

1-1 Log #989 NEC-P01 **Final Action: Reject**
(Entire Document)

Note: See Technical Correlating Committee Note on Comment 5-1.

Submitter: Dorothy Kellogg, American Chemistry Council

Comment on Proposal No: 1-2

Recommendation: The Final Action should be accept.

Substantiation: The ACC continues to support Mr. Dobrowsky's proposal to change the term "equipment grounding conductor" to "equipment bonding conductor" throughout the National Electrical Code. The ACC believes that the change will clarify the understanding of the term and the actual purpose of this conductor as stated in the submitter's substantiation.

Panel Meeting Action: Reject

Panel Statement: The TCC recognizes that CMP 5 has responsibility for the resolution of this issue throughout the NEC and, at this time, CMP 5 has held Comment 5-5 which would change "equipment grounding conductor" to "equipment bonding conductor".

Number Eligible to Vote: 12

Ballot Results: Affirmative: 12

1-2 Log #1161 NEC-P01 **Final Action: Reject**
(Entire Document)

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 1-2

Recommendation: Equipment grounding conductor to be changed to equipment bonding conductor.

Substantiation: Eustace Soares stated in his book "Grounding Electrical Distribution Systems for Safety", if I were asked to describe what it is that is responsible for the mystery in "Grounding" my answer could be given in ONE word. That word would be TRADITION. Tradition has been the nemesis of the progress of civilization for centuries. The only way we can fight the enemy of tradition is to view the facts with an open mind and not let tradition close our eyes to the truth.

TRADITION says we did something fifty years or more ago so we became hide-bound (having an inflexible character) and continue to do it despite the changes over the years, which dictate otherwise.

Eustace Soares states in the preface of his book on grounding, "The effectiveness and safety of any system finally rests on the methods of installations. The book covers pitfalls that must be avoided in order to comply with the rules as set down in the Code."

One of these pitfalls is to separate the differences between "Ground, grounded and grounding" and "Bond, bonded, and bonding."

Ground, grounded and grounding relate to "Electrical systems that are grounded shall be connected to earth in a manner that will limit the voltage imposed by lightning, line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during normal operation." Is it not the power supplier that needs, "line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during their normal operations?"

Bond, bonded, and bonding relate to "Non-current-carrying conductive materials enclosing electrical conductors or equipment, or forming part of such equipment, shall be connected together and to the electrical supply source in a manner that establishes an effective fault current path."

Until the users of the National Electrical Code, change grounding and bonding to what they really are and mean, nearly everyone that tries to use the present NEC is always confused. Ground, grounded and grounding relate to lightning protection. Bond, bonded, bonding relates to fault current protection. When grounding and bonding are separated, that could be the first step in making grounding workable.

Panel Meeting Action: Reject

Panel Statement: The TCC recognizes that CMP 5 has responsibility for the resolution of this issue throughout the NEC and, at this time, CMP 5 has held Comment 5-5 which would change "equipment grounding conductor" to "equipment bonding conductor".

Number Eligible to Vote: 12

Ballot Results: Affirmative: 12

1-3 Log #1166 NEC-P01 **Final Action: Reject**
(Entire Document)

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 1-2

Recommendation: Change equipment grounding conductor to equipment bonding conductor.

Substantiation: The NEC is supposed to be "THE BOOK" for electricians and the users of electricity. The biggest part of the NEC is easy to understand but "GROUNDING" is another subject. How many people have been injured or killed, or had personal property destroyed by the misunderstanding of grounding? This little three word (equipment bonding conductor) change could be the most important change ever made in the NEC.

Panel Meeting Action: Reject

Panel Statement: The TCC recognizes that CMP 5 has responsibility for the resolution of this issue throughout the NEC and, at this time, CMP 5 has held Comment 5-5 which would change "equipment grounding conductor" to "equipment bonding conductor".

Number Eligible to Vote: 12

Ballot Results: Affirmative: 12

1-4 Log #3662 NEC-P01 **Final Action: Reject**
(Entire Document)

Submitter: Thomas E. Trainor, City of San Diego

Comment on Proposal No: 1-2

Recommendation: I recommend that the panel reaffirm the original action to accept this proposal.

Substantiation: The strongest argument in favor of this proposal is actually found in the comments of one CMP-5 panel member explaining his negative vote. His comment perfectly demonstrates the ongoing confusion regarding bonding. In describing the use of "metallic raceways and cables", the panel member stated, "In some cases, all code requirements can be complied with without utilizing any bonding". This is clearly wrong.

There is no wiring method that can be installed without bonding. Bonding is defined as "the permanent joining of metallic parts..." A stick of metal conduit is a metallic part. A conduit fitting is a metallic part. Joining these two metallic pieces properly is BONDING. The fact that even a knowledgeable member of CMP-5 can make such an inaccurate statement demonstrates the real need for changing the term "equipment grounding conductor".

Visualize a metal box in an interior wall of a residence. When we connect an equipment grounding conductor from this box to this service, are we really "Grounding" this box - connecting it to earth to protect it from lighting or inadvertent high voltage? Obviously not. We are BONDING this metal box to the neutral at the service to create a low impedance path for fault current. And how do we BOND this box? We install an equipment GROUNDING conductor. This simply does not make sense.

