cables had flame spread values not exceeding 5 ft and average optical densities not exceeding 0.15 and 10 of the 11 plenum-rated cables had peak optical densities not exceeding 0.50. On the other hand, 5 of the 17 cables in metal raceways tested had flame spread values exceeding 5 ft, 8 of the 17 cables in metal raceways tested had average optical densities exceeding 0.15 and 10 of the 17 cables in metal raceways tested had peak optical densities exceeding 0.50. This comment recognizes that cables in metal raceways are safe wiring methods for plenums. Therefore traditional plenum cables are also safe and suitable.

This comment is one of a series of comments on Articles 300, 725, 760, 770, 800, 820 and 830, regarding "plenum cables". The philosophy behind all the comments is that the NEC is OK as published in 2002, but that 2 minor changes might represent improvements: (i) the clarification of the 6 inch extension of a wiring method into a more restricted environment and (ii) the clarification in the Fine Print Notes that a cable listed to NFPA 262 is listed both based on its "low-smoke" characteristics and its "low-flame-spread" characteristics, and that the two are not listed separately.

Also see comments from the chairman of the Technical Correlating Committee.

(table shown on following page)

Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-169 Log #2135 NEC-P16 **Final Action: Accept**
(770.51 and 770-53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Robert W. Jensen, dbi-Telecommunications
Comment on Proposal No: 16-37
Recommendation: Delete listing requirements for "duct cable."
Substantiation: All materials that are capable of combustion are a fuel source during a fire event. The proposed air-duct cable is capable of combustion and would, during a fire event, be a fuel source inside the ducts that supply conditioned air to the conditioned spaces.

Heating, ventilating and air conditioning systems are commonly designed with ducts that supply conditioned air to the conditioned spaces (as described in 300.22 Wiring in Ducts, Plenums, and Other Air-Handling Spaces (B) Ducts or Plenums Used for Environmental Air), and use the space above the suspended ceiling to transport return air from the conditioned spaces to the conditioning equipment (as described in 300.22 Wiring in Ducts, Plenums, and Other Air-Handling Spaces (C) Other Space Used for Environmental Air). This would be the case during normal operation. But during a fire event, when smoke is detected by a smoke detector in the space above the suspended ceiling, the fire/smoke damper closes and the smoke and toxic gases are diverted out of the building. When the source of the fire is inside the air supply duct, either the cable or the equipment that it is connecting to, the positive pressure created by the fan would then force the smoke and toxic gases into the conditioned space. This would continue until such time that sufficient smoke would enter the space above the suspended ceiling and be detected by a smoke detector. While one could argue that smoke detectors could also be placed in air supply ducts, the velocity of the air in supply ducts would make smoke detection problematic and there are no smoke detectors currently available listed for the purpose of installation within air supply ducts.

Building codes specify where fire dampers are required. Fire dampers are installed to prevent transmission of flame where air supply ducts penetrate fire barriers. Running loose cables within an air supply duct would block the dampers from closing allowing the flame to breach the fire barrier. Such an installation would NEVER pass during a building inspection. If cables MUST be placed inside an air supply duct, then the cable MUST be placed in an electrical metallic tubing, flexible metallic tubing, intermediate metal conduit, or rigid metal conduit without an overall nonmetallic covering as prescribed on 300.22 Wiring in Ducts, Plenums, and Other Air-Handiling Spaces (B) Ducts or Plenums Used for Environmental Air. Use of these raceways negates any need for any additional level being added to Table 800.50 Cable Markings, or any other table or section in the code.

NFPA 90A 4.1, General Requirements for Equipment paragraph 4.1.4 specifies, "Electrical wiring and equipment shall be installed in accordance to NFPA 70, National Electrical Code." Seems like the authors of NFPA 90A, the Technical Committee on Air Conditioning already realized that NFPA 70 is sufficient for their needs.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

Comment 16-168 (Log #3834)

Table 1. Flame Spread and Optical Density of Wiring Systems

Cable	Metal Raceway	Flame Spread (ft)	Peak Optical Density	Average Optical Density
Plenum Rated Coaxial Cable	None	3.0	0.12	0.015
Plenum Rated Coaxial Cable	None	3.0	0.25	0.067
Plenum Rated Coaxial Cable	None	3.0	0.45	0.13
Plenum Rated Coaxial Cable	None	3.0	0.60	0.15
Plenum Rated Fire Alarm Cable	None	3.0	0.10	0.028
Plenum Rated Fire Alarm Cable	None	3.0	0.15	0.043
Plenum Rated Inside Wiring	None	3.0	0.35	0.121
Plenum Rated Inside wiring	None	3.0	0.25	0.047
Plenum Rated Station Wire	None	3.5	0.08	0.069
Plenum Rated Station Wire	None	3.5	0.07	-
Plenum Rated Station Wire	None	3.5	0.08	-
Plenum Cable NFPA 262 Limits	None	5.0	0.50	0.15
Coaxial Cable	Steel EMT	7.0	1.85	0.37
Coaxial Cable	Steel EMT	4.5	1.00	0.11
Fire Alarm Cable	Steel EMT	4.0	0.70	0.17
Fire Alarm Cable	Steel EMT	3.5	0.50	0.09
Inside Wiring	Steel EMT	2.5	0.14	0.069
Inside Wiring	Steel EMT	2.5	0.38	0.094
Inside Wiring	Flexible Steel	2.0	0.06	0.008
Inside Wiring	Flexible Steel	2.0	0.04	0.005
Inside Wiring	Rigid Aluminum	2.0	0.20	0.045
Inside Wiring	Flexible Aluminum	2.5	0.56	0.084
Inside Wiring	Flexible Aluminum	2.5	0.31	0.051
Station Wire	Flexible Aluminum	3.5	0.85	0.222
Station Wire	Flexible Aluminum	3.5	0.66	0.157
Fire Alarm Cable	Flexible Aluminum	6.0	0.60	0.22
Fire Alarm Cable	Flexible Aluminum	5.5	1.20	0.19
Coaxial Cable	Flexible Aluminum	13.5	1.85	0.45
Coaxial Cable	Flexible Aluminum	19.5	2.15	0.32

16-170 Log #3015 NEC-P16 **Final Action: Accept**
(770.51 and 770-53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Donald Billow, ICC
Comment on Proposal No: 16-37
Recommendation: Delete listing requirements for "Duct Cable."
Substantiation: • Air systems are generally designed with supply ducts that feed the occupied area with returns built into the structure (ceiling space, floor). When a fire is detected, smoke dampers close and divert smoke and toxic gases to the building's exterior. Duct cable is not noncombustible, rather it is a fuel source. There are no provisions for a listed device to detect a toxic burning "duct cable" in the supply duct. Additionally, the toxic smoke would have to emanate from the air outlets within the building causing an unsafe environment until the smoke detector sensor could actuate the smoke dampers into action. Placing this cable directly in the duct is unsafe to the occupants of the building and fire rescue personnel that may be dispatched to the incident. Rather than place this added fuse into a duct, the cable should be placed in noncombustible conduit and routed to the device within the duct.

• All buildings that are built have a certain risk factor. Listed plenum cables currently installed within buildings have not been shown to raise the risk factor as there are no incidents substantiated in any proposals to warrant a change.

• Air flow, per code, is difficult to achieve in many buildings. The addition of toxic cable will deter what can be delivered. There are no proposals that offer the amount of these toxic cables that can occupancy an air duct. Additionally, the installation of cable within an air duct, depending upon the velocity of the air, will cause noise in the environment and unsafe working conditions.

• Cables placed in ducts will cause fire dampers to be restricted from closing. This is not only restricting a fire damper's use, it causes an unsafe environment for occupants in buildings during a fire emergency.

• Cables in air ducts are subject to damage by installers that use sheet metal screws when maintaining air ducts. These screws are very sharp and will penetrate the sheath causing an electrical arc and possible fire from dust accumulation in air duct.

• Air ducts will not be able to be cleaned without damaging cables placed within the air duct.

• Air distribution is specified in 4.3 of NFPA 90A and includes 4.3.10 for plenums. These plenums include ceiling cavity plenums (4.3.10.2), duct distribution plenum (4.3.10.3), apparatus casing plenum (4.3.10.4), air handling unit room plenum (4.3.10.5), and raised floor plenum (4.3.10.6). While requirements are specified for cable placed in ceiling cavity plenums and raised floor plenums (noncombustible or limited combustible with smoke requirements per NFPA 262), there are no like requirements for duct distribution plenum, or apparatus casing plenum, or air handling unit room plenum - rather they specify NFPA 255 for testing building materials. As for other areas specified in 4.3, Air Distribution, there are no requirements for cable placement in the air distribution system. Following back to 4.1, General Requirements for Equipment, paragraph 4.1.4 specifies "electrical wiring and equipment shall be installed in accordance to NFPA 70, National Electrical Code". Seems like NFPA 90A realizes that NFPA 70 is sufficient for their need.

• The NFPA 90A scope is specified for buildings that are 25,000 cubic feet or 3 stories in height. The NEC does not have this restriction. Harmonizing the code to this standard is inappropriate.

Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-171 Log #2323 NEC-P16 **Final Action: Accept**
(770.51 and 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 16-45
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-172 Log #2327 NEC-P16 **Final Action: Accept**
(770-51 and 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 16-33
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-173 Log #2329 NEC-P16 **Final Action: Accept**
(770-51 and 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 16-41
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-174 Log #2330 NEC-P16 **Final Action: Accept**
(770.51 and 770.53)

Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 16-36
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

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This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-175 Log #2331 NEC-P16 **Final Action: Accept**
(770.51 and 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 16-42
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

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This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-176 Log #2333 NEC-P16 **Final Action: Accept**
(770.51 and 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 16-39
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

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Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-177 Log #2334 NEC-P16 **Final Action: Accept**
(770.51 and 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 16-38
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-178 Log #2335 NEC-P16 **Final Action: Accept**
(770.51 and 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 16-35
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-179 Log #2336 NEC-P16 **Final Action: Accept**
(770.51 and 770.53)

Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 16-34
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-180 Log #2339 NEC-P16 **Final Action: Accept**
(770.51 and 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 16-43
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-181 Log #3736 NEC-P16 **Final Action: Accept**
(770.51 and 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 16-35
Recommendation: *Continue rejecting this proposal - Also reject the reference to NFPA 90A.*
Substantiation: There is no need for a new category of OFND and OFCD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should be rejected by CMP 16.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 16-37.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-182 Log #3737 NEC-P16 **Final Action: Accept**
(770.51 and 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 16-36
Recommendation: *Reject this proposal - Also reject the references to NFPA 90A in fine print notes and the creation of the new category of air duct cables and the subdivision of plenums. Revise the FPN to 770.51 as follows, and make no other changes.*

~~FPN: One method of defining low smoke-producing cables is by establishing an acceptable value of the smoke produced when tested in accordance with NFPA 262-1999, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces, to a maximum peak optical density of 0.5 and a maximum average optical density of 0.15. Similarly, one method of defining fire-resistant cables is by defining maximum allowable flame travel distance of 1.52 m (5 ft) when tested in accordance with the same test.~~

FPN: One method of defining a cable that is low smoke-producing cable and fire-resistant cable is that the cable exhibits a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.52 m (5 ft) or less when tested in accordance with NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces.
Substantiation: There is no need for a new category of OFND and OFCD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should be rejected by CMP 16.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 16-37.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-183 Log #3738 NEC-P16 **Final Action: Accept**
(770.51 and 770.53)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association

Comment on Proposal No: 16-38

Recommendation: *Reject this proposal - Also reject the references to NFPA 90A in fine print notes and the creation of the new category of air duct cables and the subdivision of plenums. Revise the FPN to 770.51 as follows, and make no other changes.*

~~FPN: One method of defining low smoke-producing cables is by establishing an acceptable value of the smoke produced when tested in accordance with NFPA 262-1999, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces, to a maximum peak optical density of 0.5 and a maximum average optical density of 0.15. Similarly, one method of defining fire-resistant cables is by defining maximum allowable flame travel distance of 1.52 m (5 ft) when tested in accordance with the same test.~~

FPN: One method of defining a cable that is low smoke-producing cable and fire-resistant cable is that the cable exhibits a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.52 m (5 ft) or less when tested in accordance with NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces.

Substantiation: There is no need for a new category of OFND and OFCD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should be rejected by CMP 16.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 16-37.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-184 Log #1547 NEC-P16 **Final Action: Accept**
(770.51, Table 770-50, 770-53 and Table 770-53)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: T. David Mills, Bechtel Savannah River, Inc.

Comment on Proposal No: 16-35

Recommendation: Reject proposal in its entirety.

Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-185 Log #1548 NEC-P16 **Final Action: Accept**
(770.51, Table 770-50, 770-53 and Table 770-53)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: T. David Mills, Bechtel Savannah River, Inc.

Comment on Proposal No: 16-42

Recommendation: Reject proposal in its entirety.

Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-186 Log #1549 NEC-P16 **Final Action: Accept**
(770.51, Table 770-50, 770-53 and Table 770-53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 16-33
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.

Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-187 Log #1550 NEC-P16 **Final Action: Accept**
(770.51, Table 770-50, 770-53 and Table 770-53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 16-36
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.

Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-188 Log #1613 NEC-P16 **Final Action: Reject**
(770.51, Table 770-50, 770-53 and Table 770-53)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-42
Recommendation: Continue to accept in principle.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 16's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-189 Log #1621 NEC-P16 **Final Action: Reject**
(770.51, Table 770-50, 770-53 and Table 770-53)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-36
Recommendation: Continue to accept in principle.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 16's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-190 Log #1637 NEC-P16 **Final Action: Reject**
(770.51, Table 770-50, 770-53 and Table 770-53)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-33
Recommendation: Continue to Accept in Principle.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 16's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-191 Log #2514 NEC-P16 **Final Action: Accept**
(770.51, Table 770-50, 770-53 and Table 770-53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 16-33
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 16-37.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-192 Log #2516 NEC-P16 **Final Action: Accept**
(770.51, Table 770-50, 770-53 and Table 770-53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 16-36
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 16-37.
Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-193 Log #2527 NEC-P16 **Final Action: Accept**
(770.51, Table 770-50, 770-53 and Table 770-53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 16-42
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 16-37.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-194 Log #2531 NEC-P16 **Final Action: Accept**
(770.51, Table 770-53, Figure 770-53, Table 770-53 and Table 770-50)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 16-43
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 16-37.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-195 Log #1723 NEC-P16 **Final Action: Accept**
(770.51, Table 770.50, 770.53 and Table 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-36
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Jensen, Mr. Jones and Mr. Ohde. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-196 Log #1729 NEC-P16 **Final Action: Accept**
(770.51, Table 770.50, 770.53 and Table 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-42
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Jensen, Mr. Jones, and Mr. Ohde. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-197 Log #2687 NEC-P16 **Final Action: Reject**
(770.51, Table 770.50, 770.53 and Table 770.53)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 16-33
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from CFRA on Proposal 16-37.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-198 Log #2689 NEC-P16 **Final Action: Reject**
(770.51, Table 770.50, 770.53, and Table 770.53)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 16-35
Recommendation: Change the panel action on this proposal from reject to accept in principle.
Substantiation: The panel accepted the listing of air duct cables when it accepted Proposal 16-37 in principle.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-199 Log #2690 NEC-P16 **Final Action: Reject**
(770.51, Table 770.50, 770.53, and Table 770.53)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 16-36
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from CFRA on Proposal 16-37.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-200 Log #2693 NEC-P16 **Final Action: Reject**
(770.51, Table 770.50, 770.53 and Table 770.53)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 16-38
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from CFRA on proposal 16-37.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-201 Log #2695 NEC-P16 **Final Action: Reject**
(770.51, Table 770.50, 770.53 and Table 770.53)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 16-39
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from CFRA on proposal 16-37.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-202 Log #2701 NEC-P16 **Final Action: Reject**
(770.51, Table 770.50, 770.53 and Table 770.53)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 16-42
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from the CFRA on proposal 16-37.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-203 Log #2702 NEC-P16 **Final Action: Reject**
(770.51, Table 770.50, 770.53 and Table 770.53)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 16-43
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from the CFRA on proposal 16-37.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-204 Log #2706 NEC-P16 **Final Action: Reject**
(770.51, Table 770.50, 770.53 and Table 770.53)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 16-45
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from the CFRA on proposal 16-37.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-205 Log #303 NEC-P16 **Final Action: Reject**
(770.51, Table 770.50, 770.53 and Table 770.53 Figure 770.53)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-34
Recommendation: Continue to accept this proposal in principle.

Substantiation: See the comment from the Technical Committee on Air Conditioning on proposal 16-37.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-206 Log #329 NEC-P16 **Final Action: Reject**
(770.51, Table 770.50, 770.53, Tabl 770.53)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-36
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from the Technical Committee on Air Conditioning on proposal 16-37.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-207 Log #286 NEC-P16 **Final Action: Reject**
(Table 770.51, Table 770.50, 770.53, Table 770.53)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-35
Recommendation: Change the panel action on this proposal from reject to accept in principle.
Substantiation: NFPA 90A requires the listing of limited combustible cables. The listing requirements for air duct cables are essentially the listing requirements for limited combustible cables. The NEC needs to provide for the listing of these cables in order to correlate with NFPA 90A. The panel accepted the listing of air duct cables when it accepted proposal 16-37 in principle.

Why is the Technical Committee on Air Conditioning submitting comments?

In action 80-60, the Standards Council assigned primary jurisdiction for combustibles in plenums to the Technical Committee on Air Conditioning and directed it to seek the cooperation of the committees on Fire Tests,

National Electrical Code and Safety to Life. The Technical Committee on Air Conditioning has been cooperating with the National Electrical Code Committee by submitting a series of proposals for the 2005 NEC. It now continues that cooperation by commenting on all proposals dealing with combustibles in plenums. The purpose of the proposals and comments is to bring about correlation between NFPA 70, National Electrical Code and NFPA 90A, Standard for the Installation of Air-Conditioning and Ventilating Systems. The Technical Committee on Air Conditioning established consensus on these comments through a letter ballot.

The NEC Technical Correlating Committee has acknowledged the responsibility of the Technical Committee on Air-Conditioning. The Technical Correlating Committee action on this proposal states:

"The Technical Correlating Committee understands that the Standards Council has given primary responsibility to the Technical Committee on Air-Conditioning for combustible materials in plenums in cooperation with other committees including the National Electrical Code Committee. The Chair of the Technical Correlating Committee will work with the Chair of the Technical Committee on Air-Conditioning and appoint a Task Group to review the proposals affecting correlation between Code-Making Panels 3, 16, and the Technical Committee on Air-Conditioning. In addition, the Technical Correlating Committee directs that this proposal be referred to the NFPA Committee on Air-Conditioning for comment."

NFPA 5000-2003 Building Construction and Safety Code, in Chapter 52, requires electrical systems and equipment to be designed and constructed in accordance with NFPA 70. Likewise, in Chapter 50, it requires air-conditioning and ventilating systems to be designed and constructed in accordance with NFPA 90A. NFPA 5000 has conflicting provisions for wiring in air handling spaces because of conflicts between NFPA 70 and NFPA 90A. Many of the proposals and comments from the Committee on Air-Conditioning to the National Electrical Code Committee are intended to eliminate these conflicts. These proposals and comments are part of the implementation of the Standards Council's recently issued Scope Coordination Policy for NFPA documents that has the "goal of having a coordinated set of documents for the built environment."

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-208 Log #298 NEC-P16 **Final Action: Reject**

(770.51, Table 770.50, 770.53, Table 770.53)

Submitter: Technical Committee on Air Conditioning

Comment on Proposal No: 16-42

Recommendation: Continue to accept this proposal in principle.

Substantiation: See the comment from the Technical Committee on Air Conditioning on proposal 16-37.

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-209 Log #309 NEC-P16 **Final Action: Reject**

(770.51, Table 770.50, 770.53, Table 770.53)

Submitter: Technical Committee on Air Conditioning

Comment on Proposal No: 16-33

Recommendation: Continue to accept this proposal in principle.

Substantiation: See the comment from the Technical Committee on Air Conditioning on proposal 16-37.

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-210 Log #334 NEC-P16 **Final Action: Reject**

(770.51, Table 770.50, 770.53, Table 770.53)

Submitter: Technical Committee on Air Conditioning

Comment on Proposal No: 16-39

Recommendation: Continue to accept this proposal in principle.

Substantiation: See the comment from the Technical Committee on Air Conditioning on proposal 16-37.

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-211 Log #340 NEC-P16 **Final Action: Reject**

(770.51, Table 770.50, 770.53, Table 770.53)

Submitter: Technical Committee on Air Conditioning

Comment on Proposal No: 16-43

Recommendation: Continue to accept this proposal in principle.

Substantiation: See the comment from the Technical Committee on Air Conditioning on proposal 16-37.

Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-212 Log #345 NEC-P16 **Final Action: Reject**
(770.51, Table 770.50, 770.53, Table 770.53)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-38
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from the Technical Committee on Air Conditioning on proposal 16-37.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-213 Log #351 NEC-P16 **Final Action: Reject**
(770.51, Table 770.50, 770.53, Table 770.53)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-45
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from the Technical Committee on Air Conditioning on proposal 16-37.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-214 Log #1800 NEC-P16 **Final Action: Reject**
(770.51, Table 770.50, 770.53, Table 770.53)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-35
Recommendation: The panel action on this proposal should be changed to Accept in Principle.

Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

Panel 16 accepted the listing of duct cable in Proposal 16-37, which the submitter requested in proposal 16-35.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved creating a higher level of hierarchy for air duct cable. The Task Group members who were at the teleconference call recommended accepting "air duct cable" as a level "up" in the hierarchy sections and charts for all articles covered by Panels 3 and 16. The members felt that duct cable, based on all information submitted in proposals dealing with "air duct cable," had a lower burn rate and less products of combustion than plenum cable. It was also determined that building materials used for the actual air ducting would have the same fire and burn characteristics as the duct cable.

It was also felt that where air duct cable was used in a fabricated duct, the inclusion of this duct cable, as a higher level, would provide direction for installing this type of cable. The two different levels, air duct cable and plenum cable, would permit the NFPA 90A Committee to accept two different test techniques, one test for air duct cable and one for plenum cable.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-215 Log #2518bb NEC-P16 **Final Action: Accept**
(770.51, Table 770.50, 770.53, Table 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 16-42
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-216 Log #2518ggg NEC-P16 **Final Action: Accept**
(770.51, Table 770.50, 770.53, Table 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 16-33
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-217 Log #2518hhh NEC-P16 **Final Action: Accept**
(770.51, Table 770.50, 770.53, Table 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 16-36
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-218 Log #2518jjj NEC-P16 **Final Action: Accept**
(770.51, Table 770.50, 770.53, Table 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 16-41
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-219 Log #2518kkk NEC-P16 **Final Action: Accept**
(770.51, Table 770.50, 770.53, Table 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 16-43
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-220 Log #2518lll NEC-P16 **Final Action: Accept**
(770.51, Table 770.50, 770.53, Table 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 16-45
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-221 Log #2698 NEC-P16 **Final Action: Reject**
(770.51, Table 770.50, 770.53 Table 770.53 and Figure 770.53)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 16-41
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from CFRA on proposal 16-37.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-222 Log #356 NEC-P16 **Final Action: Reject**
(770.51, Table 770.50, 770.53, Table 770.53, Figure 770.53)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-41
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from the Technical Committee on Air Conditioning on proposal 16-37.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-223 Log #2688 NEC-P16 **Final Action: Reject**
(770.51, Table 770.50, 770.53 Table 770.53, Figure 770.53)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 16-34
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from CFRA on Proposal 16-37.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-224 Log #1720 NEC-P16 **Final Action: Accept**
(770.51, Table 770.50, 770.63, and Table 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-33
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Jensen, Mr. Jones and Mr. Ohde. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-225 Log #1721 NEC-P16 **Final Action: Accept**
(770.51, Table 770.50, Figure 770.53, 770.53 and Table 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-34
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative Mr. Jensen, Mr. Jones and Mr. Ohde. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-226 Log #1496 NEC-P16 **Final Action: Accept in Principle**
(770.51 Exception No. 1)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals
Comment on Proposal No: 16-31
Recommendation: 770.50 Exception No. 1:
Exception No. 1: Unlisted outside plant optical fiber cables shall be permitted within buildings in spaces other than risers , ducts, plenums and other air-handling spaces (as described in Section 300.22) , ~~air ducts, ceiling cavity plenums, raised floor plenums, duct distribution plenums, apparatus casing plenums, and air-handling unit room plenums~~ where the length of unlisted optical fiber cable within the building, measured from its point of entrance, does not exceed 15 m (50 ft) and the unlisted outside plant optical fiber cable enters the building from the outside and is terminated in an enclosure.
Substantiation: The language in this exception should refer to the sections of the code as described in Article 300, since there is no need to introduce these new designations of subdivisions of plenum spaces. The creation of these new subdivisions should not be accepted. The terminology in NEC 2002 is correct and needs no change.
See also the substantiation for my comments on proposal 16-59.
Panel Meeting Action: Accept in Principle
Panel Statement: See panel action and panel statement on Comment 16-76, which is editorially similar and accomplishes the submitter's purpose.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 14 Negative: 1
Explanation of Negative:
OHDE: See my Explanation of Negative vote on Comment 16-109.

16-227 Log #1499 NEC-P16 **Final Action: Accept in Principle**
(770.51 Exception No. 1)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals
Comment on Proposal No: 16-26
Recommendation: 770.50 Exception No. 1:
Exception No. 1: Unlisted outside plant optical fiber cables shall be permitted within buildings in spaces other than risers, ducts, plenums and other air-handling spaces (as described in Section 300.22), ~~air ducts, ceiling cavity plenums, raised floor plenums, duct distribution plenums, apparatus casing plenums, and air-handling unit room plenums~~ where the length of unlisted optical fiber cable within the building, measured from its point of entrance, does not exceed 15 m (50 ft) and the unlisted outside plant optical fiber cable enters the building from the outside and is terminated in an enclosure.
Substantiation: The language in this exception should refer to the sections of the code as described in Article 300, since there is no need to introduce these new designations of subdivisions of plenum spaces. The creation of these new subdivisions should not be accepted. The terminology in NEC 2002 is correct and needs no change.
See also the substantiation for my comments on proposal 16-59.
Panel Meeting Action: Accept in Principle
Panel Statement: See panel action and panel statement on Comment 16-76, which is editorially similar and accomplishes the submitter's purpose.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 14 Negative: 1
Explanation of Negative:
OHDE: See my Explanation of Negative vote on Comment 16-109.

16-228 Log #1488 NEC-P16 **Final Action: Accept**
(770.51(A))

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals
Comment on Proposal No: 16-46
Recommendation: Continue rejecting this proposal.
Substantiation: • This comment recommends rejection of a subdivision of "other spaces used for environmental air" and continued rejection of granting priority to NFPA 90A on choices of wiring methods.
• The input from CMP 3 and from the NEC Technical Coordinating Committee makes it clear that the terminology used in 300.22 has served the NEC well and needs no change. It has also become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods.
• It has already been shown in detail by the fire hazard and fire risk analysis presented together with my original proposals (see for example the section on pages 2080-2091 of the NEC-ROP of the substantiation for my proposal 3-130) that there is no need to change the requirements, or limit the application, for wiring methods in plenums, because the fire safety record is excellent.
• I understand that this comment represents a change in some of the concepts the submitter believed when the proposal was submitted, but "even old dogs can learn".
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-229 Log #491 NEC-P16 **Final Action: Reject**
(770.51(A), 800-51(A), 820-51(A) & 830-5(A)(2))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Allen C. Weidman, The Society of the Plastics Industry, Inc.
Comment on Proposal No: 16-46
Recommendation: Continue to Accept this proposal.
Substantiation: Continued acceptance of this proposal will promote the harmonization of the NFPA Family of Codes and Standards by using the terms "ceiling cavity plenum" and "raised floor plenum" instead of "other space used for environmental air", a term which is unique to the NEC and is vague and undefined.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 1 Abstain: 1
Explanation of Negative:

DORNA: The panel action on this comment failed to address the fire safety issue of the placing of unlimited quantities of cables in air ducts. Articles 770, 800, 820 and 830 permit the installation of unlimited quantities of plenum cables in "ducts, plenums, and other spaces used for environmental air". The lack of panel action continues to leave a conflict in NFPA 5000 because NFPA 5000 refers to both the NEC and NFPA 90A. The only places NFPA 90A permits unlimited quantities of cables are ceiling cavity plenums and raised floor plenums, while the NEC permits unlimited quantities of plenum cables in "ducts, …".

Comment 16-232 deals with proposal 16-46. Proposal 16-46, which was accepted by the panel in the ROP, would have replaced "ducts, plenums, and other spaces used for environmental air" with "ceiling cavity plenums and raised floor plenums". The panel should have taken action on comment 16-232 similar to the action it took on comment 16-79, where the panel used the term "other spaces used for environmental air" in place of "ceiling cavity plenums and raised floor plenums." Had it taken that action, plenum cables would have been restricted to "other spaces used for environmental air" and the conflict between the NEC and NFPA 90A and the conflict within NFPA 5000 would have been essentially removed because the term "other spaces used for environmental air" is roughly equivalent to "ceiling cavity plenums" plus "raised floor plenums".

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

KAHN: See my Explanation of Abstention on Comment 16-34.

16-230 Log #1316 NEC-P16 **Final Action: Accept**
(770.51(A), 800-51(A), 820-51(A) and 830-5(A)(2))

Submitter: Wayne G. Carson, Carson Assoc. Inc.
Comment on Proposal No: 16-46
Recommendation: Reject proposal.
Substantiation: This proposal introduces new terms "ceiling cavity plenums" and "raised floor plenums" which are not defined in the code and are not needed. This issue is adequately addressed in 300.22. There is no technical justification provided for why this change is necessary.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-231 Log #33 NEC-P16 **Final Action: Reject**
(770.51(A), 800.51(A,) 820.51(A), 830.5(A)(2))

Submitter: Stanley Kaufman, CableSafe, Inc.
Comment on Proposal No: 16-46
Recommendation: Continue to accept this proposal in principle.
Substantiation: Continued acceptance of Proposal 16-46 will remove a conflict between NFPA 70 and NFPA 90A. NFPA 90A does not permit Type OFNP, OFCP, CMP and CATVP cables in air ducts or in plenums, other than ceiling cavity plenums and raised floor plenums. Furthermore, correlation between NFPA 70 and NFPA 90A is improved by using common terminology, namely ceiling cavity plenum and raised floor plenum instead of "other space used for environmental air", which is vague and undefined.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 1 Abstain: 1
Explanation of Negative:

DORNA: See my Explanation of Negative for Comment 16-229 (Log #491).**Comment on Affirmative:**

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

KAHN: See my Explanation of Abstention on Comment 16-34.

16-232 Log #249 NEC-P16 **Final Action: Reject**
(770.51(A), 800.51(A), 820.51(A), 830.5(A)(2))

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-46
Recommendation: Continue to accept this proposal.

Substantiation: Continued acceptance of Proposal 16-46 will remove a conflict between NFPA 70 and NFPA 90A. NFPA 90A does not permit Type OFNP, OFCP, CMP and CATVP cables in air ducts or in plenums, other than ceiling cavity plenums and raised floor plenums. Furthermore, correlation between NFPA 70 and NFPA 90A is improved by using common terminology, namely ceiling cavity plenum and raised floor plenum instead of "other space used for environmental air", which is vague and undefined.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 1 Abstain: 1
Explanation of Negative:

DORNA: See my Explanation of Negative for Comment 16-229 (Log #491).**Comment on Affirmative:**

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

KAHN: See my Explanation of Abstention on Comment 16-34.

16-233 Log #2708 NEC-P16 **Final Action: Reject**
(770.51(A), 800.51(A), 820.51(A), 830.5(A)(2))

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 16-46
Recommendation: Continue to accept this proposal.
Substantiation: The NFPA 70 and NFPA 90A need to be harmonized and use the same terminology in order to have a consistent set of NFPA codes and standards.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 1 Abstain: 1
Explanation of Negative:
DORNA: See my Explanation of Negative for Comment 16-229 (Log #491).**Comment on Affirmative:**
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
KAHN: See my Explanation of Abstention on Comment 16-34.

16-234 Log #1783 NEC-P16 **Final Action: Reject**
(770.51(A), 800.51(A), 820.51(A), 830.51(A)(2))

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-46
Recommendation: Continue to accept.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 16's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved terms that would be used in Section 300.22 dealing with ducts, plenums, and other spaces used for environmental air.

The phrase "Other Space for Environmental Air" is used in Section 300.22 and various locations within the Articles covered by CMP-3 and 16. Proposals were submitted to both CMP-3 and CMP-16 to provide a subdivision of the "other space for environmental air" to include "raised floor plenums" and "ceiling cavity plenums."

In the Proposal stage, Panel 3 did not accept proposals for the subdivision of the phrase "Other Space for Environmental" with the "raised floor plenums" and "ceiling cavity plenum." Panel 16 did accept the subdivisions of this phrase throughout their articles.

By accepting the majority of the suggested changes in Proposal 3-94, "Other Spaces for Environmental Air" has been further subdivided into two separate spaces, ceiling cavity and raised floor plenums but the Panel still has maintained the electrical industry terminology associated with these spaces. Providing this further subdivision will enhance the usability of the NEC by making it easier to determine what other spaces are being referenced in this section. It will also improve correlation between the NEC and NFPA 90A.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 1 Abstain: 1
Explanation of Negative:
DORNA: See my Explanation of Negative for Comment 16-229 (Log #491).
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
KAHN: See my Explanation of Abstention on Comment 16-34.

16-235 Log #1797 NEC-P16 **Final Action: Reject**
(770.51(A), 800.51(A), 820.51(A), 830.51(A)(2))

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-46
Recommendation: Continue to accept.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 16's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved terms that would be used in Section 300.22 dealing with ducts, plenums, and other spaces used for environmental air.

The phrase "Other Space for Environmental Air" is used in Section 300.22 and various locations within the Articles covered by CMP-3 and 16. Proposals were submitted to both CMP-3 and CMP-16 to provide a subdivision of the "other space for environmental air" to include "raised floor plenums" and "ceiling cavity plenums."

In the Proposal stage, Panel 3 did not accept proposals for the subdivision of the phrase "Other Space for Environmental" with the "raised floor plenums" and "ceiling cavity plenum." Panel 16 did accept the subdivisions of this phrase throughout their articles.

By accepting the majority of the suggested changes in Proposal 3-94, "Other Spaces for Environmental Air" has been further subdivided into two separate spaces, ceiling cavity and raised floor plenums but the Panel still has maintained the electrical industry terminology associated with these spaces. Providing this further subdivision will enhance the usability of the NEC by making it easier to determine what other spaces are being referenced in this section. It will also improve correlation between the NEC and NFPA 90A.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 1 Abstain: 1
Explanation of Negative:
DORNA: See my Explanation of Negative for Comment 16-229 (Log #491).**Comment on Affirmative:**
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
KAHN: See my Explanation of Abstention on Comment 16-34.

16-236 Log #1732 NEC-P16 **Final Action: Accept**
(770.51(A), 800.51(A), 820.51(A) and 830.5(A)(2))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-46
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Jensen, Mr. Jones, and Mr. Ohde. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-237 Log #1451 NEC-P16 **Final Action: Reject**
(770.51(A), 800.51(A), 820.51(A) and 830.51(A)(2))

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 16-46
Recommendation: Continue to accept this proposal.
Substantiation: Proposal 16-64 addresses applications of plenum cables. This proposal addresses listing requirements. See our comment on proposal 16-64. Cables that intended for use in ceiling cavity plenums and raised floor plenums should also be listed for use in these plenums.
This comment is one in a series of comments including: 3-174, 3-213, 16-46 and 16-64.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 1 Abstain: 1
Explanation of Negative:
DORNA: See my Explanation of Negative for Comment 16-229 (Log #491).**Comment on Affirmative:**
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
KAHN: See my Explanation of Abstention on Comment 16-34.

16-238 Log #1828 NEC-P16 **Final Action: Reject**
(770.51(A), 800.51(A), 820.51(A) and 830.51(A)(2))

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 16-46
Recommendation: Continue to accept this proposal.
Substantiation: Proposal 16-64 addresses applications of plenum cables. This proposal addresses listing requirements. See our comment on Proposal 16-64. Cables that are intended for use in ceiling cavity plenums and raised floor plenums should also be listed for use in these plenums.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 1 Abstain: 1
Explanation of Negative:
DORNA: See my Explanation of Negative for Comment 16-229 (Log #491).**Comment on Affirmative:**
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
KAHN: See my Explanation of Abstention on Comment 16-34.

16-239 Log #224 NEC-P16 **Final Action: Reject**
(770.51(A), 800.51(A), 820.51(A) and FPN No. 2 in 830.5(A)(2))

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-128
Recommendation: Accept this proposal in principle by revising the text as shown below. Additionally, take the same action on the FPN for 770.51(A), which was included in the original proposal.
FPN: See section 4.3.10 of NFPA 90A-2002, Standard for the Installation of Air-Conditioning and Ventilating Systems for listing requirements for plenum cable.
Substantiation: The text was revised editorially in order to simplify it.
Our original proposal addressed the fine print notes for plenum cables in sections 725.71(A), 760.31(C), 760.71(D), 770.51(A), 800.51(A), 820.51(A) and FPN No. 2 in 830.5(A)(2). It became proposals 3-214 and 16-128. The part of the original proposal dealing with Article 770 was omitted from proposal 16-128.
See our comments on proposals 16-47, 16-129 and 16-185 that offer alternate text. We continue to support this proposal.
Note that 770.51(A) has been changed to 770.82(B).
Panel Meeting Action: Reject
Panel Statement: The Code will be easier to use if the listing requirements are included in the NEC, rather than in another document.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.

16-240 Log #226 NEC-P16 **Final Action: Accept in Principle**
(770.51(A), FPN)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-47
Recommendation: Continue to accept this proposal in principle.
Substantiation: The Technical Committee on Air Conditioning does not support the alternate text in this proposal.
The Technical Committee on Air Conditioning recommends acceptance of its comment on proposal 16-128 that offers alternate text.
Panel Meeting Action: Accept in Principle
Panel Statement: The FPN accepted in the panel action on Comment 16-242 is an editorial improvement over the existing fine print notes.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 14 Negative: 1
Explanation of Negative:
JONES: The substantiation provided in the associated Proposal 16-47 used NFPA 90A as part of the reason for the suggested change. The Standards Council made a decision that is identified as Number 03-10-25 plus subsequent letter by the Standards Council Chairman, Phillip DiNenno to Mr. Loren Caudill, dated December 3, 2003, which stated, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

16-241 Log #2814 NEC-P16 **Final Action: Accept in Principle**
(770.51(A), FPN)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-47
Recommendation: Continue to accept in principle.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 16's action and statement.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Accept in Principle
Panel Statement: The fine print note accepted in the panel action on Comment 16-242 is an editorial improvement over the existing fine print notes.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 14 Negative: 1
Explanation of Negative:

JONES: The substantiation provided in the associated Proposal 16-48 used NFPA 90A as part of the reason for the suggested change. The Standards Council made a decision that is identified as Number 03-10-25 plus subsequent letter by the Standards Council Chairman, Phillip DiNenno to Mr. Loren Caudill, dated December 3, 2003, which stated, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

16-242 Log #3726 NEC-P16 **Final Action: Accept**
(770.51(A), FPN)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 16-47
Recommendation: 770.51 Listing Requirements for Optical Fiber Cables and Raceways.
Optical fiber cables shall be listed in accordance with 770.51(A) through (D), and optical fiber raceways shall be listed in accordance with 770.51(E) through (G).
(A) Types OFNP and OFCP. Types OFNP and OFCP nonconductive and conductive optical fiber plenum cables shall be listed as being suitable for use in ducts, plenums, and other space used for environmental air and shall also be listed as having adequate fire resistant and low smoke producing characteristics.

FPN: One method of defining a cable that is low smoke producing cable and fire-resistant cable is that the cable exhibits a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.52 m (5 ft) or less when tested in accordance with NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air Handling Spaces. ~~by establishing an acceptable value of the smoke produced when tested in accordance with NFPA 262-1999, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air Handling Spaces, to a maximum peak optical density of 0.5 and a maximum average optical density of 0.15. Similarly, one method of defining fire resistant cables is by establishing a maximum allowable flame travel distance of 1.52 m (5 ft) when tested in accordance with the same test.~~

No change for 770.51 (B) through 770.51 (G)
Substantiation: This comment recommends a slight change in wording for the existing Fine Print Note, by recognizing that listing of plenum cable by NFPA 262 represents listing to both low smoke and low flame spread, and that cables cannot be listed separately to either property. This is basically an editorial change, as a clarification, to the existing Fine Print Note.

This comment also recommends a rejection of the initial concept in the proposal to reference NFPA 90A, which would mean that requirements for these cables could change without the knowledge and assent of NEC CMP members.

It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3. As stated by Mr. Harold Ohde in his negative on CMP 16 action on proposal 16-9: "Other codes should not be deciding on the typed of wiring methods to be used in these spaces. The electrical experts are capable of doing this and it is covered quite well in 300.22. The more we let those outside of the NEC make these decisions the more we weaken adoption of the NEC. In addition, we could make the change and there is nothing that requires a jurisdiction to even adopt 90A."

This comment is one of a series of comments on Articles 300, 725, 760, 770, 800, 820 and 830, regarding "plenum cables". The philosophy behind all the comments is that the NEC is OK as published in 2002, but that 2 minor changes might represent improvements: (i) the clarification of the 6 inch extension of a wiring method into a more restricted environment and (ii) the clarification in the Fine Print Notes that a cable listed to NFPA 262 is listed both based on its "low-smoke" characteristics and its "low-flame-spread" characteristics, and that the two are not listed separately.

I understand that this comment represents a change in some of the concepts the submitter believed when the proposal was submitted, but "even old dogs can learn".