Grounding certainly serves an important purpose at the service equipment. However, in the premises wiring system, most of what continues to be called "grounding" is actually the requirement to create an effective fault-current path. This path is created by BONDING all metallic parts together and to the service neutral. The fact that this also connects metallic parts to earth is minor and, in most cases, meaningless. The main function of the conductor that connects a metallic part to the service neutral is to BOND the box to the neutral which creates a low impedance path for fault current to return to the source. The name of the conductor that is used for this purpose should accurately reflect its purpose.

The long standing contradiction between the definition of "Grounding" in Article 100 and the way the term is used in Article 250 is the basic cause for the industry-wide misunderstanding of grounding and bonding. CMP-1 is to be commended for addressing this issue and will do the electrical industry a great service by supporting the term, "Equipment Bonding Conductor".

Panel Meeting Action: Reject

Panel Statement: The TCC recognizes that CMP 5 has responsibility for the resolution of this issue throughout the NEC and, at this time, CMP 5 has held Comment 5-5, which would change "equipment grounding conductor" to "equipment bonding conductor".

Number Eligible to Vote: 12

Ballot Results: Affirmative: 12

1-5 Log #2129a NEC-P01 **Final Action: Reject**
(Entire Document)

Submitter: Paul Dobrowsky Holley, NY

Comment on Proposal No: 1-2

Recommendation: Accept the proposal.

Substantiation: I still believe changing the term equipment grounding conductor (EGC) to equipment bonding conductor (EBC) remains the best thing to do, and understand there is still much to do. Although the necessary 2/3 vote by CMP5 was not achieved, a majority vote was, indicating that there is support for the change. Using the present term, one must "ignore" the actual language. It is amazing how many individuals shared verbal comments that using the proposed term is much clearer. These comments came from those that are very experienced. Some indicate that the existing terms are acceptable and have been used for many years. That doesn't make them correct, and to understand the function and concept, one must actually ignore the definitions. What about the new user of the NEC? We need to think of the future and whether this change is helpful.

Some have argued that a great expense will be incurred, but what about the hidden expense of misunderstanding. If a FPN is included with the new definition (EBC) indicating that the term equipment grounding conductor was for this purpose in past editions of the NEC, product standards and manufacturers instructions can be changed as part of the normal revision process. In the 2002 NEC, the term "lighting fixture" was changed to "luminaire" with no indication of a tremendous expense to the industry. Retailers continue to advertise they are selling lighting fixtures. In many applications, the device terminal described as that intended for the connection of the equipment grounding con-

ductor actually is “grounded” using equipment bonding jumper. That jumper doesn’t get connected to ground; it completes the fault current path by bonding. In many instances, the fault can be cleared with no current passing through “ground.” Electricians will continue to connect the green colored or bare conductor to the green device terminal regardless of whether the manufacturer’s literature describes it as an equipment grounding terminal.

Some have argued that there will be a fortune to be made in seminars. I believe that this will be fairly easy to explain and will actually decrease the amount of education necessary in the future because the terms will be more self evident of what they are being used for. In 250.80 and 250.84 we provide exceptions that “do not require elbows buried in the earth to be grounded.” They are in the earth! Isn’t that grounded by the definition?

The discussions related to the proposed concept have been very interesting and enlightening and has already increased the awareness of the differences between grounding and bonding. The true quality of many individuals was very evident, and exemplifies the NEC process. Even those individuals that disagree with this change continue to remain good friends.

Panel Meeting Action: Reject

Panel Statement: The TCC recognizes that CMP 5 has responsibility for the resolution of this issue throughout the NEC and, at this time, CMP 5 has held Comment 5-5 which would change “equipment grounding conductor” to “equipment bonding conductor”.

Number Eligible to Vote: 12

Ballot Results: Affirmative: 12

2-1 Log #1160 NEC-P02
(Entire Document)

Final Action: Reject

Note: See Technical Correlating Committee Note on Comment 5-1.

Submitter: John Stricklin, International Assoc. of Electrical Inspectors
Comment on Proposal No: 2-2

Recommendation: Equipment grounding conductor to be changed to equipment bonding conductor.

Substantiation: Eustace Soares stated in his book “Grounding Electrical Distribution Systems for Safety”, if I were asked to describe what it is that is responsible for the mystery in “Grounding” my answer could be given in ONE word. That word would be TRADITION. Tradition has been the nemesis of the progress of civilization for centuries. The only way we can fight the enemy of tradition is to view the facts with an open mind and not let tradition close our eyes to the truth.

TRADITION says we did something fifty years or more ago so we became hide-bound (having an inflexible character) and continue to do it despite the changes over the years, which dictate otherwise.

Eustace Soares states in the preface of his book on grounding, “The effectiveness and safety of any system finally rests on the methods of installations. The book covers pitfalls that must be avoided in order to comply with the rules as set down in the Code.”

One of these pitfalls is to separate the differences between “Ground, grounded and grounding” and “Bond, bonded, and bonding.”

Ground, grounded and grounding relate to “Electrical systems that are grounded shall be connected to earth in a manner that will limit the voltage imposed by lightning, line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during normal operation.” Is it not the power supplier that needs, “line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during their normal operations?”

Bond, bonded, and bonding relate to “Non-current-carrying conductive materials enclosing electrical conductors or equipment, or forming part of such equipment, shall be connected together and to the electrical supply source in a manner that establishes an effective fault current path.”

Until the users of the National Electrical Code, change grounding and bonding to what they really are and mean, nearly everyone that tries to use the present NEC is always confused. Ground, grounded and grounding relate to lightning protection. Bond, bonded, bonding relates to fault current protection. When grounding and bonding are separated, that could be the first step in making grounding workable.

Panel Meeting Action: Reject

Panel Statement: The panel disagrees with the submitter’s substantiation. CMP5 did not accept the overall approach to this proposal. There is insufficient substantiation that the misunderstanding or misuse of the terminology is widespread or has resulted in unsafe installations. The use of the term “equipment grounding conductor” is consistent with the definition in Article 100.

Number Eligible to Vote: 13

Ballot Results: Affirmative: 13

2-2 Log #1167 NEC-P02
(Entire Document)

Final Action: Reject

Submitter: John Stricklin, International Assoc. of Electrical Inspectors
Comment on Proposal No: 2-2

Recommendation: Change equipment grounding conductor to equipment bonding conductor.

Substantiation: The NEC is supposed to be “THE BOOK” for electricians and the users of electricity. The biggest part of the NEC is easy to understand but “GROUNDING” is another subject. How many people have been injured or killed, or had personal property destroyed by the misunderstanding of grounding? This little three word (equipment bonding conductor) change could be the most important change ever made in the NEC.

Panel Meeting Action: Reject

Panel Statement: See panel statement on Comment 2-1.

Number Eligible to Vote: 13

Ballot Results: Affirmative: 13

2-3 Log #2129b NEC-P02
(Entire Document)

Final Action: Reject

Submitter: Paul Dobrowsky Holley, NY

Comment on Proposal No: 2-2

Recommendation: Accept the proposal.

Substantiation: I still believe changing the term equipment grounding conductor (EGC) to equipment bonding conductor (EBC) remains the best thing to do, and understand there is still much to do. Although the necessary 2/3 vote by CMP5 was not achieved, a majority vote was, indicating that there is support for the change. Using the present term, one must “ignore” the actual language. It is amazing how many individuals shared verbal comments that using the proposed term is much clearer. These comments came from those that are very experienced. Some indicate that the existing terms are acceptable and have been used for many years. That doesn’t make them correct, and to understand the function and concept, one must actually ignore the definitions. What about the new user of the NEC? We need to think of the future and whether this change is helpful.

Some have argued that a great expense will be incurred, but what about the hidden expense of misunderstanding. If a FPN is included with the new definition (EBC) indicating that the term equipment grounding conductor was for this purpose in past editions of the NEC, product standards and manufacturers instructions can be changed as part of the normal revision process. In the 2002 NEC, the term “lighting fixture” was changed to “luminaire” with no indication of a tremendous expense to the industry. Retailers continue to advertise they are selling lighting fixtures. In many applications, the device terminal described as that intended for the connection of the equipment grounding conductor actually is “grounded” using equipment bonding jumper. That jumper doesn’t get connected to ground; it completes the fault current path by bonding. In many instances, the fault can be cleared with no current passing through “ground.” Electricians will continue to connect the green colored or bare conductor to the green device terminal regardless of whether the manufacturer’s literature describes it as an equipment grounding terminal.

Some have argued that there will be a fortune to be made in seminars. I believe that this will be fairly easy to explain and will actually decrease the amount of education necessary in the future because the terms will be more self evident of what they are being used for. In 250.80 and 250.84 we provide exceptions that “do not require elbows buried in the earth to be grounded.” They are in the earth! Isn’t that grounded by the definition?

The discussions related to the proposed concept have been very interesting and enlightening and has already increased the awareness of the differences between grounding and bonding. The true quality of many individuals was very evident, and exemplifies the NEC process. Even those individuals that disagree with this change continue to remain good friends.

Panel Meeting Action: Reject

Panel Statement: See panel statement on Comment 2-1.

Number Eligible to Vote: 13

Ballot Results: Affirmative: 13

3-1 Log #1165 NEC-P03
(Entire Document)

Final Action: Reject

Note: See Technical Correlating Committee Note on Comment 5-1.

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 3-1

Recommendation: Equipment grounding conductor to be changed to equipment bonding conductor.

Substantiation: Eustace Soares stated in his book “Grounding Electrical Distribution Systems for Safety”, if I were asked to describe what it is that is responsible for the mystery in “Grounding” my answer could be given in ONE word. That word would be TRADITION. Tradition has been the nemesis of the progress of civilization for centuries. The only way we can fight the enemy of tradition is to view the facts with an open mind and not let tradition close our eyes to the truth.

TRADITION says we did something fifty years or more ago so we became hide-bound (having an inflexible character) and continue to do it despite the changes over the years, which dictate otherwise.

Eustace Soares states in the preface of his book on grounding, “The effectiveness and safety of any system finally rests on the methods of installations. The book covers pitfalls that must be avoided in order to comply with the rules as set down in the Code.”

One of these pitfalls is to separate the differences between “Ground, grounded and grounding” and “Bond, bonded, and bonding.”

Ground, grounded and grounding relate to “Electrical systems that are grounded shall be connected to earth in a manner that will limit the voltage imposed by lightning, line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during normal operation.” Is it not the power supplier that needs, “line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during their normal operations?”

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Panel Meeting Action: Reject

Panel Statement: Changing the phrase “equipment grounding conductor” to “equipment bonding conductor” is outside the jurisdiction of Panel 3 and must be acted on by Panel 1 as a definition, and by Panel 5, which has jurisdiction over that particular phrase. CMP 5 will drive this. The panel suggests that TCC appoint an interim task group to provide direction for the 2008 cycle.