See attached comments from the chairman of the Technical Correlating Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 15
Ballot Results: Affirmative: 14 Negative: 1
Explanation of Negative:

JONES: The substantiation provided in the associated Proposal 16-47 used NFPA 90A as part of the reason for the suggested change. The Standards Council made a decision that is identified as Number 03-10-25 plus subsequent letter by the Standards Council Chairman, Phillip DiNenno to Mr. Loren Caudill, dated December 3, 2003, which stated, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

16-243 Log #1733 NEC-P16 **Final Action: Accept**
(770.51(E), and 800.51(J))

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-49
Recommendation: This proposal should be rejected and the proposed 2005 text should be deleted.
Substantiation: An effort to better correlate the requirements in the NFPA 70 Standard with the NFPA 90A will require teamwork and representation from both committees. There is no such definition - adequate fire resistant and low smoke producing characteristics located in the 2002 NFPA 90A - Standard for Installation of Air-Conditioning and Ventilating Systems. It is a requirement not a definition. The new proposed FPN language - For a definition of adequate fire-resistant and low smoke producing characteristics is not in the form of a true FPN which is used as a suggestion but its language spells more of a requirement. This FPN is in a violation of the nature of a FPN and also the NEC Style Manual 3.1.3 which states FPNs contain explanatory information. They shall not contain requirements and shall not be written in mandatory language. This proposal does not add to the clarity and consistency of the National Electric Code. If a change to the National Electrical Code is needed in the way electrical installations are installed and completed, the technical nuts and bolts issues will have to be worked out and a plan has to be developed that will take into account what effect the change or changes will have on both the NFPA 90A Standard as well as the NFPA 70 - National Electrical Code. This will allow both standards to become stronger, more stronger and more effective to everyone involved. This will also eliminate conflicting standards between the two and harmonize all that are involved.

This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-244 Log #3711 NEC-P16 **Final Action: Accept**
(770.51(E), FPN (New))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 16-48
Recommendation: Continue accepting this proposal in principle but use the following language for the new FPN. For consistency also add fine print notes for 770.51 (F) and 770.51 (G) (see also CMP 16 action on 16-175.

770.51 Listing Requirements for Optical Fiber Cables and Raceways. Optical fiber cables shall be listed in accordance with 770.51(A) through (D), and optical fiber raceways shall be listed in accordance with 770.51(E) through (G).

(E) Plenum Optical Fiber Raceway. Plenum optical fiber raceways shall be listed as having adequate fire resistant and low smoke producing characteristics.

FPN: One method of defining that an optical fiber raceway is a low smoke producing raceway and a fire-resistant raceway is that the raceway exhibits a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.52 m (5 ft) or less when tested in accordance with the plenum test in UL 2024, Standard for Optical Fiber Cable Raceway.

(F) Riser Optical Fiber Raceway. Riser optical fiber raceways shall be listed as having fire resistant characteristics capable of preventing the carrying of fire from floor to floor.

FPN: One method of defining fire-resistant characteristics capable of preventing the carrying of fire from floor to floor is that the raceways pass the requirements of the test for Flame Propagation (riser) in UL 2024, Standard for Optical Fiber Cable Raceway.

(G) General Purpose Optical Fiber Cable Raceway. General purpose optical fiber cable raceway shall be listed as being resistant to the spread of fire.

FPN: One method of defining resistance to the spread of fire is that the raceways pass the requirements of the Vertical-Tray Flame test (General use) in UL 2024, Standard for Optical Fiber Cable raceway.

No change for 770.51 (A) through 770.51 (D)

Substantiation: Note: State the problem that will be resolved by your recommendation. Give the specific reason for your comment including copies of tests, research papers, fire experience, etc. If more than 200 words, it may be abstracted for publication.

This comment recommends a slight change in wording from the proposed Fine Print Note, by recognizing that listing of plenum optical fiber raceways by UL 2024 represents listing to both low smoke and low flame spread, and that raceways cannot be listed separately to either property. This is basically an editorial change, as a clarification, to the new Fine Print Note.

The new added Fine Print Notes for riser and cable tray raceways are for consistency. The proposed wording also has consistency between the FPN for plenum, riser and cable tray raceways. The added Fine Print Notes for riser and cable tray raceways use the language of CMP 16 in Proposal 16-175.

This comment also recommends a rejection of the concept in proposal 16-49 to reference NFPA 90A, which would mean that requirements for these raceways could change without the knowledge and assent of NEC CMP members.

It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3. As stated by Mr. Harold Ohde in his negative on CMP 16 action on proposal 16-9: "Other codes should not be deciding on the typed of wiring methods to be used in these spaces. The electrical experts are capable of doing this and it is covered quite well in 300.22. The more we let those outside of the NEC make these decisions the more we weaken adoption of the NEC. In addition, we could make the change and there is nothing that requires a jurisdiction to even adopt 90A."

See attached comments from the chairman of the Technical Correlating Committee.

Panel Meeting Action: Accept
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.

16-245 Log #3716 NEC-P16 **Final Action: Accept in Principle**
(770.51(E), FPN (New))

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 16-49
Recommendation: Accept this proposal in principle in part but use the following language for the new FPN.

770.51 Listing Requirements for Optical Fiber Cables and Raceways. Optical fiber cables shall be listed in accordance with 770.51(A) through (D), and optical fiber raceways shall be listed in accordance with 770.51(E) through (G).

(E) Plenum Optical Fiber Raceway. Plenum optical fiber raceways shall be listed as having adequate fire resistant and low smoke producing characteristics.

FPN: One method of defining that an optical fiber raceway is a low smoke producing raceway and a fire-resistant raceway is that the raceway exhibits a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.52 m (5 ft) or less when tested in accordance with the plenum test in UL 2024, Standard for Optical Fiber Cable Raceway.

(F) Riser Optical Fiber Raceway. Riser optical fiber raceways shall be listed as having fire resistant characteristics capable of preventing the carrying of fire from floor to floor.

FPN: One method of defining fire-resistant characteristics capable of preventing the carrying of fire from floor to floor is that the raceways pass the requirements of the test for Flame Propagation (riser) in UL 2024, Standard for Optical Fiber Cable Raceway.

(G) General Purpose Optical Fiber Cable Raceway. General purpose optical fiber cable raceway shall be listed as being resistant to the spread of fire.

FPN: One method of defining resistance to the spread of fire is that the raceways pass the requirements of the Vertical-Tray Flame test (General use) in UL 2024, Standard for Optical Fiber Cable raceway.

No change for 770.51 (A) through 770.51 (D)

Substantiation: Note: State the problem that will be resolved by your recommendation. Give the specific reason for your comment including copies of tests, research papers, fire experience, etc. If more than 200 words, it may be abstracted for publication.

This comment recommends a significant change in wording from the proposed Fine Print Note, by recognizing that listing of plenum optical fiber raceways by UL 2024 represents listing to both low smoke and low flame spread, and that raceways cannot be listed separately to either property. This is basically an editorial change, as a clarification, to the new Fine Print Note.

The new added Fine Print Notes for riser and cable tray raceways are for consistency. The proposed wording also has consistency between the FPN for plenum, riser and cable tray raceways. The added Fine Print Notes for riser and cable tray raceways use the language of CMP 16 in Proposal 16-175.

This comment also recommends a rejection of the concept in the proposal to reference NFPA 90A, which would mean that requirements for these raceways could change without the knowledge and assent of NEC CMP members.

It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should continue to be rejected by CMP 3. As stated by Mr. Harold Ohde in his negative on CMP 16 action on proposal 16-9: "Other codes should not be deciding on the typed of wiring methods to be used in these spaces. The electrical experts are capable of doing this and it is covered quite well in 300.22. The more we let those outside of the NEC make these decisions the more we weaken adoption of the NEC. In addition, we could make the change and there is nothing that requires a jurisdiction to even adopt 90A."

See attached comments from the chairman of the Technical Correlating Committee.

Panel Meeting Action: Accept in Principle
Panel Statement: See panel action on Comment 16-244.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-246 Log #221 NEC-P16 **Final Action: Reject**
(770.51(E) and 800.51 (J), FPN)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-49
Recommendation: Accept this proposal in principle by revising the text as shown below.

FPN: See section 4.3.10 of NFPA 90A-2002, Standard for the Installation of Air-Conditioning and Ventilating Systems for listing requirements for plenum raceway.

Substantiation: The text was revised editorially in order to simplify it.

Continued acceptance of this proposal in principle will improve the correlation between NFPA 90A and NFPA 70.

Panel Meeting Action: Reject
Panel Statement: The Code will be easier to use if the listing requirements are included in the NEC, rather than in another document.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-247 Log #222 NEC-P16 **Final Action: Accept in Principle**
(770.51(E) and 800.51 (J), FPN)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-48
Recommendation: Continue to accept this proposal in principle.
Substantiation: The Technical Committee on Air Conditioning does not support the alternate text in this proposal.

The Technical Committee on Air-Conditioning recommends acceptance of its comment on proposal 16-49 that offers alternate text.

The text in proposal 16-49 and the text in our comment on proposal 16-49 unequivocally lead the reader to the requirements of NFPA 90A, while the text in this proposal, by stating that, "One method of defining low smoke-producing cables...", implies that there are alternate methods of listing plenum raceway. There are no alternate levels; NFPA 90A has only one.

Why is the Technical Committee on Air Conditioning submitting comments?

In action 80-60, the Standards Council assigned primary jurisdiction for combustibles in plenums to the Technical Committee on Air Conditioning and directed it to seek the cooperation of the committees on Fire Tests, National Electrical Code and Safety to Life. The Technical Committee on Air Conditioning has been cooperating with the National Electrical Code Committee by submitting a series of proposals for the 2005 NEC. It now continues that cooperation by commenting on all proposals dealing with combustibles in plenums. The purpose of the proposals and comments is to bring about correlation between NFPA 70, National Electrical Code and NFPA 90A, Standard for the Installation of Air-Conditioning and Ventilating Systems. The Technical Committee on Air Conditioning established consensus on these comments through a letter ballot.

The NEC Technical Correlating Committee has acknowledged the responsibility of the Technical Committee on Air Conditioning. The TCC Action on this proposal states:

"The Technical Correlating Committee understands that the Standards Council has given primary responsibility to the Technical Committee on Air-Conditioning for combustible materials in plenums in cooperation with other committees including the National Electrical Code Committee. The Chair of the Technical Correlating Committee will work with the Chair of the Technical Committee on Air-Conditioning and appoint a Task Group to review the proposals affecting correlation between Code-Making Panels 3, 16, and the Technical Committee on Air-Conditioning. In addition, the Technical Correlating Committee directs that this proposal be referred to the NFPA Committee on Air-Conditioning for comment."

NFPA 5000-2003 Building Construction and Safety Code, in Chapter 52, requires electrical systems and equipment to be designed and constructed in accordance with NFPA 70. Likewise, in Chapter 50, it requires air-conditioning and ventilating systems to be designed and constructed in accordance with NFPA 90A. NFPA 5000 has conflicting provisions for wiring in air handling spaces because of conflicts between NFPA 70 and NFPA 90A. Many of the proposals and comments from the Committee on Air-Conditioning to the National Electrical Code Committee are intended to eliminate these conflicts. These proposals and comments are part of the implementation of the Standards Council's recently issued Scope Coordination Policy for NFPA Documents that has the "goal of having a coordinated set of documents for the built environment".

The NEC TCC referred proposals 16-48 and 16-49, which deal with combustibles in plenums, to the Technical Committee on Air Conditioning for comment. The Technical Committee on Air Conditioning has responded by submitted comments on these proposals.

The NEC TCC also referred proposals 16-50 and 16-51, dealing with riser raceway, as well as 16-53, 16-54, and 16-55, dealing with general-purpose raceway, to the Technical Committee on Air Conditioning for comment. The Technical Committee on Air Conditioning has not commented on these proposals because they are outside the scope of the committee.

Panel Meeting Action: Accept in Principle
Panel Statement: See panel action on Comment 16-244.

The FPN guides the user to UL 2024.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 14 Negative: 1
Explanation of Negative:

JONES: The substantiation provided in the associated Proposal 16-48 used NFPA 90A as part of the reason for the suggested change. The Standards Council made a decision that is identified as Number 03-10-25 plus subsequent letter by the Standards Council Chairman, Phillip DiNenno to Mr. Loren Caudill, dated December 3, 2003, which stated, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

16-248 Log #254 NEC-P16 **Final Action: Accept**
(770.53)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-60
Recommendation: Continue to reject this proposal.

Substantiation: The Technical Committee on Air Conditioning agrees with the panel reject statement.

This comment is one in a series of comments including 16-12, 16-40, 16-60, 16-83, 16-115, 16-132, 16-138, 16-156, 16-180, 16-188, 16-195, 16-207, 16-209, 16-211, 16-228, 16-229 and 16-234.

Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-249 Log #1470 NEC-P16 **Final Action: Accept**
(770.53)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals
Comment on Proposal No: 16-59
Recommendation: Continue rejecting this proposal.
Substantiation: • This comment recommends continued rejection of a subdivision of "plenums" or "other spaces used for environmental air" and continued rejection of granting priority to NFPA 90A on choices of wiring methods.

• The input from CMP 3 and from the NEC Technical Coordinating Committee makes it clear that the terminology used in 300.22 has served the NEC well and needs no change. It has also become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods.

• It has already been shown in detail by the fire hazard and fire risk analysis presented together with my original proposals (see for example the section on pages 2080-2091 of the NECROP of the substantiation for my proposal 3-130) that there is no need to change the requirements, or limit the application, for wiring methods in plenums, because the fire safety record is excellent.

• I understand that this comment represents a change in some of the concepts the submitter believed when the proposal was submitted, but "even old dogs can learn".

Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-250 Log #1736 NEC-P16 **Final Action: Accept**
(770.53)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-60
Recommendation: Continue to reject.
Substantiation: I agree with the panel action to reject proposal 16-60. No technical substantiation has been provided that a change to the 2002 NEC language is needed or required. This comment represents the official position of the International Brotherhood of Electrical Workers Code and Standards Committee.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-251 Log #1786 NEC-P16 **Final Action: Accept**
(770.53)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-60
Recommendation: Continue to reject.
Substantiation: The Panel 3/Panel 16 Correlation Task Group, appointed by the NEC TCC, developed this comment.
The task group agrees with Panel 16's action and substantiation.
The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-252 Log #2321 NEC-P16 **Final Action: Accept**
(770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 16-65
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.
The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).
In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.
By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-253 Log #2322 NEC-P16 **Final Action: Accept**
(770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Frank Bisbee, Communication Planning Corporation
Comment on Proposal No: 16-61
Recommendation: Reject this proposal.
Substantiation: In recognizing the use of "duct cable" or "limited combustible cable," the proposal fails to consider toxicity of the newly specified product and the relative incapacitation factor presented by the chemical constituents of the polymer in new cable design. A recent study by the NFPA Fire Protection Research Foundation has advanced an international effort to make certain that people can escape a burning building before being incapacitated (overcome by smoke or gases generated by thermal decomposition). The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke, or gases generated by thermal decomposition, will incapacitate people, rather than how much will kill them.

The jacketing and insulating materials used in duct cable and limited combustible cable are subject to heat decomposition and the emission of sub-lethal toxic fumes. Some of these fumes can incapacitate (blinding and choking) the building occupants. The requirements for using "duct cable" have failed to recognize toxicity or emissions that are essentially colorless (i.e. hydrogen fluoride, which converts to hydrofluoric acid upon contact with any moisture, and other toxic gases may be generated).

In 2002, the ISO (International Organization for Standardization), a network of the industrial-standards institutes of 147 countries, put forth a new standard calling for attention to the "sub-lethal" effects of smoke - when the heat, the thickness of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings. But to meet the standard, one needs to know more about the smoke produced by burning various materials. Working with the National Institute of Standards and Technology, the FPRF is laying the scientific groundwork needed to put the new standard into practice. The foundation recently completed the project's second phase of its International study of the Sub-lethal Effects of Fire Smoke on Survivability and Health. In the most recent phase of the study, the foundation's researchers performed three tests: They burned a sofa made of upholstered cushions on a steel frame, some particle board bookcases, and some household cable. In each case, the materials were burned in a room with a long adjacent corridor. The researchers measured the toxic gases emitted by each item, and how quickly the gases filled the room and moved down the corridor. They determined when and where in the room and in the hallway people would have to stop because of the smoke or the heat. Fire-test laboratories and manufacturers are expected to use this data to develop smaller-scale tests that can be done in a laboratory, so they won't need to set a room on fire every time they test a product. FPRF is uniquely equipped to conduct such studies, and NFPA officials expect more lives to be saved because of the new fire-safety standards that will emerge from this work.

By allowing and specifying the use of "duct cable," this proposal supports the use of materials counter to the findings already available in the public domain regarding sub-lethal toxicity of hydrogen fluoride and through the NFPA Fire Protection Research Foundation regarding incapacitation factors. Polymers used in duct cable and other limited combustible cable materials far exceed the incapacitation factor of other materials used in various cable construction both in generation of sub-lethal constituents and in hypertoxicity.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-254 Log #2710 NEC-P16 **Final Action: Accept**
(770.53)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 16-60
Recommendation: Continue to reject this proposal.
Substantiation: CFRA agrees with the panel action.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-255 Log #3571 NEC-P16 **Final Action: Accept in Principle**
(770.53)

Submitter: James R. Hoover, DuPont, Electronic & Communication Technologies
Comment on Proposal No: 16-37
Recommendation: Continue to accept this proposal in principle. Add a Fine Print Note to 770.53(A) as follows:

FPN: See 8.14.1.5 of NFPA 13 (2002), Installation of Sprinkler Systems, for requirements for sprinklers in concealed spaces containing exposed combustibles.
Substantiation: Section 8.14.1.5 of NFPA 13 (2002), Installation of Sprinkler Systems states:

8.14.1.5 Localized Protection of Exposed Combustible Construction or Exposed Combustibles. In concealed spaces having exposed combustible construction, or containing exposed combustibles, in localized areas, the combustibles shall be protected as follows:

(1) If the exposed combustibles are in the vertical partitions or walls around all or a portion of the enclosure, a single row of sprinklers spaced not over 12 ft (3.7 m) apart nor more than 6 ft (1.8 m) from the inside of the partition shall be permitted to protect the surface. The first and last sprinklers in such a row shall not be over 5 ft (1.5 m) from the ends of the partitions.

(2) If the exposed combustibles are in the horizontal plane, the area of the combustibles shall be permitted to be protected with sprinklers on a light hazard spacing. Additional sprinklers shall be installed no more than 6 ft (1.8 m) outside the outline of the area and not more than 12 ft (1.8 m) on center along the outline. When the outline returns to a wall or other obstruction, the last sprinkler shall not be more than 6 ft (1.8 m) from the wall or obstruction.

The definition of combustible, from NFPA 5000 is:

3.3.340.2 Combustible (Material). A material that, in the form in which it is used and under the conditions anticipated, will ignite and burn; a material that does not meet the definition of noncombustible or limited-combustible.

3.3.340.10* Limited-Combustible (Material). Refers to a building construction material not complying with the definition of noncombustible material (see 3.3.340.11) that, in the form in which it is used, has a potential heat value not exceeding 3500 Btu/lb (8141 kJ/kg), where tested in accordance with NFPA 259 and includes (1) materials having a structural base of noncombustible material, with a surfacing not exceeding a thickness of 1.8 in. (3.2 mm) that

has a flame spread index not greater than 50; and (2) materials, in the form and thickness used, other than as described in (1), having neither a flame spread index greater than 25 nor evidence of continued progressive combustion, and of such composition that surfaces that would be exposed by cutting through material on any plane would have neither a flame spread index greater than 25 nor evidence of continued progressive combustion. [**220:**2.1]

3.3.340.11 Noncombustible Material. A material that, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors, when subjected to fire or heat. Materials that are reported as passing ASTM E 136 are considered noncombustible materials.

Since conventional plenum cables are combustible materials, sprinklers may be required when these cables are installed in concealed spaces in a building with a sprinkler system designed to meet NFPA 13. This Fine Print Note will alert building owners to refer to NFPA 13.

Per the NFPA/NFPRF Technical Report entitled "International Limited Combustible Plenum Cable Fire Test Project", March 2001, there is a very large difference in fire safety performance between plenum cables just meeting the Combustible-Exception requirements and those meeting the much safer Limited Combustible plenum cable requirements per NFPA 90A 2002:

1) Duct cables = Limited Combustibles cables = FHC 25/50/8 (Fire Spread Index / Smoke Developed Index / Potential Heat)

2) Combustible - Exception cables = FHC 25/850 (Fire Spread Index / Smoke Developed Index / "No" Potential Heat requirement)

The NFPA 13 requirements for plenum-sprinklers in sprinklered buildings with Combustible-Exception plenum cables presents recognize the additions fire safety hazards that these combustible plenum cables represent.

Panel Meeting Action: Accept in Principle

Panel Statement: See panel action and statement on Comment 16-129.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 12 Negative: 3

Explanation of Negative:

JENSEN: I agree with rejecting proposals 16-37, 16-112 and 16-177 in accordance with Standards Council Decision 03-10-25.

As for the FPN, cables and raceways are not the ONLY "noncombustible material" inside ducts, plenums, and other air-handling spaces.

If a building uses an NFPA 13 compliant sprinkler system, then all combustible material (anything, according to NFPA 5000 3.3.340.11, that does not meet ASTM E 136) including "cables and raceways installed in other spaces used for environmental air" will end up with sprinkler protection.

If the owner chooses to avoid installing NFPA 13 compliant sprinkler system protection, then the owner can address this requirement by other means. See 300.22 (C)(1) "...Other types of cables and conductors shall be installed in electrical metallic tubing, flexible metallic tubing, intermediate metal conduit, rigid metal conduit without an overall nonmetallic covering, flexible metal conduit, or, where accessible, surface metal raceway or metal wireway with metal covers or solid bottom metal cable tray with solid metal covers."