Number Eligible to Vote: 13

Ballot Results: Affirmative: 13

3-2 Log #1168 NEC-P03
(Entire Document)

Final Action: Reject

Submitter: John Stricklin, International Assoc. of Electrical Inspectors
Comment on Proposal No: 3-1

Recommendation: Change equipment grounding conductor to equipment bonding conductor.

Substantiation: The NEC is supposed to be “THE BOOK” for electricians and the users of electricity. The biggest part of the NEC is easy to understand but “GROUNDING” is another subject. How many people have been injured or killed, or had personal property destroyed by the misunderstanding of grounding? This little three word (equipment bonding conductor) change could be the most important change ever made in the NEC.

Panel Meeting Action: Reject

Panel Statement: See the panel action and statement on Comment 3-1

Number Eligible to Vote: 13

Ballot Results: Affirmative: 13

3-3 Log #2129c NEC-P03
(Entire Document)

Final Action: Reject

Submitter: Paul Dobrowsky Holley, NY

Comment on Proposal No: 3-1

Recommendation: Accept the proposal.

Substantiation: I still believe changing the term equipment grounding conductor (EGC) to equipment bonding conductor (EBC) remains the best thing to do, and understand there is still much to do. Although the necessary 2/3 vote by CMP5 was not achieved, a majority vote was, indicating that there is support for the change. Using the present term, one must “ignore” the actual language. It is amazing how many individuals shared verbal comments that using the proposed term is much clearer. These comments came from those that are very experienced. Some indicate that the existing terms are acceptable and have been used for many years. That doesn’t make them correct, and to understand the function and concept, one must actually ignore the definitions. What about the new user of the NEC? We need to think of the future and whether this change is helpful.

Some have argued that a great expense will be incurred, but what about the hidden expense of misunderstanding. If a FPN is included with the new definition (EBC) indicating that the term equipment grounding conductor was for this purpose in past editions of the NEC, product standards and manufacturers instructions can be changed as part of the normal revision process. In the 2002 NEC, the term “lighting fixture” was changed to “luminaire” with no indication of a tremendous expense to the industry. Retailers continue to advertise they are selling lighting fixtures. In many applications, the device terminal described as that intended for the connection of the equipment grounding conductor actually is “grounded” using equipment bonding jumper. That jumper doesn’t get connected to ground; it completes the fault current path by bonding. In many instances, the fault can be cleared with no current passing through “ground.” Electricians will continue to connect the green colored or bare conductor to the green device terminal regardless of whether the manufacturer’s literature describes it as an equipment grounding terminal.

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The discussions related to the proposed concept have been very interesting and enlightening and has already increased the awareness of the differences between grounding and bonding. The true quality of many individuals was very evident, and exemplifies the NEC process. Even those individuals that disagree with this change continue to remain good friends.

Panel Meeting Action: Reject

Panel Statement: See the panel action and statement on Comment 3-1.

Number Eligible to Vote: 13

Ballot Results: Affirmative: 13

4-1 Log #1164 NEC-P04
(Entire Document)

Final Action: Reject

Note: See Technical Correlating Committee Note on Comment 5-1.

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 4-1

Recommendation: Equipment grounding conductor to be changed to equipment bonding conductor.

Substantiation: Eustace Soares stated in his book “Grounding Electrical Distribution Systems for Safety”, if I were asked to describe what it is that is responsible for the mystery in “Grounding” my answer could be given in ONE word. That word would be TRADITION. Tradition has been the nemesis of the progress of civilization for centuries. The only way we can fight the enemy of tradition is to view the facts with an open mind and not let tradition close our eyes to the truth.

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Panel Meeting Action: Reject

Panel Statement: Changing the phrase “equipment grounding conductor” to “equipment bonding conductor” is outside the jurisdiction of Panel 4 and must be acted on by Panel 1 as a definition and by Panel 5, which has jurisdiction over that particular phrase.

Number Eligible to Vote: 10

Ballot Results: Affirmative: 10

4-2 Log #1169 NEC-P04
(Entire Document)

Final Action: Reject

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 4-1

Recommendation: Change equipment grounding conductor to equipment bonding conductor.

Substantiation: The NEC is supposed to be “THE BOOK” for electricians and the users of electricity. The biggest part of the NEC is easy to understand but “GROUNDING” is another subject. How many people have been injured or killed, or had personal property destroyed by the misunderstanding of grounding? This little three word (equipment bonding conductor) change could be the most important change ever made in the NEC.

Panel Meeting Action: Reject

Panel Statement: See panel action and statement on Comment 4-1.

Number Eligible to Vote: 10

Ballot Results: Affirmative: 10

4-3 Log #2129d NEC-P04
(Entire Document)

Final Action: Reject

Submitter: Paul Dobrowsky Holley, NY

Comment on Proposal No: 4-1

Recommendation: Accept the proposal.

Substantiation: I still believe changing the term equipment grounding conductor (EGC) to equipment bonding conductor (EBC) remains the best thing to do, and understand there is still much to do. Although the necessary 2/3 vote by CMP5 was not achieved, a majority vote was, indicating that there is support for the change. Using the present term, one must “ignore” the actual language. It is amazing how many individuals shared verbal comments that using the proposed term is much clearer. These comments came from those that are very experienced. Some indicate that the existing terms are acceptable and have been used for many years. That doesn’t make them correct, and to understand the function and concept, one must actually ignore the definitions. What about the new user of the NEC? We need to think of the future and whether this change is helpful.