This is a design decision on the part of the owner.

If the commenter feels strongly that a FPN sending the reader to NFPA 13 is required, they should resubmit the text as a proposal to change 300.22 during the 2008 revision cycle. JONES: The substantiation provided in the associated Proposal 16-37 used NFPA 90A as part of the reason for the suggested change. The Standards Council made a decision that is identified as Number 03-10-25 plus subsequent letter by the Standards Council Chairman, Phillip DiNenno to Mr. Loren Caudill, dated December 3, 2003, which stated, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

OHDE: See my Explanation of Negative vote on Comment 16-129.

16-256 Log #3710 NEC-P16 **Final Action: Accept**
(770.53)

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association

Comment on Proposal No: 16-60

Recommendation: Continue rejecting this proposal and make no changes in the terminology of plenum spaces or of "other spaces used for environmental air".

Substantiation: The terminology in NEC 2002 is correct and needs no change. See also the substantiation for my comments on proposal 16-59.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-257 Log #3754 NEC-P16 **Final Action: Accept**
(770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association

Comment on Proposal No: 16-61

Recommendation: Reject this proposal - Also reject the references to NFPA 90A in fine print notes and the creation of the new category of air duct cables and the subdivision of plenums. Revise the FPN to 770.51 as follows, and make no other changes.

~~FPN: One method of defining low smoke-producing cables is by establishing an acceptable value of the smoke produced when tested in accordance with NFPA 262-1999, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces, to a maximum peak optical density of 0.5 and a maximum average optical density of 0.15. Similarly, one method of defining fire-resistant cables is by defining maximum allowable flame travel distance of 1.52 m (5 ft) when tested in accordance with the same test.~~

FPN: One method of defining a cable that is low smoke-producing cable and fire-resistant cable is that the cable exhibits a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.52 m (5 ft) or less when tested in accordance with NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces.

Substantiation: There is no need for a new category of OFND and OFCD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should be rejected by CMP 16.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 16-37.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-258 Log #3756 NEC-P16 **Final Action: Accept**
(770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 16-65
Recommendation: *Reject this proposal - Also reject the references to NFPA 90A in fine print notes and the creation of the new category of air duct cables and the subdivision of plenums. Revise the FPN to 770.51 as follows, and make no other changes.*

~~FPN: One method of defining low smoke-producing cables is by establishing an acceptable value of the smoke produced when tested in accordance with NFPA 262-1999, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces, to a maximum peak optical density of 0.5 and a maximum average optical density of 0.15. Similarly, one method of defining fire-resistant cables is by defining maximum allowable flame travel distance of 1.52 m (5 ft) when tested in accordance with the same test.~~

FPN: One method of defining a cable that is low smoke-producing cable and fire-resistant cable is that the cable exhibits a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.52 m (5 ft) or less when tested in accordance with NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces.

Substantiation: There is no need for a new category of OFND and OFCD cables. There is also no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should be rejected by CMP 16.

Furthermore, the reference to NFPA 90A is not appropriate in the Fine Print Note, since NFPA 90A is not a suitable standard for testing or listing wiring methods. The logical way to have a fine print note is to reference the standard used for testing the fire safety of the materials, which in this case is a combination of NFPA 255 and NFPA 259, or the UL Subject 2424 that contains all the listing requirements.

See further information in the comment I made to recommend rejection of proposal 16-37.

Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-259 Log #2807 NEC-P16 **Final Action: Reject**
(770.53, 800-51 and 820-53)

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-59
Recommendation: Accept in principle.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 3's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-260 Log #370 NEC-P16 **Final Action: Accept**
(770.53, 800.53, 820.53)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-59
Recommendation: Continue to reject this proposal.
Substantiation: The technical committee on air conditioning agrees with the panel action and statement.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-261 Log #3836 NEC-P16 **Final Action: Accept**
(770.53, 800.53, 820.53, 830.55)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 16-64
Recommendation: *Reject this proposal.*
Substantiation: There is no justification for limiting the use of traditional plenum cables. It has become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods. The issue of correlation (or even reference) to either NFPA 90A or the categories of plenums used in NFPA 90A should be rejected by CMP 16. As stated by Mr. Harold Ohde in his negative on CMP action on proposal 16-9: "Other codes should not be deciding on the typed of wiring methods to be used in these spaces. The electrical experts are capable of doing this and it is covered quite well in 300.22. The more we let those outside of the NEC make these decisions the more we weaken adoption of the NEC. In addition, we could make the change and there is nothing that requires a jurisdiction to even adopt 90A."

See further information contained in my comment on proposal 16-46.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-262 Log #1734 NEC-P16 **Final Action: Accept**
(770.53, 800.53 and 820.53)

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-59
Recommendation: Continue to reject.
Substantiation: The submitter has used two terms that have no positive effect on the National Electrical Code. These terms will add confusion and not clarity to an electrical code section that covers wiring in spaces that provide environmental air. The present language in the 2002 National Electrical Code Section 300.22(B) - Ducts or Plenums for Environmental Air and Section 300.22(C) - Other Space Used for Environmental Air covers in great detail which type of wiring methods should be used and implemented in these spaces. Code Making Panel 3, which has the responsibility for Section 300.22 has not made any changes to this section in the 2005 ROP stage that would allow any changes to be permitted in these spaces (See Proposal 3-94 panel statement).

Chapter 3 of the NFPA 90A - Standard for the Installation of Air Conditioning and Ventilating Systems - 2002 edition lists and identifies terminology that are officially recognized as Definitions to be used throughout the NFPA 90A Standard.

In regards to the following terms: ceiling cavity plenum, and raised floor plenum, they are all listed and identified in Chapter 4 of NFPA 90A Standard under the heading of HVAC Systems. These two terms are listed and worded differently than those identical terms that are proposed in the 2005 ROP for the NEC. Here is a breakdown of the two terms as listed in the 2005 ROP and also NFPA 90A - 2002 Standard.

"Ceiling Cavity Plenum as listed in NFPA 90A Standard - 2002; 4.3.10.2"- The space between the top of the finished ceiling and the underside of the floor **of the floor** or roof above shall be permitted to be used to supply air to the occupied area, or return or exhaust air from the occupied area, provided that the conditions in 4.3.10.2.1 through 4.3.10.2.8 are met:"

Ceiling Cavity Plenum as listed in the 2005 ROP for the NEC; "The space between the top of the finished ceiling and the underside of the floor **of the floor** or roof above where used to supply air to the occupied area, or return or exhaust air from the occupied area."

Raised Floor Plenum as listed in the NFPA 90A Standard - 2002; 4.3.10.6.1, "The space between the top of the finished floor and the underside of a raised floor shall be permitted to be used to supply air to the occupied area, or return or exhaust air from or return and exhaust air from the occupied area, provided that the conditions in 4.3.10.6.2 through 4.3.10.6.8 are met.

Raised Floor Plenum as listed in the 2005 ROP for the NEC; "The space between the top of the finished floor and the underside of a raised floor where used to supply air to the occupied area, or return or exhaust air from or from the occupied area."

The terms ceiling cavity plenum, and raised floor plenum as listed in the NFPA 90A Standard, 2002, are statements and cannot possibly be used as definitions.

This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.

Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-263 Log #1554 NEC-P16 **Final Action: Accept**
(770.53, Figure 770-53 and Table 770-53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 16-61
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-264 Log #2538 NEC-P16 **Final Action: Accept**
(770.53, Figure 770-53 and Table 770-53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 16-61
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 16-37.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-265 Log #2800 NEC-P16 **Final Action: Reject**
(770.53, Figure 770-53 and Table 770-53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-61
Recommendation: Continue to accept in principle.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 16's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved installing air duct cables in a fabricated air duct without enclosing the cable in a metal raceway.

The Task Group members who attended the teleconference call voted to accept text that permits "air duct cable" to be installed in fabricated ducts without enclosing in an additional metal raceway or metal cable. The text to be accepted by Panel 3 is recommended to be similar to that found in Proposals 3-194 for Article 725 and 3-288 for Article 760. The "air duct cable" will replace the plenum cable that was previously acceptable in fabricated duct without enclosing in a metal raceway or metal cable assembly.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-266 Log #1737 NEC-P16 **Final Action: Accept**
(770.53, Figure 770.53, and Table 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-61
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Jensen, Mr. Jones, and Mr. Ohde. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-267 Log #2518dd NEC-P16 **Final Action: Accept**
(770.53, Figure 770.53, Table 770.53)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 16-61
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-268 Log #2711 NEC-P16 **Final Action: Reject**
(Figure 770.53, 770.53 and Table 770.53)

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 16-61
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from CFRA on proposal 16-37.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-269 Log #319 NEC-P16 **Final Action: Reject**
(Figure 770.53, 770.53, Table 770.53)

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-61
Recommendation: Continue to accept this proposal in principle.
Substantiation: See the comment from the Technical Committee on Air Conditioning on proposal 16-37.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-270 Log #1453 NEC-P16 **Final Action: Reject**
(770.53(A))

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 16-65
Recommendation: Continue to accept in principle.
Substantiation: The NEC requires the removal of the accessible portion abandoned cable. This requirement is not comprehensive, since it allows the inaccessible portion of abandoned cables to remain. There will be installations where removal of abandoned cables is not possible due to the cables being installed in spaces that become inaccessible.
An installation of unrestricted quantities of conventional plenum cable that cannot be removed with out first destroying the ceiling or floor creates a potential life safety hazard. Example: A sheetrock ceiling without a series of multiple access ports creates an inaccessible space.
The Signaling Systems for the Protection of Life and Property TCC supports proposals that require air duct cable for installation in spaces that will become inaccessible ceiling cavity plenums and inaccessible raised floor plenums. Air duct cable provides a much higher level of fire safety than conventional plenum cable.

Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-271 Log #1455 NEC-P16 **Final Action: Reject**
(770.53(A))

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 16-67
Recommendation: Continue to accept in principle.
Substantiation: See our comment on proposal 16-65.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-272 Log #1492 NEC-P16 **Final Action: Accept**
(770.53(A))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals
Comment on Proposal No: 16-64
Recommendation: Continue rejecting this proposal.
Substantiation: • This comment recommends rejection of a subdivision of "other spaces used for environmental air" and continued rejection of granting priority to NFPA 90A on choices of wiring methods.
• The input from CMP 3 and from the NEC Technical Coordinating Committee makes it clear that the terminology used in 300.22 has served the NEC well and needs no change. It has also become clear now that the expertise needed for choosing the type of wiring systems permitted in any space should be the prerogative of the NEC, which (through its various panels and its Technical Correlating Committee) has greater expertise and a broader view than the Technical Committee on Air Conditioning (responsible for NFPA 90A). Therefore, the NEC panels should continue making their own choices regarding wiring methods.

• It has already been shown in detail by the fire hazard and fire risk analysis presented together with my original proposals (see for example the section on pages 2080-2091 of the NEC-ROP of the substantiation for my proposal 3-130) that there is no need to change the requirements, or limit the application, for wiring methods in plenums, because the fire safety record is excellent.
• I understand that this comment represents a change in some of the concepts the submitter believed when the proposal was submitted, but "even old dogs can learn".

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-273 Log #1559 NEC-P16 **Final Action: Accept**
(770.53(A))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 16-65
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-274 Log #1560 NEC-P16 **Final Action: Accept**
(770.53(A))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 16-66
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-275 Log #1561 NEC-P16 **Final Action: Accept**
(770.53(A))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: T. David Mills, Bechtel Savannah River, Inc.
Comment on Proposal No: 16-67
Recommendation: Reject proposal in its entirety.
Substantiation: NFPA 90A - 2002 only places a restriction for cables and for testing per NFPA 262 for ceiling cavity plenums (4.3.10.2.6.1) and raised floor plenums (4.3.10.6.5.1). It does not state that these are the only places that this plenum rated cable can be used.

The other sections of NFPA 90A related to all other air spaces including "air ducts" are silent with respect to cable requirements. This indicates plenum rated cables can be placed anywhere in the air conditioning air handling system without any new "Duct" designator. There are not any other requirements in NFPA 90A to indicate anywhere that a "does not correlate" situation exists between NFPA 70 and NFPA 90A.

There is no need for any additional environmental air space identifiers or cable type designators.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-276 Log #1630 NEC-P16 **Final Action: Reject**
(770.53(A))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-65
Recommendation: Continue to Accept in Principle.
Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 16's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved whether to require air duct cable in a raised floor or ceiling cavity plenum where the cable cannot be extracted upon abandonment. This would reduce fuel load in air handling spaces where cables must remain in place when abandoned by installing a cable with a much lower fire and combustible fuel load in these areas.

The Task Group members who attended the teleconference call voted to accept text that requires cables in non-accessible raised floor and ceiling cavity plenums to be "air duct cables." Comments will be written to incorporate similar text for the articles under the jurisdiction of Panel 3 that will be similar or the same action on this issue as that taken by Panel 16.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-277 Log #1631 NEC-P16 **Final Action: Reject**
(770.53(A))

Submitter: Richard P. Owen, City of St. Paul, Minnesota

Comment on Proposal No: 16-66

Recommendation: Continue to Accept in Principle.

Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 16's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved whether to require air duct cable in a raised floor or ceiling cavity plenum where the cable cannot be extracted upon abandonment. This would reduce fuel load in air handling spaces where cables must remain in place when abandoned by installing a cable with a much lower fire and combustible fuel load in these areas.

The Task Group members who attended the teleconference call voted to accept text that requires cables in non-accessible raised floor and ceiling cavity plenums to be "air duct cables." Comments will be written to incorporate similar text for the articles under the jurisdiction of Panel 3 that will be similar or the same action on this issue as that taken by Panel 16.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-278 Log #1632 NEC-P16 **Final Action: Reject**
(770.53(A))

Submitter: Richard P. Owen, City of St. Paul, Minnesota

Comment on Proposal No: 16-67

Recommendation: Continue to Accept in Principle.

Substantiation: The Panel 3/Panel 16 Task Group, appointed by the NEC TCC, developed this comment.

The task group agrees with Panel 16's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved whether to require air duct cable in a raised floor or ceiling cavity plenum where the cable cannot be extracted upon abandonment. This would reduce fuel load in air handling spaces where cables must remain in place when abandoned by installing a cable with a much lower fire and combustible fuel load in these areas.

The Task Group members who attended the teleconference call voted to accept text that requires cables in non-accessible raised floor and ceiling cavity plenums to be "air duct cables." Comments will be written to incorporate similar text for the articles under the jurisdiction of Panel 3 that will be similar or the same action on this issue as that taken by Panel 16.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-279 Log #1735 NEC-P16 **Final Action: Accept**
(770.53(A))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-59a
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Jones and Mr. Ohde. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-280 Log #1740 NEC-P16 **Final Action: Accept**
(770.53(A))

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-65
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Jensen, Mr. Jones, and Mr. Ohde. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-281 Log #1741 NEC-P16 **Final Action: Accept**
(770.53(A))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-66
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Jensen, Mr. Jones, and Mr. Ohde. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-282 Log #1742 NEC-P16 **Final Action: Accept**
(770.53(A))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-67
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Jensen, Mr. Jones, and Mr. Ohde. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-283 Log #1839 NEC-P16 **Final Action: Reject**
(770.53(A))

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 16-65
Recommendation: Continue to accept these proposals in principle.
Substantiation: The NEC and NFPA 90A-2002 require the removal of the accessible portion of abandoned cable. This requirement permits the inaccessible portion of abandoned cables to remain. There will be installations where removal of abandoned cables from inaccessible spaces is not possible.
An installation of unrestricted quantities of plenum cable that cannot be removed without first destroying the ceiling or floor creates a potential life

safety hazard. Example: A sheetrock ceiling without a series of multiple access ports creates an inaccessible space.

The Automatic Alarm Association supports these proposals that require cable air duct cable for installation in spaces that will become inaccessible, as these cables have lower heats of combusion than conventional plenum cables.

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-284 Log #2543 NEC-P16 **Final Action: Accept**
(770.53(A))

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: William A. Wolfe, Steel Tube Institute of North America

Comment on Proposal No: 16-65

Recommendation: Reject this proposal.

Substantiation: See our companion proposal on 16-37.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-285 Log #2545 NEC-P16 **Final Action: Accept**
(770.53(A))

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: William A. Wolfe, Steel Tube Institute of North America

Comment on Proposal No: 16-66

Recommendation: Reject this proposal.

Substantiation: See our companion proposal on 16-37.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-286 Log #2548 NEC-P16 **Final Action: Accept**
(770.53(A))

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: William A. Wolfe, Steel Tube Institute of North America

Comment on Proposal No: 16-67

Recommendation: Reject this proposal.

Substantiation: See our companion proposal on 16-37.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-287 Log #2715 NEC-P16 **Final Action: Reject**
(770.53(A))

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association

Comment on Proposal No: 16-65

Recommendation: Continue to accept this proposal in principle.

Substantiation: CFRA agrees with the panel action.

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-288 Log #2717 NEC-P16 **Final Action: Reject**
(770.53(A))

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association

Comment on Proposal No: 16-66

Recommendation: Continue to accept this proposal in principle.

Substantiation: CFRA agrees with the panel action.

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr.

Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-289 Log #2719 NEC-P16 **Final Action: Reject**
(770.53(A))

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 16-67
Recommendation: Continue to accept this proposal in principle.
Substantiation: CFRA agrees with the panel action.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-290 Log #2518ee NEC-P16 **Final Action: Accept**
(770.53(A))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 16-65
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-291 Log #2518ff NEC-P16 **Final Action: Accept**
(770.53(A))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 16-67
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-292 Log #2518nnn NEC-P16 **Final Action: Accept**
(770.53(A))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 16-66
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-293 Log #3870 NEC-P16 **Final Action: Reject**
(770.53(A), 770.53(B))

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association
Comment on Proposal No: 16-63
Recommendation: *There is no consistency in the NEC on the removal of abandoned cables. This is primarily an issue with cables in Articles 645, 725, 760, 770, 800, 820 and 830. The wording should be as follows consistently: "Abandoned [cable type] cables shall be removed." It should also be contained in the section on applications of cables.*

770.53 Applications of Listed Optical Fiber Cables and Raceways. Nonconductive and conductive optical fiber cables shall comply with any of the requirements given in 770.53(A) through (E) or where cable substitutions are made as shown in 770.53(F).

(A) Plenum. Cables installed in ducts, plenums, and other spaces used for environmental air shall be Type OFNP or OFCP. Abandoned cables shall be removed. Types OFNR, OFCR, OFNG, OFN, OFCG, and OFC cables installed in compliance with 300.22 shall be permitted. Listed plenum optical fiber raceways shall be permitted to be installed in ducts and plenums as described in 300.22(B) and in other spaces used for environmental air as described in 300.22(C). Only types OFNP and OFCP cables shall be permitted to be installed in these raceways.

(B) Riser. Cables installed in risers shall be as described in any of the following:

(1) Cables installed in vertical runs and penetrating more than one floor, or cables installed in vertical runs in a shaft, shall be Type OFNR or OFCR. Floor penetrations requiring Type OFNR or OFCR shall contain only cables suitable for riser or plenum use. Abandoned cables shall be removed. Listed riser optical fiber raceways shall be permitted to be installed in vertical riser runs in a shaft from floor to floor. Only Types OFNP, OFCP, OFNR and OFCR cables shall be permitted to be installed in these raceways.

Substantiation: The issue here is the interpretation of the action required with respect to what is accessible. The issue of "accessible" cables creates confusion that makes the enforcement of the removal of abandoned cable "dicey" because it is unclear what "accessible" means. The NEC defines the following terms in Article 100:

Accessible (as applied to equipment). Admitting close approach; not guarded by locked doors, elevation, or other effective means.

Accessible (as applied to wiring methods). Capable of being removed or exposed without damaging the building structure or finish or not permanently closed in by the structure or finish of the building.

Accessible, Readily (Readily Accessible). Capable of being reached quickly for operation, renewal, or inspections without requiring those to whom ready access is requisite to climb over or remove obstacles or to resort to portable ladders, and so forth.

The phrase "the accessible portion of abandoned cables" is much vaguer than the definitions in the code, because the term "accessible portion" is not defined. Therefore, accessible portion is probably considered that length of cable that is within a few feet of the opening, and that can be cut off by reaching in. That is clearly not the intent of the code provision: the entire length of cable that can be pulled out should be removed.

Another possible interpretation is that this refers to excluding from removal those cables installed in the areas that CMP 16 calls "inaccessible ceiling cavity plenums and inaccessible raised floor plenums". The concept of those "inaccessible areas" was rejected by CMP 3 as inappropriate because there is no known fire safety problem with the present type of wiring methods, but it was approved by CMP 16. If this concept is approved, and the wording of "abandoned cables" includes the "accessible portion" concept, it would clearly mean that the NEC would permit some cables to be left permanently in place once abandoned. This was soundly rejected by the membership several times, in a concept upheld by Standards Council.

It is pretty obvious that the concept of removal of abandoned cable is not one where someone should try to tear down a building or cause structural damage to it just to remove cables "permanently closed in by the structure or finish of the building". I believe that we must trust in the intelligence of our code officials and electrical inspectors that they will not demand such actions. If there is a feeling that this is a possibility (which I cannot believe), it might be worth adding a Fine Print Note to the effect that removal of abandoned cables should not cause structural damage to the building. An example follows:

FPN: Removal of abandoned cables is not intended to cause structural damage to buildings.