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The discussions related to the proposed concept have been very interesting and enlightening and has already increased the awareness of the differences between grounding and bonding. The true quality of many individuals was very evident, and exemplifies the NEC process. Even those individuals that disagree with this change continue to remain good friends.

Panel Meeting Action: Reject

Panel Statement: See panel action and statement on Comment 4-1.

Number Eligible to Vote: 10

Ballot Results: Affirmative: 10

5-1 Log #211 NEC-P05
(Entire Document)

Final Action: Hold

Note: The Technical Correlating Committee will establish a Task Group to explore the issues identified by Proposal 5-1 and Comment 5-1 and to consider development of proposals for the 2008 NEC cycle to establish consistent use of the terms “grounding” and “bonding” as discussed in Proposal 5-1 and Comment 5-1.

Submitter: Glenn W. Ziesenis Crown Point, IN

Comment on Proposal No: 5-1

Recommendation: The recommendation to change the term “equipment grounding conductor” to “equipment bonding conductor” throughout the NEC should have been accepted.

Substantiation: A descriptive designation of EGC and EBC is a necessity to using the NEC effectively. I agree with the comments of Messers. Dobrowsky, Johnston, Mello, Skuggevig, and White. In just the last 3 months, had reviewed plans for 3 cell towers and equipment. Two of the plans specifically stated the installation to be installed per the NEC and local codes, then went on to specifically have an Isolated ground rod for the Service Equipment and another Isolated ground rod for the Telco (telephone) service to the building. The third installation showed very well detail ground ring with all of the connections to it and the Grounding Bar detail, then did not connect the Service Equipment to the grounding ring which is only inches away. These plans were stamped by Electrical Engineer(s).

Comments by some of the “Explanation of Negative”, such as “the terms ground, grounding and equipment ground conductor have been used in the NEC for years and are widely understood”. But it is not widely understood by all electrical people!

Panel Meeting Action: Hold

The panel holds this comment and Proposal 5-1.

Panel Statement: This comment is held because it would propose something that could not be properly handled within the time frame for processing the Report on Comments.

The discussions generated by Proposals 5-1 and 5-44 during the ROP stage and continuing through the ROC stage indicate that the concept requires further consideration. CMP 5 concludes that these discussions have identified that there is meaningful purpose and a need to establish a consistent and proper use of terminology related to grounding and bonding. The panel concludes that the wide ranging impact of such a change throughout the NEC requires further detailed study and development of a final resolution. CMP 5 believes the long-term benefits of this concept will provide a significant benefit to the electrical industry.

CMP 5 requests the Technical Correlating Committee to appoint a chair to establish a task group to pursue the concepts introduced by Proposals 5-1 and 5-44. The task group should consist of a majority of CMP 5 members and representatives from some of the other panels as well as incorporate representation from the various organizations.

The task group should review the entire NEC for proper and consistent use of terms, including related definitions, such as bond, bonding, bonded, ground, grounded, ungrounded, grounding, and other definitions incorporating these terms. The task group should be responsible for developing and submitting proposals for the 2008 NEC to establish a consistent use of the terms and their definitions.

Number Eligible to Vote: 16

Ballot Results: Affirmative: 16

Comment on Affirmative:

BOKSINER: I support the CMP 5 action to hold this comment and request a formation of a task group. There seems to be a general consensus on the panel that the terms “grounding”, “grounded”, “bonding”, etc. are not always used correctly and that, where used correctly, the implied requirement is not always clear. A task group is needed to examine this issue and make proposals to remedy these deficiencies.

My support of the action on this proposal to form a task group is not necessarily an endorsement for a change of the term “equipment grounding conductor” to the term “equipment bonding conductor”. The task group should examine the issues involved in the use of these terms and recommend solutions. While a proposal to change or redefine certain terms is a possible outcome of its work, it is important that the task group be charged to start with a “clean slate” and examine a range of options with consideration of terminology usage in the NEC and in related documents such as product standards, industry standards, etc.

I believe this position accurately reflects the discussion at the meeting.

WHITE: EEI/EL&P supports this action and feels that the work of a Task Group could improve usability of the NEC in regards to consistent use of terminology for the concepts of grounding and bonding.

5-3 Log #721 NEC-P05
(Entire Document)

Final Action: Reject

Submitter: Alan H. Nadon, City of Elkhart, IN

Comment on Proposal No: 5-1

Recommendation: Reject this proposal.

Substantiation: The proposed change does not add clarity in proportion to the chaos it will generate. The Code effectively handles the possible violation of earth grounding when bonding is needed in 250.4(A)(4) and (5). The Code is not intended as an instruction manual for untrained persons.

Panel Meeting Action: Reject

Panel Statement: The panel has determined that the concepts in Proposal 5-1 require further study. See the panel action and statement on Comment 5-1.

Number Eligible to Vote: 16

Ballot Results: Affirmative: 16

Comment on Affirmative:

BOKSINER: See my comment on affirmative on Comment 5-1.

5-4 Log #746 NEC-P05
(Entire Document)

Final Action: Reject

Submitter: Mark Shapiro Farmington Hills, MI

Comment on Proposal No: 5-1

Recommendation: Reject the proposal.

Substantiation: The adoption of this proposal would create more confusion than it corrected. Those who do not understand how to apply Article 250 will not be enlightened by this change. The most likely result would be to add to the misunderstandings and sense of alienation from the code on the part of those whom this proposal is intended to help.

This is not to deny that the proposal is technically correct. I am sure that I am not the only person who intends to start explaining grounding and bonding, using this term. But, the code is not a text book. It also doesn’t work well as an engineering manual.

But, for code purposes, the result would be an example of what is known as “the law of unintended consequences”; the principle that a change that is intended to make things easier, often results in making things harder and more complex.

Panel Meeting Action: Reject

Panel Statement: The panel has determined that the concepts in Proposal 5-1 require further study. See the panel action and statement on Comment 5-1.

Number Eligible to Vote: 16

Ballot Results: Affirmative: 16

Comment on Affirmative:

BOKSINER: See my comment on affirmative on Comment 5-1.

5-5 Log #758 NEC-P05
(Entire Document)

Final Action: Accept in Principle

Submitter: Michael J. Johnston Plano, TX

Comment on Proposal No: 5-1

Recommendation: The panel should reconsider the initial action (as reflected in the ROP) on this proposal. The initial action by various Panels at the ROP meeting was to accept the proposal which is not reflected in the Report on Proposals.

Hold for further study.

Substantiation: It was apparent in the initial stages of the 2005 NEC process that there was considerable support from many panel representatives of this proposal and concept to revise the terms currently used. The proposal generated varying views from many different individuals and groups. There were very few comments by those opposed to such a revision that included any technical reason why the revision should not move forward. There were many comments about economic impact. These should not be considered as meaningful reasons to discount viable efforts to improve the Code. Good Code for the user has to be given consideration. This change was submitted to clarify terms related to increased understandability and clarification of commonly misused terms both in the current Code text and how they are being applied in the field. I feel that this proposal has merit and long term benefits for the NEC deserves further investigation. It is evident that Panel 5 is concerned with continuing the work on the performance language that was accepted in the 2002 edition. This proposed revision is consistent with those actions and the current wording of 250.4. The term grounded and the term bonding (bonded) are clearly defined in Article 100 and mean two different things. The ground should not be related to the effective fault current path as clearly evident by Panel's action on Proposals 5-52 and 5-54. These terms used in the rules of the Code should "mean what they imply by definition" to be understandable and user friendly. The CEC Part does use this very concept of bonding equipment together with an "equipment bonding conductor" and then to ground. It is referred to as "bonding to ground" which is what is being presently happening under the requirements of the NEC. I feel this proposal and concept should be held for further study and consideration.

Panel Meeting Action: Accept in Principle

Panel Statement: The panel has determined that the concepts in Proposal 5-1 require further study. See the panel action and statement on Comment 5-1.

Number Eligible to Vote: 16

Ballot Results: Affirmative: 16

Comment on Affirmative:

BOKSINER: See my comment on affirmative on Comment 5-1.

5-6 Log #998 NEC-P05
(Entire Document)

Final Action: Reject

Submitter: Noel Williams, Noel Williams Consulting

Comment on Proposal No: 5-1

Recommendation: This proposal should be rejected.

Substantiation: Although the intent is admirable, this change will not fix the supposed problem. In fact, changing the name of the equipment grounding conductor will likely cause more problems than it will correct, including adding to misunderstanding rather than improving understanding.

Section 250.4 now clearly spells out the issues addressed in Article 250. One of these issues is grounding of equipment "to limit the voltage to ground" on the equipment, an issue that is clearly related to reducing shock hazards. The submitter is correct that by calling this a "grounding" conductor rather than a "bonding" conductor, some people may miss its other important use: establishing an effective ground fault current path. However, it is just as likely that by calling it a bonding conductor, the equipment grounding function may be missed. If the name of the equipment grounding conductor is to be changed, it should be changed to reflect all the important uses of this conductor. A more accurate name would be "equipment grounding and bonding conductor."

The change, as proposed, is very far-reaching, but accomplishes little. The problem is not in language, but in adequate training. This change will set the current users of the code back significantly and trainers will still have to explain that this new "equipment bonding conductor" must also still serve as an "equipment grounding conductor" to meet the performance requirements of 250.4. They will also have to explain that on ungrounded systems it only functions as an "equipment grounding conductor" until the second fault and only then does it act like its name, "equipment bonding conductor" as explained in 250.4(B)(2) through (4).

I find the comments for rejecting this proposal by members of all panels

much more persuasive than the comments that support accepting the proposal, and I think the comments in favor of rejection should be more carefully considered by the panel.

Panel Meeting Action: Reject

Panel Statement: The panel has determined that the concepts in Proposal 5-1 require further study. See the panel action and statement on Comment 5-1.

Number Eligible to Vote: 16

Ballot Results: Affirmative: 16

Comment on Affirmative:

BOKSINER: See my comment on affirmative on Comment 5-1.

5-7 Log #1163 NEC-P05
(Entire Document)

Final Action: Reject

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 5-1

Recommendation: Equipment grounding conductor to be changed to equipment bonding conductor.

Substantiation: Eustace Soares stated in his book "Grounding Electrical Distribution Systems for Safety", if I were asked to describe what it is that is responsible for the mystery in "Grounding" my answer could be given in ONE word. That word would be TRADITION. Tradition has been the nemesis of the progress of civilization for centuries. The only way we can fight the enemy of tradition is to view the facts with an open mind and not let tradition close our eyes to the truth.

TRADITION says we did something fifty years or more ago so we became hide-bound (having an inflexible character) and continue to do it despite the changes over the years, which dictate otherwise.