Clearly, "the accessible portion of abandoned cables" is a misleading phrase which can lead to abundant misinterpretation. It should be eliminated in favor of the simpler "abandoned cables".

Panel Meeting Action: Reject

Panel Statement: See CMP 16 action and statement on Comment 16-310.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14 Negative: 1

Explanation of Negative:

OHDE: See my Explanation of Negative vote on Comment 16-310.

16-294 Log #3869 NEC-P16 **Final Action: Reject**
(770.53(A), 770.53(B)(1))

Submitter: Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association

Comment on Proposal No: 16-37

Recommendation: *There is no consistency in the NEC on the removal of abandoned cables. This is primarily an issue with cables in Articles 645, 725, 760, 770, 800, 820 and 830. The wording should be as follows consistently: "Abandoned [cable type] cables shall be removed." It should also be contained in the section on applications of cables.*

770.53 Applications of Listed Optical Fiber Cables and Raceways. Nonconductive and conductive optical fiber cables shall comply with any of the requirements given in 770.53(A) through (E) or where cable substitutions are made as shown in 770.53(F).

(A) Plenum. Cables installed in ducts, plenums, and other spaces used for environmental air shall be Type OFNP or OFCP. Abandoned cables shall be removed. Types OFNR, OFCR, OFNG, OFN, OFCG, and OFC cables installed in compliance with 300.22 shall be permitted. Listed plenum optical fiber raceways shall be permitted to be installed in ducts and plenums as described in 300.22(B) and in other spaces used for environmental air as described in 300.22(C). Only types OFNP and OFCP cables shall be permitted to be installed in these raceways.

(B) Riser. Cables installed in risers shall be as described in any of the following:

(1) Cables installed in vertical runs and penetrating more than one floor, or cables installed in vertical runs in a shaft, shall be Type OFNR or OFCR. Floor penetrations requiring Type OFNR or OFCR shall contain only cables suitable for riser or plenum use. Abandoned cables shall be removed. Listed riser optical fiber raceways shall be permitted to be installed in vertical riser runs in a shaft from floor to floor. Only Types OFNP, OFCP, OFNR and OFCR cables shall be permitted to be installed in these raceways.

Substantiation: The issue here is the interpretation of the action required with respect to what is accessible. The issue of "accessible" cables creates confusion that makes the enforcement of the removal of abandoned cable "dicey" because it is unclear what "accessible" means. The NEC defines the following terms in Article 100:

Accessible (as applied to equipment). Admitting close approach; not guarded by locked doors, elevation, or other effective means.

Accessible (as applied to wiring methods). Capable of being removed or exposed without damaging the building structure or finish or not permanently closed in by the structure or finish of the building.

Accessible, Readily (Readily Accessible). Capable of being reached quickly for operation, renewal, or inspections without requiring those to whom ready access is requisite to climb over or remove obstacles or to resort to portable ladders, and so forth.

The phrase "the accessible portion of abandoned cables" is much vaguer than the definitions in the code, because the term "accessible portion" is not defined. Therefore, accessible portion is probably considered that length of cable that is within a few feet of the opening, and that can be cut off by reaching in. That is clearly not the intent of the code provision: the entire length of cable that can be pulled out should be removed.

Another possible interpretation is that this refers to excluding from removal those cables installed in the areas that CMP 16 calls "inaccessible ceiling cavity plenums and inaccessible raised floor plenums". The concept of those "inaccessible areas" was rejected by CMP 3 as inappropriate because there is no known fire safety problem with the present type of wiring methods, but it was approved by CMP 16. If this concept is approved, and the wording of "abandoned cables" includes the "accessible portion" concept, it would clearly mean that the NEC would permit some cables to be left permanently in place once abandoned. This was soundly rejected by the membership several times, in a concept upheld by Standards Council.

It is pretty obvious that the concept of removal of abandoned cable is not one where someone should try to tear down a building or cause structural damage to it just to remove cables "permanently closed in by the structure or finish of the building". I believe that we must trust in the intelligence of our code officials and electrical inspectors that they will not demand such actions. If there is a feeling that this is a possibility (which I cannot believe), it might be worth adding a Fine Print Note to the effect that removal of abandoned cables should not cause structural damage to the building. An example follows:

FPN: Removal of abandoned cables is not intended to cause structural damage to buildings.

Clearly, "the accessible portion of abandoned cables" is a misleading phrase which can lead to abundant misinterpretation. It should be eliminated in favor of the simpler "abandoned cables".

Panel Meeting Action: Reject

Panel Statement: See CMP 16 action and statement on Comment 16-310.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14 Negative: 1

Explanation of Negative:

OHDE: See my Explanation of Negative vote on Comment 16-310.

16-295 Log #492 NEC-P16 **Final Action: Reject**
(770.53(A), 800-53(A), 820-53(A) & 830-55(B))

Submitter: Allen C. Weidman, The Society of the Plastics Industry, Inc.

Comment on Proposal No: 16-64

Recommendation: Continue to Accept this Proposal in Principle.

Substantiation: Continued acceptance of this proposal will prohibit the installation of unlimited quantities of combustible plenum cable in ducts, which is clearly an unsafe practice. It will also promote the harmonization of the NFPA Family of codes and standards by using the terms "ceiling cavity plenum" and "raised floor plenum" instead of "other spaces used for environmental air", a term which is unique to the NEC and is vague and undefined.

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 1 Abstain: 1
Explanation of Negative:

DORNA: The panel action on this comment failed to address the fire safety issue of the placing of unlimited quantities of cables in air ducts. Articles 770, 800, 820 and 830 permit the installation of unlimited quantities of plenum cables in "ducts, plenums, and other spaces used for environmental air". The lack of panel action continues to leave a conflict in NFPA 5000 because NFPA 5000 refers to both the NEC and NFPA 90A. The only places NFPA 90A permits unlimited quantities of cables are ceiling cavity plenums and raised floor plenums, while the NEC permits unlimited quantities of plenum cables in "ducts, …".

Comment 16-302 deals with proposal 16-64. Proposal 16-64, which was accepted by the panel in the ROP, would have replaced "ducts, plenums, and other spaces used for environmental air" with "ceiling cavity plenums and raised floor plenums". The panel should have taken action on comment 16-302 similar to the action it took on comment 16-79, where the panel used the term "other spaces used for environmental air" in place of "ceiling cavity plenums and raised floor plenums." Had it taken that action, plenum cables would have been restricted to "other spaces used for environmental air" and the conflict between the NEC and NFPA 90A and the conflict within NFPA 5000 would have been essentially removed because the term "other spaces used for environmental air" is roughly equivalent to "ceiling cavity plenums" plus "raised floor plenums".

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

KAHN: See my Explanation of Abstention on Comment 16-34.

16-296 Log #716 NEC-P16 **Final Action: Reject**
(770.53(A), 800-53(A), 820-53(A) & 830-55(B))

Submitter: Paula Hubbard, 3M
Comment on Proposal No: 16-64
Recommendation: Accept this proposal.
Substantiation: This proposal is needed to harmonize terminology with NFPA by using the terms "ceiling cavity plenum" and "raised floor plenum" instead of "other space used for environmental air." Terminology should be consistent across the board to eliminate confusion and arbitrary interpretation of the codes. Furthermore, acceptace of this proposal will greatly enhance fire safety by prohibiting the use of combustible plenum cables in ducts.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 1 Abstain: 1
Explanation of Negative:

DORNA: See my Explanation of Negative for Comment 16-295 (Log #492).**Comment on Affirmative:**

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

KAHN: See my Explanation of Abstention on Comment 16-34.

16-297 Log #2541 NEC-P16 **Final Action: Accept**
(770.53(A), 800-53(A), 820-53(A) and 830-55(A))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: William A. Wolfe, Steel Tube Institute of North America
Comment on Proposal No: 16-64
Recommendation: Reject this proposal.
Substantiation: See our companion proposal on 16-37.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-298 Log #289 NEC-P16 **Final Action: Reject**
(770.53(A), 800.53 (A), 820.53(A))

Submitter: Technical Committee on Air Conditioning
Comment on Proposal No: 16-65
Recommendation: Continue to accept these proposals in principle.
Substantiation: The air conditioning committee has requirements in NFPA 90A-2002, 4.3.10.2.7, for the removal of the accessible portion of abandoned cable that correlate with the NEC requirement for removal of the accessible portion abandoned cable. These requirements, while practical, are not comprehensive, since they allow the inaccessible portion of abandoned cables to remain. Due to building construction, there will be installations where removal of abandoned cables is not possible due to the cables being installed in inaccessible spaces. The air conditioning committee supports these proposals that require cable meeting NFPA 90A requirements for "limited combustible cable" (air duct cable) for installation in spaces that will become inaccessible ceiling cavity plenums and inaccessible raised floor plenums.

An installation of unrestricted quantities of conventional plenum cable that cannot be removed with out first destroying the ceiling or floor creates a potential life safety hazard. Example: A sheetrock ceiling without a series of multiple access ports creates an inaccessible space. The recommendation above will serve as a roadmap for the next edition of NFPA 90A.

Why is the Technical Committee on Air Conditioning submitting comments?

In action 80-60, the Standards Council assigned primary jurisdiction for combustibles in plenums to the Technical Committee on Air Conditioning and directed it to seek the cooperation of the committees on Fire Tests, National Electrical Code and Safety to Life. The Technical Committee on Air Conditioning has been cooperating with the National Electrical Code Committee by submitting a series of proposals for the 2005 NEC. It now continues that cooperation by commenting on all proposals dealing with combustibles in plenums. The purpose of the proposals and comments is to bring about correlation between NFPA 70, *National Electrical Code* and NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*. The Technical Committee on Air Conditioning established consensus on these comments through a letter ballot.

The NEC Technical Correlating Committee has acknowledged the responsibility of the Technical committee on Air Conditioning. The TCC Action on this proposal states:

"The Technical Correlating Committee understands that the Standards Council has given primary responsibility to the Technical Committee on Air-Conditioning for combustible materials in plenums in cooperation with other committees including the National Electrical Code Committee. The Chair of the Technical Correlating Committee will work with the Chair of the Technical Committee on Air-Conditioning and appoint a Task Group to review the proposals affecting correlation between Code-Making Panels 3, 16, and the Technical Committee on Air-Conditioning. In addition, the Technical Correlating Committee directs that this proposal be referred to the NFPA Committee on Air-Conditioning for comment."

NFPA 5000-2003 Building Construction and Safety Code, in Chapter 52, requires electrical systems and equipment to be designed and constructed in accordance with NFPA 70. Likewise, in Chapter 50, it requires air-conditioning and ventilating systems to be designed and constructed in accordance with NFPA 90A. NFPA 5000 has conflicting provisions for wiring in air handling spaces because of conflicts between NFPA 70 and NFPA 90A. Many of the proposals and comments from the Committee on Air-Conditioning to the National Electrical Code Committee are intended to eliminate these conflicts. These proposals and comments are part of the implementation of the Standards Council's recently issued *Scope Coordination Policy for NFPA Documents* that has the "goal of having a coordinated set of documents for the built environment".

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-299 Log #1454 NEC-P16 **Final Action: Reject**
(770.53(A), 800.53(A), 820.53(A))

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property

Comment on Proposal No: 16-66

Recommendation: Continue to accept in principle.

Substantiation: See our comment on proposal 16-65.

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-300 Log #34 NEC-P16 **Final Action: Reject**
(770.53(A), 800.53(A), 820.53(A), 830.55(B))

Submitter: Stanley Kaufman, CableSafe, Inc.

Comment on Proposal No: 16-64

Recommendation: Continue to accept this proposal in principle.

Substantiation: Continued acceptance of Proposal 16-64 will remove a conflict between NFPA 70 and NFPA 90A. NFPA 90A does not permit Type OFNP, OFCP, CMP and CATVP cables in air ducts or in plenums, other than ceiling cavity plenums and raised floor plenums. Furthermore, correlation between NFPA 70 and NFPA 90A is improved by using common terminology, namely ceiling cavity plenum and raised floor plenum instead of "other space used for environmental air", which is vague and undefined.

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-301 Log #107 NEC-P16 **Final Action: Reject**
(770.53(A), 800.53(A), 820.53(A), 830.55(B))

Submitter: Gerald Lee Dorna, Belden Wire & Cable

Comment on Proposal No: 16-64

Recommendation: Continue to accept this proposal in principle.

Substantiation: Continued acceptance of proposal 16-64 will remove a conflict between NFPA 70 and NFPA 90A. NFPA 90A does not permit Type OFNP, OFCP, CMP and CATVP cables in air ducts or in plenums, other than ceiling cavity plenums and raised floor plenums. Furthermore, correlation between NFPA 70 and NFPA 90A is improved by using common terminology, namely ceiling cavity plenum and raised floor plenum instead of "other space used for environmental air", which is vague and undefined.

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Negative: 1 Abstain: 1

Explanation of Negative:

DORNA: See my Explanation of Negative for Comment 16-295 (Log #492).**Comment on Affirmative:**

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

KAHN: See my Explanation of Abstention on Comment 16-34.

16-302 Log #248 NEC-P16 **Final Action: Reject**
(770.53(A), 800.53(A), 820.53(A), 830.55(B))

Submitter: Technical Committee on Air Conditioning

Comment on Proposal No: 16-64

Recommendation: Continue to accept this proposal in principle.

Substantiation: Continued acceptance of proposal 16-64 will remove a conflict between NFPA 70 and NFPA 90A. NFPA 90A does not permit Type OFNP, OFCP, CMP and CATVP cables in air ducts or in plenums, other than ceiling cavity plenums and raised floor plenums. Furthermore, correlation between NFPA 70 and NFPA 90A is improved by using common terminology, namely ceiling cavity plenum and raised floor plenum instead of "other space used for environmental air", which is vague and undefined.

Panel Meeting Action: Reject

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 1 Abstain: 1
Explanation of Negative:
DORNA: See my Explanation of Negative for Comment 16-295 (Log #492).**Comment on Affirmative:**
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
KAHN: See my Explanation of Abstention on Comment 16-34.

16-303 Log #1779 NEC-P16 **Final Action: Reject**
(770.53(A), 800.53(A), 820.53(A), 830.55(B))

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-64
Recommendation: Continue to accept in principle.
Substantiation: The task group agrees with Panel 16's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved terms that would be used in Section 300.22 dealing with ducts, plenums, and other spaces used for environmental air.

The phrase "Other Space for Environmental Air" is used in Section 300.22 and various locations within the Articles covered by CMP-3 and 16. Proposals were submitted to both CMP-3 and CMP-16 to provide a subdivision of the "other space for environmental air" to include "raised floor plenums" and "ceiling cavity plenums."

In the Proposal stage, Panel 3 did not accept proposals for the subdivision of the phrase "Other Space for Environmental" with the "raised floor plenums" and "ceiling cavity plenum." Panel 16 did accept the subdivisions of this phrase throughout their articles.

By accepting the majority of the suggested changes in Proposal 3-94, "Other Spaces for Environmental Air" has been further subdivided into two separate spaces, ceiling cavity and raised floor plenums but the Panel still has maintained the electrical industry terminology associated with these spaces. Providing this further subdivision will enhance the usability of the NEC by making it easier to determine what other spaces are being referenced in this section. It will also improve correlation between the NEC and NFPA 90A.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 1 Abstain: 1
Explanation of Negative:
DORNA: See my Explanation of Negative for Comment 16-295 (Log #492).
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
KAHN: See my Explanation of Abstention on Comment 16-34.

16-304 Log #1793 NEC-P16 **Final Action: Reject**
(770.53(A), 800.53(A), 820.53 (A), 830.55(B))

Submitter: Richard P. Owen, City of St. Paul, Minnesota
Comment on Proposal No: 16-64
Recommendation: Continue to Accept in Principle.

Substantiation: The task group agrees with Panel 16's action and statement.

The NEC TCC Task Group on Correlation Issues Between Panels 3 and 16 met three times via teleconference calls. The assignment by the TCC Chairman was to attempt to develop a resolution and accompanying comments for the different actions taken on proposals dealing with similar issues by CMP 3 and CMP 16 for their respective Articles in Chapters 7 and 8 of the NEC.

The Task Group studied the issues and determined that there were five major differences in the actions on proposals concerning Articles 725, 760, 770, 800, 820, and 830. The voting on these issues was not unanimous but did pass as at least a simple majority of the Task Group.

One of the major differences involved terms that would be used in Section 300.22 dealing with ducts, plenums, and other spaces used for environmental air.

The phrase "Other Space for Environmental Air" is used in Section 300.22 and various locations within the Articles covered by CMP-3 and 16. Proposals were submitted to both CMP-3 and CMP-16 to provide a subdivision of the "other space for environmental air" to include "raised floor plenums" and "ceiling cavity plenums."

In the Proposal stage, Panel 3 did not accept proposals for the subdivision of the phrase "Other Space for Environmental" with the "raised floor plenums" and "ceiling cavity plenum." Panel 16 did accept the subdivisions of this phrase throughout their articles.

By accepting the majority of the suggested changes in Proposal 3-94, "Other Spaces for Environmental Air" has been further subdivided into two separate spaces, ceiling cavity and raised floor plenums but the Panel still has maintained the electrical industry terminology associated with these spaces. Providing this further subdivision will enhance the usability of the NEC by making it easier to determine what other spaces are being referenced in this section. It will also improve correlation between the NEC and NFPA 90A.

The following members of Panels 3 and 16 participated in this Task Group assignment: From Panel 3, Mr. Sanford E. Egesdal representing the Automatic Fire Alarm Association, Inc., Mr. Ronald E. Maassen representing the National Electrical Contractors Association, and Mr. Mark C. Ode representing Underwriters Laboratories Inc. From Panel 16, Mr. Robert W. Jensen representing the Building Industry Consulting Services International, Mr. Harold C. Ohde representing the International Brotherhood of Electrical Workers, and Mr. Joseph W. Rao representing the Independent Electrical Contractors, Inc. Mr. Richard P. Owen, the Chairman of CMP 3, representing the International Association of Electrical Inspectors, was the chairman of the Task Group.

Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 1 Abstain: 1
Explanation of Negative:
DORNA: See my Explanation of Negative for Comment 16-295 (Log #492).**Comment on Affirmative:**
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
KAHN: See my Explanation of Abstention on Comment 16-34.

16-305 Log #2713 NEC-P16 **Final Action: Reject**
(770.53(A), 800.53(A), 820.53(A), 830.55(B))

Submitter: Richard Fransen, Daikin America, Inc. / Rep. Cable Fire Research Association
Comment on Proposal No: 16-64
Recommendation: Continue to accept this proposal in principle.
Substantiation: The NFPA 70 and NFPA 90A need to be harmonized and use the same terminology in order to have a consistent set of NFPA codes and standards.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 1 Abstain: 1
Explanation of Negative:
DORNA: See my Explanation of Negative for Comment 16-295 (Log #492).
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
KAHN: See my Explanation of Abstention on Comment 16-34.

16-306 Log #2518mmm NEC-P16 **Final Action: Accept**
(770.53(A), 800.53(A), 820.53(A), 830.55(B))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Vince Baclawski, National Electrical Manufacturers Association (NEMA)
Comment on Proposal No: 16-64
Recommendation: Reject this proposal.
Substantiation: See our companion comment on Proposal 1-69.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-307 Log #1739 NEC-P16 **Final Action: Accept**
(770.53(A), 800.53(A), 820.53(A) and 830.53 (B))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-64
Recommendation: Reject this proposal.
Substantiation: This proposal should be rejected as we agree with the explanation of negative of Mr. Jensen, Mr. Jones, and Mr. Ohde. This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-308 Log #1452 NEC-P16 **Final Action: Reject**
(770.53(A), 800.53(A), 820.53(A), and 830.55(B))

Submitter: Technical Correlating Committee on Signaling Systems for the Protection of Life and Property
Comment on Proposal No: 16-64
Recommendation: Continue to accept this proposal in principle.
Substantiation: Continued acceptance of proposal 16-64 will remove a conflict between NFPA 70 and NFPA 90A. NFPA 90A does not permit Type OFNP, OFCP, CMP and CATVP cables in air ducts or in plenums, other than ceiling cavity plenums and raised floor plenums. Correlation between NFPA 70 and NFPA 90A is improved by using common terminology, namely ceiling cavity plenum and raised floor plenum instead of "other space used for environmental air".
This comment is one in a series of comments including: 3-174, 3-213, 16-46 and 16-64.
Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Negative: 1 Abstain: 1
Explanation of Negative:
DORNA: See my Explanation of Negative for Comment 16-295 (Log #492).
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
KAHN: See my Explanation of Abstention on Comment 16-34.

16-309 Log #1827 NEC-P16 **Final Action: Reject**
(770.53(A), 800.53(A), 820.53(A) and 830.55(B))

Submitter: Thomas P. Hammerberg, Automatic Fire Alarm Association
Comment on Proposal No: 16-64
Recommendation: Continue to accept this proposal in principle.
Substantiation: Continued acceptance of Proposal 16-64 will remove a conflict between NFPA 70 and NFPA 90A. NFPA 90A does not permit Type OFNP, OFCP, CMP, and CATVP cables in air ducts or in plenums, other than ceiling cavity plenums and raised floor plenums. Correlation between NFPA 70 and NFPA 90A is improved by using common terminology, namely ceiling cavity plenum and raised floor plenum instead of "other space used for environmental air".
This comment is one in a series of comments including: 3-174; 3-213; 16-46 and 16-64.