Eustace Soares states in the preface of his book on grounding, "The effectiveness and safety of any system finally rests on the methods of installations. The book covers pitfalls that must be avoided in order to comply with the rules as set down in the Code."

One of these pitfalls is to separate the differences between "Ground, grounded and grounding" and "Bond, bonded, and bonding."

Ground, grounded and grounding relate to "Electrical systems that are grounded shall be connected to earth in a manner that will limit the voltage imposed by lightning, line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during normal operation." Is it not the power supplier that needs, "line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during their normal operations?"

Bond, bonded, and bonding relate to "Non-current-carrying conductive materials enclosing electrical conductors or equipment, or forming part of such equipment, shall be connected together and to the electrical supply source in a manner that establishes an effective fault current path."

Until the users of the National Electrical Code, change grounding and bonding to what they really are and mean, nearly everyone that tries to use the present NEC is always confused. Ground, grounded and grounding relate to lightning protection. Bond, bonded, bonding relates to fault current protection. When grounding and bonding are separated, that could be the first step in making grounding workable.

Panel Meeting Action: Reject

Panel Statement: The panel has determined that the concepts in Proposal 5-1 require further study. See the panel action and statement on Comment 5-1.

Number Eligible to Vote: 16

Ballot Results: Affirmative: 16

Comment on Affirmative:

BOKSINER: See my comment on affirmative on Comment 5-1.

5-8 Log #1170 NEC-P05
(Entire Document)

Final Action: Reject

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 5-1

Recommendation: Change equipment grounding conductor to equipment bonding conductor.

Substantiation: The NEC is supposed to be "THE BOOK" for electricians and the users of electricity. The biggest part of the NEC is easy to understand but "GROUNDING" is another subject. How many people have been injured or killed, or had personal property destroyed by the misunderstanding of grounding? This little three word (equipment bonding conductor) change could be the most important change ever made in the NEC.

Panel Meeting Action: Reject

Panel Statement: The panel has determined that the concepts in Proposal 5-1 require further study. See the panel action and statement on Comment 5-1.

Number Eligible to Vote: 16

Ballot Results: Affirmative: 16

Comment on Affirmative:

BOKSINER: See my comment on affirmative on Comment 5-1.

5-9 Log #2129 NEC-P05
(Entire Document)**Final Action: Reject****Submitter:** Paul Dobrowsky Holley, NY**Comment on Proposal No:** 5-1**Recommendation:** Accept the proposal.

Substantiation: I still believe changing the term equipment grounding conductor (EGC) to equipment bonding conductor (EBC) remains the best thing to do, and understand there is still much to do. Although the necessary 2/3 vote by CMP5 was not achieved, a majority vote was, indicating that there is support for the change. Using the present term, one must “ignore” the actual language. It is amazing how many individuals shared verbal comments that using the proposed term is much clearer. These comments came from those that are very experienced. Some indicate that the existing terms are acceptable and have been used for many years. That doesn’t make them correct, and to understand the function and concept, one must actually ignore the definitions. What about the new user of the NEC? We need to think of the future and whether this change is helpful.

Some have argued that a great expense will be incurred, but what about the hidden expense of misunderstanding. If a FPN is included with the new definition (EBC) indicating that the term equipment grounding conductor was for this purpose in past editions of the NEC, product standards and manufacturers instructions can be changed as part of the normal revision process. In the 2002 NEC, the term “lighting fixture” was changed to “luminaire” with no indication of a tremendous expense to the industry. Retailers continue to advertise they are selling lighting fixtures. In many applications, the device terminal described as that intended for the connection of the equipment grounding conductor actually is “grounded” using equipment bonding jumper. That jumper doesn’t get connected to ground; it completes the fault current path by bonding. In many instances, the fault can be cleared with no current passing through “ground.” Electricians will continue to connect the green colored or bare conductor to the green device terminal regardless of whether the manufacturer’s literature describes it as an equipment grounding terminal.

Some have argued that there will be a fortune to be made in seminars. I believe that this will be fairly easy to explain and will actually decrease the amount of education necessary in the future because the terms will be more self evident of what they are being used for. In 250.80 and 250.84 we provide exceptions that “do not require elbows buried in the earth to be grounded.” They are in the earth! Isn’t that grounded by the definition?

The discussions related to the proposed concept have been very interesting and enlightening and has already increased the awareness of the differences between grounding and bonding. The true quality of many individuals was very evident, and exemplifies the NEC process. Even those individuals that disagree with this change continue to remain good friends.

Panel Meeting Action: Reject**Panel Statement:** The panel has determined that the concepts in Proposal 5-1 require further study. See the panel action and statement on Comment 5-1.**Number Eligible to Vote:** 16**Ballot Results:** Affirmative: 16**Comment on Affirmative:**

BOKSINER: See my comment on affirmative on Comment 5-1.

5-10 Log #2401 NEC-P05
(Entire Document)**Final Action: Reject****Submitter:** Charles Mello, Electro-Test, Inc.**Comment on Proposal No:** 5-1**Recommendation:** The panel should reconsider the merits of this proposal. The term “equipment grounding conductor” should be replaced by the term “equipment bonding conductor” as proposed.

Substantiation: This issue has raised a number of discussions and a much needed look at how the terms, ground, grounded, grounding, bond, bonded and bonding with all the derivatives are in fact used throughout the Code. Even with the reorganization of Article 250 in the 1999 cycle and the fine-tuning done in the 2002 cycle, grounding (or bonding) still is extremely confusing to the Code users. This is evidenced on a very regular basis while teaching this subject to apprentices, seasoned veterans, engineers and many others associated in the electrical industry.