Panel Meeting Action: Reject
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-310 Log #1738 NEC-P16 **Final Action: Reject**
(770.53(A) and (B))

Submitter: Michael I. Callanan, IBEW
Comment on Proposal No: 16-63
Recommendation: This proposal should be rejected and do not delete the sentence "Abandoned cables shall not be permitted to remain" in Sections 770-53(A) and (B).
Substantiation: A review of the comments from the 2002 ROP/ROCs cited in proposal 16-63 above, specifically comments 2001 ROC 16-64 and 2001 ROC 16-87 and their panel actions do not indicate any errors on the part of the submitters. It was clear in reviewing the proposals, comments and panel actions that the intent was to remove abandoned cable not intended for future use. What is not clear is the introduction of the wording/phrase "The accessible portion of" abandoned {cable type} shall not be permitted to remain. The statement "Abandoned cables shall not be permitted to remain" in 770-53(A) and 770-53(B) is very clear; you shall remove the abandoned cables. The statement "The accessible portion of " abandoned {cable type} shall not be permitted to remain is not as clear. What is the interpretation of accessible portion? Does the definition of Accessible (as applied to wiring methods) in Article 100 applied to 770-3(A) adequately require every effort to be made to remove abandoned cable. To remove the statement "Abandoned cables shall not be permitted to remain" from 770-53(A) and 770-53(B) (now 770.61) leaves 770-3(A) wide open to interpretation as to what the accessible portion of abandoned cables is. To remove "Abandoned cables shall not be permitted to remain" should require a rewrite of 770-3(A) to better clarify what is meant by "The accessible portion of abandoned cables" and perhaps an update to the definition of Accessible. The necessary text in 770-3(A) is not in place to address what is meant by accessible portion of abandoned cable.

There is no technical substantiation to leave the non-accessible portion of the abandoned cable in plenums and riser areas and, therefore, should not be allowed to remain. Every effort should be made to remove abandoned cables.

This comment represents the official position of the International Brotherhood of Electrical Workers Codes and Standards Committee.
Panel Meeting Action: Reject
Panel Statement: CMP 16's intent is to require the removal of "the accessible portion" of abandoned optical fiber/communications/coaxial/ network-powered broadband communications cable and to state this requirement only once in each article.

It was never the intent of CMP 16 to require the dismantling of walls, ceilings, etc. to remove inaccessible portions of abandoned cable.

The submitter's intent was accomplished by stating the requirement only once in the proposed 2005 NEC in 770.3, 800.3, 820.3 and 830.3. Therefore, the phrase "abandoned cable shall not be permitted to remain," was removed from 770.53, 800.53, 820.53, and 830.55.

The definition of "Accessible (as applied to wiring methods)" in Article 100 applies.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 14 Negative: 1
Explanation of Negative:
OHDE: I am voting negative on both the panel action and panel statement. The panel statement did not satisfy nor justify the rejection of the submitter's recommendation. The submitter intent was not accomplished by stating the requirement only once in the proposed 2005 NEC Section 770.3, 770.53(A) and (B) refer to plenum and riser areas and there was no technical substantiation to leave the non-accessible portion of the abandoned cable to remain in these areas. Every effort should be made to remove abandoned cable.

16-311 Log #2919 NEC-P16 **Final Action: Reject**
(770.54 (New))

Submitter: David H. Kendall, Carlon
Comment on Proposal No: 16-69
Recommendation: This proposal should review and reconsidered with the following text:

770.54 Optical Fiber Device and Equipment Mounting . Optical Fiber devices or equipment shall be mounted in listed boxes, brackets or assemblies designed for the purpose, and such boxes, brackets or assemblies shall be securely fastened in place.

Substantiation: Devices used with optical fiber cable should be mounted on other means than just the dry wall. Yes, there will be additional cost due to labor and material, but the boxes will supply the necessary fixed mounting for the device and cable. This is an individual opinion developed through conversations with BICSI, IBEW, IAEI and NECA members who have approached me with these concerns. UL has also developed listing requirements for these boxes and brackets.

The panel statement is evidence that it is acceptable to mount these devices directly to the dry wall without any other means of securing the device and needs to be reconsidered.
Panel Meeting Action: Reject
Panel Statement: The submitter has not substantiated that a safety hazard exists. The listing of equipment enclosures (boxes) would not, in itself, guarantee a safe and professional installation.

Secure fastening is a workmanship issue and is covered in 770.8.

The same quality of workmanship is necessary, whether or not the enclosure is listed.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 15

16-312 Log #3336 NEC-P16 **Final Action: Accept**
(770.61, 800.61(A), 820.61(A) and Table & Figures 770.50,)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Grant P. Watkins, Confluent Photonics Corporation
Comment on Proposal No: 16-37
Recommendation: Replace Section 770.61(A),800.61(A), 820.61(A) as follows:

Note: The relevant cables types need to be inserted in the text below as appropriate for each article. For

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For
770: **OFNP** and **OFCP** (as is below)
800: **CMP** (delete other ***bolded*** text)
820: **CATVP** (delete other ***bolded*** text)

2) Renumber Sections as appropriate.

With all of:

(A)Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables installed in ducts or plenums used for environmental air.

(B) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply for electric wire, cables, ***and raceways*** where they are installed to other spaces used for environmental air. Type **OFNP** and **OFCP** cables ***and plenum optical fiber raceways*** shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities. Other listed cable types installed in compliance with 300.22 shall also be permitted. Types **OFNP and OFCP** ***cables shall be permitted to be installed in listed plenum raceways.***

Text, Tables and Figures 770.50, 770.61, 800.50, 800.61, 820.50 & 820.6. Delete all other references to listed "duct cables" as follows and including any other references not explicitly listed below 770.50 & 770.62: OFND and OFCD
800.50 & 800.61: CMD
820.50 & 820.61: CATVD

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended included:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises end users (i.e., fiber-to-the-end user). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

- Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
  - Such cables have a proven track record for safety
  - Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
  - The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
- Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.
- Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
- Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.
- Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-313 Log #2967 NEC-P16

Final Action: Accept

(770.61(A), 800-61(A), 820-61(A), and Tables & Figures 770-50, 770-61, 800-50, 800-61, 820-50, and 820-61 (as appropriate))

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Sean Foley, AFL Telecommunications

Comment on Proposal No: 16-37

Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.61(A), 800.61(A), and 820.61(A) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For
   - 770: **OFNP** and **OFCP** (as is below)
   - 800: **CMP** (delete other **bolded** text)
   - 820: **CATVP** (delete other **bolded** text)
2) Renumber Sections as appropriate.

Replace Section 770.61(A), 800.61(A), and 820.61(A) with all of the following:

(A) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.

(B) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply for electric wire, cables, **and raceways** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables **and plenum optical fiber raceways** shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities. Other listed cable types installed in compliance with 300.22 shall also be permitted. Types **OFNP and OFCP cables shall be permitted to be installed in listed plenum raceways**.

Text, Tables, and Figures 770.50, 770.61, 800.50, 800.61, 820.50, and 820.6, etc..

Delete all other references to listed "duct cables" as follows and including any other references not explicitly listed below
- 770.50 and 770.61: OFND and OFCD
- 800.50 and 800.61: CMD
- 820.50 and 820.61: CATVD

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding communications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).

- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.

- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety.

- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.

- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-314 Log #3600 NEC-P16 **Final Action: Accept**
(770.61(A), 800.61(A), 820.51(A) and Table & Figures 770.50, 770.61, 800.50, 800.61, 820.50 and 820.61)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Alfred D. Messineo, Calm Technologies Inc.
Comment on Proposal No: 16-37
Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace Section 770.61(A) and 800.61(A) as appropriate:

Note: The relevant cables types need to be inserted in the text below as appropriate for each Article. For

• 770: OFNP and OFCP
• 800: CMP (delete other bolded text)
• 820: CATVP (delete other bolded text)

With all of:

(A) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(C) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.

(B) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply to for electric wire, cables, and raceways where they are installed in other spaces used for environmental air. Type OFNP and OFCP cables and plenum optical fiber raceways shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities. Other listed cable types installed in compliance with 300.22 shall also be permitted. Types OFNP and OFCP cables shall be permitted to be installed in listed plenum raceways.

Tables and Figures 770.50, 770.61, 800.50, 800.61, 820.50, and 820.6:

Delete references to listed "duct cables" as follows:

• 770.50 and 770.61: OFND and OFCD
• 800.50 and 800.61: CMD
• 820.50 and 820.61: CATVD

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document. Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
• Eliminating or correcting erroneous definitions
• Consolidating definitions in Article 100.

2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)

4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications section by the following means:

– Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).

– Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.

– Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

– Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the visibility of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

– Such cables have a proven track record for safety

– Listed plenum cables currently installed within buildings have not been sown to raise the risk factor to building occupants.

– The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical area (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business. educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to building up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-315 Log #2189 NEC-P16 **Final Action: Accept**

(770.61(A), 800.61(A), 820.61(A) and Table and Figures 770.50, 770.61, 800.50, 800.61, 820.50 and 820.61)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Ken Chauvin, Corning Cable Systems

Comment on Proposal No: 16-37

Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.61(A), 800.61(A), 820.61(A) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For

- 770: **OFNP** and **OFCP** (as is below)
- 800: **CMP** (delete other ***bolded*** text)
- 820: **CATVP** (delete other ***bolded*** text)

2) Renumber Sections as appropriate.

Replace Section 770.61(A), 800.62(A), 820.61(A) with all of the following:

(A) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables installed in ducts or plenums used for environmental air.

(B) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply for electric wire, cables, ***and raceways*** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables ***and plenum optical fiber raceways*** shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities. Other listed cable types installed in compliance with 300.22 shall also be permitted. Types **OFNP and OFCP** ***cables shall be permitted to be installed in listed plenum raceways.***

Tables and Figures 770.50, 770.61, 800.50, 800.61, 820.50 & 820.6, etc.

Delete all other references to listed "duct cables" as follows and including any other references not explicitly listed below

- 770.50 & 770.61: OFND and OFCD
- 800.50 & 800.61: CMD
- 820.50 & 820.61: CATVD

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended included:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

• Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).

• Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements

• Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises end users (i.e., fiber-to-the-end user). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

• Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-316 Log #2818 NEC-P16 **Final Action: Accept**

(770.61(A), 800.61(A), 820.61(A), and Table & Figure 770.50, 770.61, 800.50, 800.61, 820.50 and 820.51)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Paul Schmugge, Pirelli Cables & Systems North America

Comment on Proposal No: 16-37

Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.61(A), 800.61(A), and 820.61(A) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For

• 770: **OFNP** and **OFCP** (as is below)
• 800: **CMP** (delete other **bolded** text)
• 820: **CATVP** (delete other **bolded** text)

2) Renumber Sections as appropriate.

Replace Section 770.61(A), 800.61(A), and 820.61(A) with all of the following:

(A) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.

(B) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply for electric wire, cables, **and raceways** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables **and plenum optical fiber raceways** shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities. Other listed cable types installed in compliance with 300.22 shall also be permitted. Types **OFNP and OFCP cables shall be permitted to be installed in listed plenum raceways**.

Text, Tables, and Figures 770.50, 770.61, 800.50, 800.61, 820.50, and 820.6, etc..

Delete all other references to listed "duct cables" as follows and including any other references not explicitly listed below

• 770.50 and 770.61: OFND and OFCD
• 800.50 and 800.61: CMD
• 820.50 and 820.61: CATVD

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding communications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety.
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.

- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-317 Log #2988 NEC-P16 **Final Action: Accept**

(770.61(A), 800.61(A), 820.61(A) and Table & Figures 770.50, 770.61, 800.50, 800.61, 820.50 and 820.61 (as appropriate))

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Sean Foley, AFL Telecommunications

Comment on Proposal No: 16-37

Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.61(A), 800.61(A), 820.61(A) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For

- 770: **OFNP** and **OFCP** (as is below)
- 800: **CMP** (delete other ***bolded*** text)
- 820: **CATVP** (delete other ***bolded*** text)

2) Renumber Sections as appropriate.

Replace Section 770.61(A) 800.62(A), 820.61(A) with all of the following:

(A) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables installed in ducts or plenums used for environmental air.

(B) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply for electric wire, cables, ***and raceways*** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables ***and plenum optical fiber raceways*** shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities. Other listed cable types installed in compliance with 300.22 shall also be permitted. Types **OFNP and OFCP** ***cables shall be permitted to be installed in listed plenum raceways.***

Text, Tables and Figures 770.50, 770.61, 800.50, 800.61, 820.50 & 820.6, etc.

Delete all other references to listed "duct cables" as follows and including any other references not explicitly listed below

- 770.50 & 770.61: OFND and OFCD
- 800.50 & 800.61: CMD
- 820.50 & 820.61: CATVD

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended included:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

• Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).

• Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements

• Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises end users (i.e., fiber-to-the-end user). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

• Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-318 Log #2996 NEC-P16 **Final Action: Accept**

(770.61(A), 800.61(A), 820.61(A) and Table & Figures 770.50, 770.61, 800.50, 800.61, 820.50 and 820.61)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: James Walter Clark, Timberland Mechanical Services

Comment on Proposal No: 16-63

Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace Sections 770.61(A), 800.61(A), 820.61(A) as follows:

Note: The relevant cable types need to be inserted in the text below as appropriate for each article. For

- 770: OFNP and OFCP
- 800: **CMP (delete other bolded text)**
- 820: **CATVP (delete other bolded text)**

With all of:

(A) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables installed in ducts or plenums used for environmental air.

(B) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply for electric wire, cables, **and raceways** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables **and plenum optical fiber raceways** shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities. Other listed cable types installed in compliance with 300.22 shall also be permitted. **Types OFNP and OFCP cables shall be permitted to be installed in listed plenum raceways.**

Tables and Figures 770.50, 770.61, 800.50, 800.61, 820.50 and 820.6.

Delete references to listed "duct cables" as follows:

- 770.50 & 770.61: OFND and OFCD
- 800.50 & 800.61: CMD
- 820.50 & 820.61: CATVD

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various articles and sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structure cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
- Eliminating or correcting erroneous definitions
- Consolidating definitions in Article 100

2. Clarify references to the relevant portions of 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)

4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the state for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises end users (i.e., fiber-to-the-end user). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

- Maintain the viability of listed "plenums" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety.
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
- Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.
- Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
- Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.
- Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However; "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-319 Log #3045 NEC-P16 **Final Action: Accept**
(770.61(A), 800.61(A), 820.61(A) and Table & Figures 770.50, 770.61, 800.50, 800.61, 820.50 and 820.61)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: William Tenkate, EIS Wire & Cable Co.
Comment on Proposal No: 16-37
Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.61(A), 800.61(A), and 820.61(A) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For
• 770: **OFNP** and **OFCP** (as is below)
• 800: **CMP** (delete other **bolded** text)
• 820: **CATVP** (delete other **bolded** text)
2) Renumber Sections as appropriate.

Replace Section 770.61(A), 800.61(A), and 820.61(A) with all of the following:

(A) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.

(B) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply for electric wire, cables, **and raceways** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables **and plenum optical fiber raceways** shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities. Other listed cable types installed in compliance with 300.22 shall also be permitted. Types **OFNP and OFCP cables shall be permitted to be installed in listed plenum raceways**.

Text, Tables, and Figures 770.50, 770.61, 800.50, 800.61, 820.50, and 820.6, etc..

Delete all other references to listed "duct cables" as follows and including any other references not explicitly listed below
• 770.50 and 770.61: OFND and OFCD
• 800.50 and 800.61: CMD
• 820.50 and 820.61: CATVD

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
- Eliminating or correcting erroneous definitions
- Consolidating definitions in Article 100.

2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)

4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding communications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety.
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-320 Log #3313 NEC-P16 **Final Action: Accept**
(770.61(A), 800.61(A), 820.61(A) and Table & Figures 770.50, 770.61, 800.50, 800.61, 820.50 and 820.61)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Donald G. Ouellette, Teknor Apex Co.
Comment on Proposal No: 16-37
Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:
Replace current Sections 770.61(A), 800.61(A), 820.61(A) as indicated below:
Notes
1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each article. For
• 770: **OFNP** and **OFCP** (as is below)
• 800: **CMP** (delete other **bolded** text)
• 820: **CATVP** (delete other **bolded** text)
2) Renumber Sections as appropriate.
Replace Section 770.61(A), 800.61(A), 820.61(A) with all of the following:
(A) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire, cables installed in ducts or plenums used for environmental air.
(B) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply for electric wire and cables installed in ducts or plenums used for environmental air. Type **OFNP** and **OFCP** cables **and plenum optical fiber raceways** shall be permitted to be used for environmental air. installed in compliance with 300.22 shall also be permitted. Type **OFNP** and **OFCP cables shall be permitted to be installed in listed plenum raceways.**
Text, Tables, and Figures 770.50, 770.61, 800.50, 800.61, 820.50 and 820.6, etc.
Delete all other references to listed "duct cables" as follows and including any other references not explicitly listed below:
• 770.50 & 770.61: OFND and OFCD
• 800.50 & 800.61: CMD
• 820.50 & 820.61: CATVD
Substantiation: In the mid 1970's the NFPA 255 test, (referred to at that time as the ASTM E-84), was deemed inappropriate for wire and cables because there was no provision for mounting cables in this test designed for building materials. The NFPA 255 test then known as ASTM E-84, Steiner Tunnel Test was modified to accommodate testing wires and cables and as a result a steel ladder suspended in the approximate center of the fire rig to simulate a horizontal cable tray. The modified ASTM E-84 was then named UL-190, Steiner Tunnel Fire Test. In addition to cable mounting differences there also remains another very important difference in comparing the NFPA 255 to the UL-910 (now known as NFPA 262). This very important difference is the test time duration. The proposed NFPA 255 has a test duration time of 10 minutes. The test time duration of the UL-910 (NFPA 262 test) is 20 minutes. This is important because fluoropolymer insulating and jacketing materials do not begin to burn until temperatures reach > 1100°F. Furthermore, Underwriters Laboratories has since issued a new UL standard, UL 2424, and is now accepting applications to list Limited Combustible, CMD Cables. The UL 2424 standard has omitted NFPA 262, a 20-minute duration test, in favor of NFPA 255, a 10-minute duration test.
The effects of favoring NFPA 255 (10 minute test) versus NFPA 262 (20 minute test) have not been studied across all plenum cable designs. If the NFPA 255 test protocol is to be the test method for wires and cables then consideration must be given to extend the test time of NFPA 255 for wires and cables to 20 minutes.
In 1998 the Fire Protection Research Foundation, FPRF, conducted a study called "International Limited Combustible Plenum Cable Fire Test Project". Teknor Apex Company participated in this research project. The final report to this project was printed in March 2001. The cable samples consisted of only 4 UTP, unshielded twisted pairs made from various insulating and jacketing materials. The decision to use NFPA 255 and NFPA 259 building materials test methods was not a consensus decision. The facts are that NFPA 255 and NFPA 259 are clearly described as: NFPA 255, Standard Method of Test of Surface Burning Characteristics of Building Materials - NFPA 259, Standard Method for Potential Heat of Building Materials. Despite objections from a minority of sponsors the project moved forward utilizing these test methods previously deemed inappropriate during a time period when 4 pair UTP consisting of cables made of all fluoropolymer materials already existed.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-321 Log #3326 NEC-P16 **Final Action: Accept**
(770.61(A), 800.61(A), 820.61(A) and Table & Figures 770.50, 770.61, 800.50, 800.61 820.50 and 820.61)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Robert Pollock, Corning Cable Systems
Comment on Proposal No: 16-37
Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:
Replace current Sections 770.61(A) , 800.61(A), 820.61(A) as indicated below:
Notes:
1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For
• 770: **OFNP** and **OFCP** (as is below)
• 800: **CMP** (delete other **bolded** text)
• 820: **CATVP** (delete other **bolded** text)
2) Renumber Sections as appropriate.
Replace Section 770.61(A), 800.61(A), 820.61(A), 770.82(A&B), 800.82(A&B), 820.82(A&B) with all of the following:
(A) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables installed in ducts or plenums used for environmental air.
(B) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply for electric wire, cables, and raceways where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables and plenum optical fiber raceways shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities. Other listed cable types installed in compliance with 300.22 shall also be permitted. Types **OFNP** and **OFCP** cables and plenum optical fiber raceways shall be permitted to be installed in other spaces used fir environmental air, to include ceiling cavities and raised floor cavities. Other listed cables types installed in compliance with 300.22 shall also be permitted. Types **OFNP** and **OFCP** cables shall be permitted to be installed in listed plenum raceways.
Text, Tables, and Figures 770.50, 770.61, 800.50, 800.61, 820.50 & 820.6. etc.
Delete all other references to listed "duct cables" as follows and including any other references not explicitly listed below
• 770.50 & 770.61: OFND and OFCD
• 800.50 & 800.61: CMD
• 820.50 & 826.61: CATVD
• 820.6: etc.
Substantiation: Comment Discussion
The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.
Specific actions recommended include:
1. Harmonize on appropriate definitions, as well as:
• Eliminating or correcting erroneous definitions
• Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cables in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefit. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises end users (i.e., fiber-to-the-end user). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reinterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kband for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However: "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, three are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-322 Log #3374 NEC-P16 **Final Action: Accept**

(770.61(A), 800.61(A), 820.61(A) and Table & Figures 770.50, 770.61, 800.50, 800.61, 820.50 and 820.61)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Randy Harris, Day One Communications Inc.

Comment on Proposal No: 16-37

Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace Section 770.61(A) & 800.61(A), 820.61(A) as follows:

Note: The relevant cables types need to be inserted in the text below as appropriate for each Article. For

• 770: OFNP and OFCP
• 800: CMP (delete other bolded text)
• 820: CATVP (delete other bolded text)

With all of

(A) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.

(B) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply for electric wire, cables, **and raceways** where they are installed in other spaces used fodr environmental air. Type **OFNP** and **OFCP** cables **and plenum optical fiber raceways** shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities. Other listed cable types installed in compliance with 300.22 shall also be permitted. **Types OFNP and OFCP cables shall be permitted to be installed in listed plenum raceways.**

Tables and Figures 770.50, 770.61, 800.50, 800.61, 820.50 and 820.6..

Delete references to listed "duct cables" as follows:

• 770.50 & 770.61: OFND and OFCD
• 800.50 & 800.61: CMD
• 820.50 & 820.61: CATVD

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended included:

1. Harmonize on appropriate definitions, as well as:
• Eliminating or correcting erroneous definitions
• Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not
supported by meaningful and relevant technical date).
- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of
resources to account for exceedingly derisive requirements
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be
significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the
installation and maintenance of highly capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or
control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to
isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-323 Log #3377 NEC-P16 **Final Action: Accept**

(770.61(A)800.61(A), 820.61(A), and Table & Figures 770.50, 770.61, 800.50, 800.61, 820.50 and 820.61 (as appropriate))

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Matt Brown, US Conec

Comment on Proposal No: 16-37

Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.61(A), 800.61(A), 820.61(A) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For
- 770: **OFNP** and **OFCP** (as is below)
- 800: **CMP** (delete other ***bolded*** text)
- 820: **CATVP** (delete other ***bolded*** text)

2) Renumber Sections as appropriate.

Replace Section 770.61(A) 800.62(A), 820.61(A) with all of the following:

(A) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables installed in ducts or plenums used for environmental air.

(B) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply for electric wire, cables, ***and raceways*** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables ***and plenum optical fiber raceways*** shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities. Other listed cable types installed in compliance with 300.22 shall also be permitted. Types **OFNP and OFCP** ***cables shall be permitted to be installed in listed plenum raceways.***

Text, Tables and Figures 770.50, 770.61, 800.50, 800.61, 820.50 & 820.6, etc.

Delete all other references to listed "duct cables" as follows and including any other references not explicitly listed below
- 770.50 & 770.61: OFND and OFCD
- 800.50 & 800.61: CMD
- 820.50 & 820.61: CATVD

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended included:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

• Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).

• Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements

• Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises end users (i.e., fiber-to-the-end user). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

• Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-324 Log #3556 NEC-P16 **Final Action: Accept**

(770.61(A), 800.61(A), 820.61(A) and Table & Figures 770.50, 770.61, 800.50, 800.61, 820.50 and 820.61)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Michael J. McLear, Madison Cable Corporation

Comment on Proposal No: 16-37

Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.61(A), 800.61(A), and 820.61(A) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For

• 770: **OFNP** and **OFCP** (as is below)

• 800: **CMP** (delete other **bolded** text)

• 820: **CATVP** (delete other **bolded** text)

2) Renumber Sections as appropriate.

Replace Section 770.61(A), 800.61(A), and 820.61(A) with all of the following:

(A) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.

(B) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply for electric wire, cables, **and raceways** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables **and plenum optical fiber raceways** shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities. Other listed cable types installed in compliance with 300.22 shall also be permitted. Types **OFNP and OFCP cables shall be permitted to be installed in listed plenum raceways**.

Text, Tables, and Figures 770.50, 770.61, 800.50, 800.61, 820.50, and 820.6, etc..

Delete all other references to listed "duct cables" as follows and including any other references not explicitly listed below

• 770.50 and 770.61: OFND and OFCD

• 800.50 and 800.61: CMD

• 820.50 and 820.61: CATVD

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding communications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).

- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.

- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety.

- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.

- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-325 Log #3564 NEC-P16 **Final Action: Accept**

(770.61(A), 800.61(A), 820.61(A) and Table & Figures 770.50, 770.61, 800.50, 800.61, 820.50 and 820.61)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Doug Coleman, Corning Cable Systems

Comment on Proposal No: 16-37

Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.61(A), 800.61(A), and 820.61(A) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For

• 770: **OFNP** and **OFCP** (as is below)

• 800: **CMP** (delete other **bolded** text)

• 820: **CATVP** (delete other **bolded** text)

2) Renumber Sections as appropriate.

Replace Section 770.61(A), 800.61(A), and 820.61(A) with all of the following:

(A) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables where installed in ducts or plenums used for environmental air.

(B) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply for electric wire, cables, **and raceways** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables **and plenum optical fiber raceways** shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities. Other listed cable types installed in compliance with 300.22 shall also be permitted. Types **OFNP and OFCP cables shall be permitted to be installed in listed plenum raceways**.

Text, Tables, and Figures 770.50, 770.61, 800.50, 800.61, 820.50, and 820.6, etc..

Delete all other references to listed "duct cables" as follows and including any other references not explicitly listed below

• 770.50 and 770.61: OFND and OFCD

• 800.50 and 800.61: CMD

• 820.50 and 820.61: CATVD

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding communications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety.
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source

despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-326 Log #3882 NEC-P16 **Final Action: Accept**

(770.61(A), 800.61(A), 820.61(A) and Table & Figures 770.50, 770.61, 800.50, 800.61, 820.50, and 820.61)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: John A. Jay, Corning / Rep. Corning Inc.

Comment on Proposal No: 16-37

Recommendation: Replace Section 770.61(A),800.61(A), 820.61(A) as follows:

Note: The relevant cables types need to be inserted in the text below as appropriate for each article. For

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For

- 770: **OFNP** and **OFCP** (as is below)
- 800: **CMP** (delete other ***bolded*** text)
- 820: **CATVP** (delete other ***bolded*** text)

2) Renumber Sections as appropriate.

(A)Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables installed in ducts or plenums used for environmental air.

(B) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply for electric wire, cables, ***and raceways*** where they are installed to other spaces used for environmental air. Type **OFNP** and **OFCP** cables ***and plenum optical fiber raceways*** shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities. Other listed cable types installed in compliance with 300.22 shall also be permitted. Types **OFNP and OFCP** ***cables shall be permitted to be installed in listed plenum raceways.***

Text, Tables and Figures 770.50, 770.61, 800.50, 800.61, 820.50 & 820.6, etc.

Delete all other references to listed "duct cables" as follows and including any other references not explicitly listed below

- 770.50 & 770.62: OFND and OFCD
- 800.50 & 800.61: CMD
- 820.50 & 820.61: CATVD

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding communications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

- Maintain viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
  - Such cables have a proven track record for safety.
  - Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
  - The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
- Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.
- Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
- Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.
- Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-327 Log #3615 NEC-P16 **Final Action: Accept**
(770.61(A), 800.61(A) and 820.61(A))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Charles D. Marion, II, Marion Fiber Splice Inc.
Comment on Proposal No: 16-37
Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:
Replace Section 770.61(A), 800.61(A), and 820.61(B) as appropriate:
Note: The relevant cables types need to be inserted in place of OFNP/OFCP and OFND/OFCD as appropriate for each Article.
• 770: As is below
• 800: CMP and CMD
• 820: CATVP and CATVD
With:
(A) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) for electric wiring shall also apply to installations of optical fiber cables and raceways where they are installed in ducts or plenums used for environmental air. Type OFND and OFCD cables shall be permitted when associated with the operation of the duct or plenum to include the sensing, monitoring, handling, or control of environmental air with the duct or plenum, as well as supporting the associated equipment such as fire alarm and suppression.
(B) Other Spaces Used for Environmental Air. The requirements of 300.22(C) for electric wiring shall also apply to installations of optical fiber cables and raceways where they are installed in other space used for environmental air, such as ceiling cavities and raised floor cavities. Type OFNP and OFCP cables and plenum optical fiber raceways shall be permitted. Other listed cable types installed in compliance with 300.22 shall be permitted. Listed plenum optical fiber raceways shall be permitted to be installed in other spaces used for environmental air as described in 300.22(C). Types OFNP and OFCP cables shall be permitted to be installed in these raceways.
Substantiation: In regards to structured cabling supporting intrabuilding telecommunications systems, it is imperative to avoid making changes that directly or indirectly effect, or which otherwise set the stage for, the development of unnecessary and extraneous requirements that severely and negatively affect, and or unnecessarily limit, viable solutions to real-world requirements. To do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:
– Significantly complicate intrabuilding structured cabling requirements with no substantive, definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
– Critically limit the availably product sets compliant to the revised requirements or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
– Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser), resulting in significant delays in realizing improvements to endusers' Quality-of-Life and access to on-demand services.
– Limit the flexibility and upgrade potential of newer structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.
The primary objectives of this comment, and associated comments, can be summarized as:
• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
– Such cables have a proven track record for safety
– The report on an investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
• Reiterate that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums unless specifically associated with the operation of the duct or plenum, to include the sensing, monitoring, handling, or control of environmental air within the duct or plenum, or with the associated systems such as fire alarm and suppression.
• Encourage the NFPA to recognize that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications supporting sprawling business complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
• No significant consideration has apparently been given to what alternative viable structured cabling solutions may exist or can be developed, if any
Comment Discussion
The purpose of this comment, and associated comments, is improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding, wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document (see link below).
Specific actions recommended include:
1. Harmonize on appropriate definitions, as well as:
• Eliminating or correcting erroneous definitions
• Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
– Plenums and air ducts, vs.
– Other spaces used for environmental air
– ceiling cavities and raised floor cavities
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)
– Plenums and ducts, vs.
– Other spaces used for environmental air
– ceiling cavities and raised floor cavities
5. Allow substitution hierarchy to be employed as appropriate, by avoiding redundant requirements in the sections addressed above.
– The use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they would be needed, when such products exist. This flexibility is allowed per the NEC substitution hierarchy.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-328 Log #3354 NEC-P16 **Final Action: Accept**
(770.61(A), 800.61(A) and Table & figures 770.50, 770.61, 800.50, 800.61, 820.50 and 820.61)

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Jean Baer, Supeiror Essex
Comment on Proposal No: 16-37
Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.61(A), 800.61(A), 820.61(A) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For

- 770: **OFNP** and **OFCP** (as is below)
- 800: **CMP** (delete other ***bolded*** text)
- 820: **CATVP** (delete other ***bolded*** text)

2) Renumber Sections as appropriate.

Replace Section 770.61(A) 800.62(A), 820.61(A) with all of the following:

(A) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire and cables installed in ducts or plenums used for environmental air.

(B) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply for electric wire, cables, ***and raceways*** where they are installed in other spaces used for environmental air. Type **OFNP** and **OFCP** cables ***and plenum optical fiber raceways*** shall be permitted to be installed in other spaces used for environmental air, to include ceiling cavities and raised floor cavities. Other listed cable types installed in compliance with 300.22 shall also be permitted. Types **OFNP and OFCP** ***cables shall be permitted to be installed in listed plenum raceways.***

Text, Tables and Figures 770.50, 770.61, 800.50, 800.61, 820.50 & 820.6, etc.

Delete all other references to listed "duct cables" as follows and including any other references not explicitly listed below

- 770.50 & 770.61: OFND and OFCD
- 800.50 & 800.61: CMD
- 820.50 & 820.61: CATVD

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended included:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises end users (i.e., fiber-to-the-end user). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

- Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
  - Such cables have a proven track record for safety
  - Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
  - The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
- Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.
- Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
- Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.
- Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-329 Log #2985 NEC-P16 **Final Action: Accept**

(770.61(A) and 800-61(A), 820-61(A) and Table & Figures 770-50, 770-61, 800-50, 800-61, 820-50 and 820-61)

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Sean Foley, AFL Telecommunications

Comment on Proposal No: 16-37

Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.61(A), 800.61(A), 820.61(A) as indicated below:

Notes

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each article. For

- 770: **OFNP** and **OFCP** (as is below)
- 800: **CMP** (delete other **bolded** text)
- 820: **CATVP** (delete other **bolded** text)

2) Renumber Sections as appropriate.

Replace Section 770.61(A), 800.61(A), 820.61(A) with all of the following:

(A) Ducts or Plenums Used for Environmental Air. The requirements of 300.22(B) shall apply for electric wire, cables installed in ducts or plenums used for environmental air.

(B) Other Spaces Used for Environmental Air. The requirements of 300.22(C) apply for electric wire and cables installed in ducts or plenums used for environmental air. Type **OFNP** and **OFCP** cables **and plenum optical fiber raceways** shall be permitted to be used for environmental air. installed in compliance with 300.22 shall also be permitted. Type **OFNP** and **OFCP cables shall be permitted to be installed in listed plenum raceways.**

Text, Tables, and Figures 770.50, 770.61, 800.50, 800.61, 820.50 and 820.6, etc.

Delete all other references to listed "duct cables" as follows and including any other references not explicitly listed below:

- 770.50 & 770.61: OFND and OFCD
- 800.50 & 800.61: CMD
- 820.50 & 820.61: CATVD

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
 - Eliminating or correcting erroneous definitions
 - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding communications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

- Maintain viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety.
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
- Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.
- Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
- Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.
- Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

(Note: The sequence no. 16-330 was not used)

16-331 Log #3885 NEC-P16 **Final Action: Accept**

(770.82(A), 770.82(B), 800.82(A), 800.82(B), 820.82(A), 820.82(B))

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: John A. Jay, Corning

Comment on Proposal No: 16-37

Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace Section 770.82(A&B), 800.82(A&B), 820.82(A&B) as appropriate for each Article. For

- 770: **OFNP** and **OFCP**
- 800: CMP (delete other bolded text)
- 820: CATVP (delete other bolded text)

With

(A) Types OFNP and OFCP. Types **OFNP nonconductive** and **OFCP conductive optical fiber** plenum cables shall be listed as being suitable for placement in other space used for environmental air, to include ceiling cavities and raised floor cavities, and shall also be listed as having adequate fire-resistant and low smoke-producing characteristics.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
- Eliminating or correcting erroneous definitions
- Consolidating definitions in Article 100.

2. Clarify references in the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles.; (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)

4. Clarify listing requirements for wire and cables in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions

to real-world issues, but provide no added benefit. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reinterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kband for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However: "dust cable" can act as a fuel source despite its low-smoke characteristics. Since, three are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set of damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-332 Log #2191 NEC-P16 **Final Action: Accept**
(770.82(A) and (B), 800.82(A) and (B), 820.82(A) and (B))

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Ken Chauvin, Corning Cable Systems

Comment on Proposal No: 16-37

Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.82 (A&B) , 800.82 (A& B), 820.82 (A&B) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For 770: **OFNP** and **OFCP** (as is below)

800: **CMP** (delete other ***bolded*** text)

820: **CATVP** (delete other ***bolded*** text)

2) Renumber Sections as appropriate.

Replace Section 770.82(A&B), 800.82 (A&B), 820.82(A&B) with all of the following:

(A) Types OFNP and OFCP. Types **OFNP** *nonconductive* and **OFCP** ***conductive optical fiber*** plenum cables shall be listed as being suitable for placement in other spaces used for environmental air, to include ceiling cavities and raised floor cavities, and shall also be listed as having adequate fire-resistant low smoke producting characteristics.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended included:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical date).
- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of highly capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

- Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in

effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

- Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or
control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

- Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

- Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

- Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-333 Log #2821 NEC-P16 **Final Action: Accept**
(770.82(A) and (B), 800.82(A)&(B), 820.82(A)&(B))

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Paul Schmugge, Pirelli Cables & Systems North America

Comment on Proposal No: 16-37

Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.82(A andB), 800.82(A and B), 820.82(A and B) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For

- 770: **OFNP** and **OFCP** (as is below)
- 800: **CMP** (delete other **bolded** text)
- 820: **CATVP** (delete other **bolded** text)

2) Renumber Sections as appropriate.

Replace Section 770.82(A&B) & 800.82(A&B) , 820.82(A&B) with all of the following:

(A) Types OFNP and OFCP. Types **OFNP** nonconductive and **OFCP** conductive optical fiber plenum cables and shall be listed as being suitable for placement in other spaces used for environmental air, to include ceiling cavities and raised floor cavities, and shall also be listed as having adequate fire-resistant and low smoke-producing characteristics.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
- Eliminating or correcting erroneous definitions
- Consolidating definitions in Article 100.

2. Clarify references in the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles.; (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)

4. Clarify listing requirements for wire and cables in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefit. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).

- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.

- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

- Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety

- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.

- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

- Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

- Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kband for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

- Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

- Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers

in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However: "dust cable" can act as a fuel source despite its low-smoke characteristics. Since, three are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set of damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-334 Log #3063 NEC-P16 **Final Action: Accept**

(770.82(A), and (B) 800.82 (A)&(B), 820.82 (A)&(B))

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: James Walter Clark, Timberland Mechanical Services

Comment on Proposal No: 16-37

Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace Section 770.82(A&B), 800.82(A&B), 820.82(A&B) as appropriate:

Note: The relevant cables types need to be inserted in the text below as appropriate for each Article. For

- 770: **OFNP** and **OFCP**
- 800: **CMP** (**delete other bolded text)**
- 820: **CATVP** (**delete other bolded text**)

With:

(**A) Types OFNP and OFCP.** Types **OFNP nonconductive** and **OFCP conductive optical fiber** plenum cables shall be listed as being suitable for placement in other space used for environmental air, to include ceiling cavities and raised floor cavities, and shall also be listed as having adequate fire-resistant and low smoke-producting characteristics.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
- Eliminating or correcting erroneous definitions
- Consolidating definitions in Article 100.

2. Clarify references in the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles.; (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)

4. Clarify listing requirements for wire and cables in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefit. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

- Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
  - Such cables have a proven track record for safety
  - Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
  - The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
- Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.
- Reinterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kband for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
- Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.
- Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However: "dust cable" can act as a fuel source despite its low-smoke characteristics. Since, three are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set of damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-335 Log #3328 NEC-P16 **Final Action: Accept**
(770.82(A)and (B), 800.82(A)&(B), 820.82 (A)&(B))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Robert Pollock, Corning Cable Systems
Comment on Proposal No: 16-37
Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.82(A&B), 800.82(A&B), 820.82(A&B) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **Bold)** for each Article. For

- 770: **OFNP** and **OFCP** (as is below)
- 800: **CMP** (delete other **bolded** text)
- 820: **CATVP** (deleted other **bolded** text)

2) Renumber sections as appropriate.

Replace Section 700.82(A&B), (800.82(A&B), 820.82(A&B) with all of the following:

(A) Types OFNP and OFCP. Types **OFNP** nonconductive and **OFCP conductive optical fiber** plenum cables shall be listed as being suitable for placement in other spaces used for environmental air, to include ceiling cavities and raised floor cavities, and shall also be listed as having adequate fire-resistant and low smoke-producing characteristics.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
- Eliminating or correcting erroneous definitions
- Consolidating definitions in Article 100.

2. Clarify references in the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles.; (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)

4. Clarify listing requirements for wire and cables in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefit. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

- Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
- Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.
- Reinterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kband for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
- Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.
- Educate all on typical building air distribution systems. such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However: "dust cable" can act as a fuel source despite its low-smoke characteristics. Since, three are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set of damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-336 Log #3323 NEC-P16 **Final Action: Accept**
(770.82(A) & (B), 800-82(A) & (B), 820-82(A) & (B))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Donald G. Ouellette, Teknor Apex Co.
Comment on Proposal No: 16-37
Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.82 (A&B) , 800.82 (A& B), 820.82 (A&B) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For

770: **OFNP** and **OFCP** (as is below)
800: **CMP** (delete other ***bolded*** text)
820: **CATVP** (delete other ***bolded*** text)

2) Renumber Sections as appropriate.

Replace Section 770.82(A&B), 800.82 (A&B), 820.82(A&B) with all of the following:

(A) Types OFNP and OFCP. Types **OFNP** *nonconductive* and **OFCP** ***conductive optical fiber*** plenum cables shall be listed as being suitable for placement in other spaces used for environmental air, to include ceiling cavities and raised floor cavities, and shall also be listed as having adequate fire-resistant low smoke producting characteristics.

Substantiation: In the mid 1970's the NFPA 255 test, (referred to at that time as the ASTM E-84), was deemed inappropriate for wire and cables because there was no provision for mounting cables in this test designed for building materials. The NFPA 255 test then known as ASTM E-84, Steiner Tunnel Test was modified to accommodate testing wires and cables and as a result a steel ladder suspended in the approximate center of the fire rig to simulate a horizontal cable tray. The modified ASTM E-84 was then named UL-190, Steiner Tunnel Fire Test. In addition to cable mounting differences there also remains another very important difference in comparing the NFPA 255 to the UL-910 (now known as NFPA 262). This very important difference is the test time duration. The proposed NFPA 255 has a test duration time of 10 minutes. The test time duration of the UL-910 (NFPA 262 test) is 20 minutes. This is important because fluoropolymer insulating and jacketing materials do not begin to burn until temperatures reach > 1100°F. Furthermore, Underwriters Laboratories has since issued a new UL standard, UL 2424, and is now accepting applications to list Limited Combustible, CMD Cables. The UL 2424 standard has omitted NFPA 262, a 20-minute duration test, in favor of NFPA 255, a 10-minute duration test.

The effects of favoring NFPA 255 (10 minute test) versus NFPA 262 (20 minute test) have not been studied across all plenum cable designs. If the NFPA 255 test protocol is to be the test method for wires and cables then consideration must be given to extend the test time of NFPA 255 for wires and cables to 20 minutes.

In 1998 the Fire Protection Research Foundation, FPRF, conducted a study called "International Limited Combustible Plenum Cable Fire Test Project". Teknor Apex Company participated in this research project. The final report to this project was printed in March 2001. The cable samples consisted of only 4 UTP, unshielded twisted pairs made from various insulating and jacketing materials. The decision to use NFPA 255 and NFPA 259 building materials test methods was not a consensus decision. The facts are that NFPA 255 and NFPA 259 are clearly described as: NFPA 255, Standard Method of Test of Surface Burning Characteristics of Building Materials - NFPA 259, Standard Method for Potential Heat of Building Materials. Despite objections from a minority of sponsors the project moved forward utilizing these test methods previously deemed inappropriate during a time period when 4 pair UTP consisting of cables made of all fluoropolymer materials already existed.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-337 Log #2970 NEC-P16 **Final Action: Accept**
(770.82(A) & (B), 800-82(A) & (B), 820-82 (A) & (B) (as appropriate))

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Sean Foley, AFL Telecommunications

Comment on Proposal No: 16-37

Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.82(A and B), 800.82(A and B), and 820.82(A and B) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for Article. For

- 770: **OFNP** and **OFCP** (as is below)
- 800: **CMP** (delete other **bolded** text)
- 820: **CATVP** (delete other **bolded** text)

2) Renumber Sections as appropriate.

Replace Section 770.82(A and B), 800.82(A and B), and 820.82(A and B) with all of the following:

(A) Types of OFNP and OFCP. Types **OFNP nonconductive** and **OFCP conductive optical fiber** plenum cables shall be listed as being suitable for placement in other spaces used for environmental air, to include ceiling cavities and raised floor cavities, and shall also be listed as having adequate fire-resistant and low smoke-producing characteristics.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
- Eliminating or correcting erroneous definitions
- Consolidating definitions in Article 100.

2. Clarify references in the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles.; (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)

4. Clarify listing requirements for wire and cables in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefit. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

- Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
  - Such cables have a proven track record for safety
  - Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
  - The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
- Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.
- Reinterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kband for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
- Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.
- Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However: "dust cable" can act as a fuel source despite its low-smoke characteristics. Since, three are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set of

damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-338 Log #2990 NEC-P16 **Final Action: Accept**

(770.82(A) & (B), 800.82(A) & (B), 820.82(A) & (B))

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Sean Foley, AFL Telecommunications

Comment on Proposal No: 16-37

Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.82 (A&B) , 800.82 (A& B), 820.82 (A&B) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For 770: **OFNP** and **OFCP** (as is below)

800: **CMP** (delete other ***bolded*** text)

820: **CATVP** (delete other ***bolded*** text)

2) Renumber Sections as appropriate.

Replace Section 770.82(A&B), 800.82 (A&B), 820.82(A&B) with all of the following:

(A) Types OFNP and OFCP. Types **OFNP** *nonconductive* and **OFCP** ***conductive optical fiber*** plenum cables shall be listed as being suitable for placement in other spaces used for environmental air, to include ceiling cavities and raised floor cavities, and shall also be listed as having adequate fire-resistant low smoke producting characteristics.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended included:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical date).
- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of highly capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

- Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
- Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or

control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

- Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
- Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.
- Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-339 Log #3046 NEC-P16 **Final Action: Accept**
(770.82(A) & (B), 800.82(A) & (B), 820.82(A) & (B))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: William Tenkate, EIS Wire & Cable Co.
Comment on Proposal No: 16-37
Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:
Replace Section 770.82(A&B), 800.82(A&B), 820.82(A&B) as appropriate:
Note: The relevant cables types need to be inserted in the text below as appropriate for each Article. For
• 770: **OFNP** and **OFCP**
• 800: **CMP** (**delete other bolded text)**
• 820: **CATVP** (**delete other bolded text**)
With:
(**A) Types OFNP and OFCP.** Types **OFNP nonconductive** and **OFCP conductive optical fiber** plenum cables shall be listed as being suitable for placement in other space used for environmental air, to include ceiling cavities and raised floor cavities, and shall also be listed as having adequate fire-resistant and low smoke-producting characteristics.
Substantiation: Comment Discussion
The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.
Specific actions recommended include:
1. Harmonize on appropriate definitions, as well as:
• Eliminating or correcting erroneous definitions
• Consolidating definitions in Article 100.
2. Clarify references in the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles.; (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cables in spaces used for handling environmental air. (###.82)
Comment Rationale
In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefit. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:
- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.
The primary objectives of this comment, and associated comments, can be summarized as the needs to:
• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.
• Reinterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kband for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.
• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However: "dust cable" can act as a fuel source despite its low-smoke characteristics. Since, three are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set of damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-340 Log #3335 NEC-P16 **Final Action: Accept**
(770.82(A) & (B), 800.82(A) &(B), 820.82(A) & (B))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Grant P. Watkins, Confluent Photonics Corporation
Comment on Proposal No: 16-37
Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:
Replace Section 770.82(A&B), 800.82(A&B), 820.82(A&B) as appropriate
Note: The relevant cables types need to be inserted in the text below as appropriate for each article. For
• 770: **OFNP** and **OFCP**
• 800: **CMP** (delete other **bolded** text)
• 820: **CATVP** (delete other **bolded** text)
With
(A) Types OFNP and OFCP. Types **OFNP nonconductive** and **OFCP conductive optical fiber** plenum cables shall be listed as being suitable for placement in other space used for environmental air, to include ceiling cavities and raised floor cavities, and shall also be listed as having adequate fire-resistant and low smoke-producing characteristics.
Substantiation: Comment Discussion
The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air", such as ceiling and raised floor cavities, as well as stressing the critical need to maintain

requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
• Eliminating or correcting erroneous definitions
• Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data.)
- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-341 Log #3381 NEC-P16 **Final Action: Accept**
(770.82(A) & (B), 800.82(A) & (B), 820.82(A) & (B))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Matt Brown, US Conec
Comment on Proposal No: 16-37
Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:
Replace current Sections 770.82(A&B), 800.82(A&B) and 820.82(A&B) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For
• 770: **OFNP** and **OFCP** (as is below)
• 800: **CMP** (delete other **bolded** text)
• 820: **CATVP** (delete other **bolded** text)
2) Renumber Sections as appropriate.

Replace Section 770.82(A&B), 800.82(A&B), 820.82(A&B) with all of the following:

(A) Types OFNP and OFCP. Types OFNP nonconductive and OFCP conductive optical fiber plenum cables shall be listed as being suitable for placement in other spaces used for environmental air, to include ceiling cavities and raised floor cavities, and shall also be listed as having adequate fire-resistant and low smoke-producing characteristics.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended included:

1. Harmonize on appropriate definitions, as well as:
- Eliminating or correcting erroneous definitions
- Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical date).
- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements

- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of highly capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

- Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety

- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.

- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

- Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or
control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

- Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

- Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

- Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-342 Log #3567 NEC-P16 **Final Action: Accept**
(770.82(A) & (B), 800.82(A) & (B), 820.82(A) & (B))

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Doug Coleman, Corning Cable Systems

Comment on Proposal No: 16-37

Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.82(A and B), 800.82(A and B), and 820.82(A and B) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for Article. For

- 770: **OFNP** and **OFCP** (as is below)
- 800: **CMP** (delete other **bolded** text)
- 820: **CATVP** (delete other **bolded** text)

2) Renumber Sections as appropriate.

Replace Section 770.82(A and B), 800.82(A and B), and 820.82(A and B) with all of the following:

(A) Types of OFNP and OFCP. Types **OFNP nonconductive** and **OFCP conductive optical fiber** plenum cables shall be listed as being suitable for placement in other spaces used for environmental air, to include ceiling cavities and raised floor cavities, and shall also be listed as having adequate fire-resistant and low smoke-producing characteristics.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
- Eliminating or correcting erroneous definitions
- Consolidating definitions in Article 100.

2. Clarify references in the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles.; (###.3)

3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)

4. Clarify listing requirements for wire and cables in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefit. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).

- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.

- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

- Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

- Such cables have a proven track record for safety

- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.

- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

- Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

- Reinterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kband for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However: "dust cable" can act as a fuel source despite its low-smoke characteristics. Since, three are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set of damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-343 Log #3601 NEC-P16 **Final Action: Accept**
(770.82(A) & (B), 800.82(A) & (B), 820.82(A) & (B))

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Alfred D. Messineo, Calm Technologies Inc.

Comment on Proposal No: 16-37

Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace Section 770.82(A and B), 800.82(A and B), and 820.82(A and B) as appropriate:

Note: The relevant cables types need to be inserted in the text below as appropriate for each Article. For

• 770: OFNP and OFCP
• 800: CMP (delete other bolded text)
• 820: CATVP (delete other bolded text)

With all of:

(A) Types of OFNP and OFCP. Types of OFNP nonconductive and OFCP conductive optical fiber plenum cables shall be listed as being suitable for placement in other space used for environmental air, to include ceiling cavities and raised floor cavities, and shall also be listed as having adequate fire-resistant and low smoke-producing characteristics.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document. Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
• Eliminating or correcting erroneous definitions
• Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications section by the following means:

– Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).

– Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.

– Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.

– Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the visibility of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).

– Such cables have a proven track record for safety

– Listed plenum cables currently installed within buildings have not been sown to raise the risk factor to building occupants.

– The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical area (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business. educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However, "duct cable" can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-344 Log #3610 NEC-P16 **Final Action: Accept**
(770.82(A) & (B), 800.82(A) & (B), 820.82(A) & (B))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Charles D. Marion, II, Marion Fiber Splice Inc.
Comment on Proposal No: 16-37
Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:
Replace Section 770.82(A and B), 800.82(A and B), and 820.82(A and B) as appropriate:
Note: The relevant cables types need to be inserted in place of OFNP/OFCP and OFND/OFCD as appropriate for each Article.
• 770: As is below
• 800: **CMP** and **CMD**
• 820: **CATVP** and **CATVD**
With:
(A) Types of OFNP and OFCP. Types of OFNP and OFCD nonconductive and conductive optical fiber air duct cables shall be listed as being suitable for use in ducts or plenums, and other used for environmental air and shall also be listed as having a low potential heat value, low flame spread characteristics, and very low smoke-producing characteristics.
(B) Types OFNP and OFCP. Types OFNP and OFCP nonconductive and conductive optical fiber plenum cables shall b listed as being suitable for use in ceiling cavities and raised floor cavities and shall also be listed as having adequate fire-resistant and low smoke-producing characteristics.
Substantiation: In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications section by the following means:
– Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
– Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
– Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser), resulting in significant delays in realizing improvements to endusers' Quality-of-Life and access to on-demand services.
– Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.
The primary objectives of this comment, and associated comments, can be summarized as the needs to:
• Maintain the visibility of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
– Such cables have a proven track record for safety
– The report on an investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical area (e.g., those involving safety of equipment and personnel).
• Reiterate that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums unless specifically associated with the operation of the duct or plenum, to include the sensing, monitoring, handling, or control of environmental air within the duct or plenum, or with the associated systems such as fire alarm and suppression.
• Encourage the NFPA to recognize that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
• No significant consideration has apparently been given to what alternative viable structured cabling solutions may exist or can be developed, if any
Comment Discussion
The purpose of this comment, and associated comments, is improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding, wiring and cabling. These comments also highlight the important of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document (see link below).
Specific actions recommended include:
1. Harmonize on appropriate definitions, as well as:
• Eliminating or correcting erroneous definitions
• Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
– Plenums and air ducts, vs.
– Other spaces used for environmental air
– ceiling cavities and raised floor cavities
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)
– Plenums and ducts, vs.
– Other spaces used for environmental air
– ceiling cavities and raised floor cavities
5. Allow substitution hierarchy to be employed as appropriate, by avoiding redundant requirements in the sections addressed above.
– The use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they would be needed, when such products exist. This flexibility is allowed per the NEC substitution hierarchy.
Panel Meeting Action: Accept
Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:
"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."
This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.
Number Eligible to Vote: 15
Ballot Results: Affirmative: 13 Abstain: 2
Comment on Affirmative:
OHDE: See my Affirmative Comment for Comment 16-34.
Explanation of Abstention:
DORNA: See my Explanation of Abstention for Comment 16-34.
KAHN: See my Explanation of Abstention on Comment 16-34.

16-345 Log #2986 NEC-P16 **Final Action: Accept**
(770.82(A) & (B), 800.82(A) & (B) and 820.82(A) & (B))

Note: See Technical Correlating Committee Note on Comment 16-106.
Submitter: Sean Foley, AFL Telecommunications
Comment on Proposal No: 16-37
Recommendation: With respect to cabling in ducts, plenums, and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:
Replace current Sections 770.82(A and B), 800.82(A and B), and 820.82(A and B) as indicated below:
Notes:
1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for Article. For
• 770: **OFNP** and **OFCP** (as is below)
• 800: **CMP** (delete other **bolded** text)
• 820: **CATVP** (delete other **bolded** text)

2) Renumber Sections as appropriate.

Replace Section 770.82(A and B), 800.82(A and B), and 820.82(A and B) with all of the following:

(A) Types of OFNP and OFCP. Types **OFNP nonconductive** and **OFCP conductive optical fiber** plenum cables shall be listed as being suitable for placement in other spaces used for environmental air, to include ceiling cavities and raised floor cavities, and shall also be listed as having adequate fire-resistant and low smoke-producing characteristics.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended include:

1. Harmonize on appropriate definitions, as well as:
• Eliminating or correcting erroneous definitions
• Consolidating definitions in Article 100.
2. Clarify references in the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles.; (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cables in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefit. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical data).
- Critically limit the availability of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements.
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of high capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

• Maintain the viability of listed "plenum" (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).

• Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.

• Reinterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kband for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).

• Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.

• Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building's exterior. However: "dust cable" can act as a fuel source despite its low-smoke characteristics. Since, three are no provisions for a listed device to detect toxins emanating from a burning "duct cable" in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set of damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

"The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle."

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.

16-346 Log #3352 NEC-P16 **Final Action: Accept**

(770.82(A)&(B), 800.82(A&B), 820.82(A&B))

Note: See Technical Correlating Committee Note on Comment 16-106.

Submitter: Jean Baer, Supeiror Essex

Comment on Proposal No: 16-37

Recommendation: With respect to cabling in ducts, plenums and other spaces used for environmental air (ceiling and raised floor cavities), add the following clarification related to the requirements for cables placed in such spaces:

Replace current Sections 770.82 (A&B) , 800.82 (A& B), 820.82 (A&B) as indicated below:

Notes:

1) The relevant cables types need to be changed in the revised main text below (see **BOLD**) for each Article. For 770: **OFNP** and **OFCP** (as is below)
800: **CMP** (delete other ***bolded*** text)
820: **CATVP** (delete other ***bolded*** text)

2) Renumber Sections as appropriate.

Replace Section 770.82(A&B), 800.82 (A&B), 820.82(A&B) with all of the following:

(A) Types OFNP and OFCP. Types **OFNP** *nonconductive* and **OFCP** ***conductive optical fiber*** plenum cables shall be listed as being suitable for placement in other spaces used for environmental air, to include ceiling cavities and raised floor cavities, and shall also be listed as having adequate fire-resistant low smoke producting characteristics.

Substantiation: Comment Discussion

The purpose of this comment, and associated comments, is to improve the structure and clarity of the current draft 2005 NEC by harmonizing the requirements of the various Articles and Sections, with respect to intrabuilding wiring and cabling. These comments also highlight the importance of preserving the integrity of the document to allow for appropriate and viable structured cabling solutions in "other places used for environmental air," such as ceiling and raised floor cavities, as well as stressing the critical need to maintain requirements that support the deployment of practical and meaningful intrabuilding communications systems. As such, these comments are directed at the relevant portions of Articles 725, 760, 770, 800, 820, and 830, as they appear in the current draft document.

Specific actions recommended included:

1. Harmonize on appropriate definitions, as well as:
   - Eliminating or correcting erroneous definitions
   - Consolidating definitions in Article 100.
2. Clarify references to the relevant portions of Article 300.22, Parts (B) and (C), and reinforce references and exceptions to the same in the various articles. (###.3)
3. Consent on appropriate applications for cabling in spaces used for handling environmental air. (###.61)
4. Clarify listing requirements for wire and cable in spaces used for handling environmental air. (###.82)

Comment Rationale

In regards to structured cabling installations that support intrabuilding telecommunications systems, and in just about any other situation, it is imperative to avoid making changes that will directly or indirectly specify, or which otherwise set the stage for, the development and adoption of unnecessary, extraneous, and/or excessive requirements. Such requirements most often have a severely negative impact on the availability of viable and effective solutions to real-world issues, but provide no added benefits. In the case of structured cabling specifically, to do otherwise can further exacerbate efforts to revive an ailing telecommunications sector by the following means:

- Significantly complicate intrabuilding structured cabling requirements with no substantive and definable benefit to the industry or to the public as a whole (i.e., not supported by meaningful and relevant technical date).
- Critically limit the availably of compliant product sets or require extremely burdensome and convoluted installation practices, resulting in an extraordinary expenditure of resources to account for exceedingly derisive requirements
- Significantly impede efforts to improve the availability of, and access to, high bandwidth services to premises endusers (i.e., fiber-to-the-enduser). The result will be significant delays for many in realizing easy access to on-demand services and the associated improvements in quality-of-life.
- Limit the flexibility and upgrade potential of structured cabling solutions, thereby potentially creating more long-term safety and reliability issues with respect to the installation and maintenance of highly capacity intrabuilding communications systems.

The primary objectives of this comment, and associated comments, can be summarized as the needs to:

- Maintain the viability of listed “plenum” (i.e., OFNP and OFCP) cables in ceiling and raised floor cavities (i.e., other spaces used for environmental air).
- Such cables have a proven track record for safety
- Listed plenum cables currently installed within buildings have not been shown to raise the risk factor to building occupants.
- The report on an intensive investigation recently undertaken by the International Electrotechnical Commission (IEC) into fire safety stated, in effect, that NFPA 262 was very appropriate for evaluating the fire safety of cables for use in critical areas (e.g., those involving safety of equipment and personnel).
- Recognize that air ducts and (true) plenums should serve the sole purpose of handling environmental air, as well as supporting associated sensing, monitoring, or control equipment. No data or communications cabling should be allowed in air ducts or (true) plenums.
- Reiterate that the types of cable that run in the physical horizontal are not all simply one and two count cables that run a few kbaud for servicing desktop applications. They can, and often do, consist of cables that are capable of running an aggregate data capacity in the range of many thousands of Gigabits. This capacity is needed for applications that support sprawling business, educational, entertainment, data storage, and lodging complexes with remote telecommunications rooms tied together with high capacity, high count cabling (e.g., 72 and 144 fiber optic cables).
- Note that the use of products meeting more stringent requirements can always be agreed upon between customers and suppliers for the limited applications where they might be needed, when such products exist. This flexibility is allowed per the NEC, which sets a minimum level of requirements.
- Educate all on typical building air distribution systems. Such systems are generally designed with actual air ducts and (true) plenums that feed occupied areas, with air return paths that utilize building structural spaces and voids (ceiling and raised floor cavities). When a fire is detected, smoke dampers in the supply side are actuated to isolate smoke and toxic gases and/or divert them to the building’s exterior. However, “duct cable” can act as a fuel source despite its low-smoke characteristics. Since, there are no provisions for a listed device to detect toxins emanating from a burning “duct cable” in the air duct, such emissions would continue to build up and move within the supply-air distribution system, until the point when a smoke sensor is prompted to set off damper actuators by some other means to isolate or divert toxins externally, but only after some delay. Placing any cable directly into air ducts and (true) plenums is also largely unnecessary.

Panel Meeting Action: Accept

Panel Statement: The panel is acting on this and other comments based on the Standards Council decision that is identified as Number 03-10-25 plus a subsequent letter by the Standards Council Chairman, Philip J. DiNenno to Mr. Loren Caudill, dated December 3, 2003. This decision states, in pertinent part as follows:

“The Council believes, that the best course of action for the NEC project is to generally refrain, unless absolutely necessary, from making revisions that interrelate with the NFPA 90A in advance of completion of the latest revision cycle of NFPA 90A, and instead to maintain the status quo in the NEC project on the applicable technical subjects pending completion of the NFPA 90A revision cycle.”

This action does not constitute agreement or disagreement with any of the substantiations submitted for the affected comments.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 13 Abstain: 2

Comment on Affirmative:

OHDE: See my Affirmative Comment for Comment 16-34.

Explanation of Abstention:

DORNA: See my Explanation of Abstention for Comment 16-34.

KAHN: See my Explanation of Abstention on Comment 16-34.