The green wire does in fact serve both purposes, bonding and grounding, but as indicated by the order just stated, the bonding is the more critical since the conductor must be able to carry fault current for a sufficient time to clear an overcurrent device. The proposal is admittedly a radical change, but it is a change that is necessary, and now is just as good a time as any. There will be arguments that this change will cause significant impact to manufacturers, product standards, book authors and publishers, but even with this impact understood, it needs to be done. Last cycle all of Chapter 3 was disassembled, reconstructed, parallel numbering added and technical changes made. This had the same effects on all of the industry, maybe even more so, and we are still functioning, and most would have to admit for the better. The bottom line is safety, and a clear understanding of the terminology used and use of the correct terminology is a cornerstone to that understanding that leads to safe designs and installations. Please see the attached photographs and graphic for but one

example.

If the panel chooses not to go forward with this changes at this time, the panel would be strongly encouraged to form a panel task force or support a TCC task force dedicated to reviewing the use of all these terms and develop specific proposals for consideration in the 2008 Code cycle.

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

Panel Meeting Action: Reject**Panel Statement:** The panel has determined that the concepts in Proposal 5-1 require further study. See the panel action and statement on Comment 5-1.**Number Eligible to Vote:** 16**Ballot Results:** Affirmative: 16**Comment on Affirmative:**

BOKSINER: See my comment on affirmative on Comment 5-1.

5-11 Log #3628 NEC-P05
(Entire Document)**Final Action: Reject****Submitter:** Dann Strube, Strube Consulting**Comment on Proposal No:** 5-1**Recommendation:** Continue to reject this proposal.

Substantiation: With over thirty of experience in teaching NEC, I feel I am qualified to address the issues involved with this proposal. It is true that many in the industry have problems with the concept of grounding conductor vs. grounded conductor. It is also true that many do not understand the fact that equipment bonding jumper and an equipment grounding conductor are the same thing except for length in most cases.

In spite of the fact that the words we use in Article 250 help to confuse the user, the words in the code are not the real problem. The problems with grounding are many. Some electricians just do not understand what is accomplished through grounding. The “fairy tales” also add to the problem. For some reason, electricians seem to be more willing to buy Bubba’s fairy tale than they are to the facts from the inspector.

Another problem lies in common language used in the field. Electricians tend to call the neutral “Ground.” It is, after all, grounded in most cases. However, when they go to the NEC they try to use grounding rules for this thing they call “Ground” instead of grounded rules. Worse yet, they try to apply both sets of rules.

A change in the code words is only change for the sake of change. The fairy tale will still be there. Bubba will still be there and the neutral will still be “Grounded.” The only cure for the problems encountered in grounding is education, education and more education. Changing the words will not help one bit. This is true with this proposal and also with other proposals to make across the board change to the terms used in the code related to grounding.

With thirty plus years of teaching I like to think I have helped some get the picture and hope those that did have passed it along to the young people entering the trade. As I stated previously, education is the real answer. Word changes will do nothing but make things worse.

Panel Meeting Action: Reject**Panel Statement:** The panel has determined that the concepts in Proposal 5-1 require further study. See the panel action and statement on Comment 5-1.**Number Eligible to Vote:** 16**Ballot Results:** Affirmative: 16**Comment on Affirmative:**

BOKSINER: See my comment on affirmative on Comment 5-1.

5-12 Log #3661 NEC-P05
(Entire Document)**Final Action: Reject****Submitter:** Thomas E. Trainor, City of San Diego**Comment on Proposal No:** 5-1**Recommendation:** I recommend that the panel accept this proposal.

Substantiation: The strongest argument in favor of this proposal is actually found in the comments of one panel member explaining his negative vote. His comment perfectly demonstrates the ongoing confusion regarding bonding. In describing the use of “metallic raceways and cables”, the panel member stated, “In some cases, all code requirements can be complied with without utilizing any bonding”. This is clearly wrong.

There is no wiring method that can be installed without bonding. Bonding is defined as “the permanent joining of metallic parts...” A stick of metal conduit is a metallic part. A conduit fitting is a metallic part. Joining these two metallic pieces properly is BONDING. The fact that even a knowledgeable member of CMP-5 can make such an inaccurate statement demonstrates the real need for changing the term “equipment grounding conductor”.

Visualize a metal box in an interior wall of a residence. When we connect an equipment grounding conductor from this box to this service, are we really “Grounding” this box – connecting it to earth to protect it from lighting or inadvertent high voltage? Obviously not. We are BONDING this metal box to the neutral at the service to create a low impedance path for fault current. And how do we BOND this box? We install an equipment GROUNDING conductor. This simply does not make sense.

Grounding certainly serves an important purpose at the service equipment.

However, in the premises wiring system, most of what continues to be called “grounding” is actually the requirement to create an effective fault-current path. This path is created by BONDING all metallic parts together and to the service neutral. The fact that this also connects metallic parts to earth is minor and, in most cases, meaningless. The main function of the conductor that connects a metallic part to the service neutral is to BOND the box to the neutral which creates a low impedance path for fault current to return to the source. The name of the conductor that is used for this purpose should accurately reflect its purpose.

The long standing contradiction between the definition of “Grounding” in Article 100 and the way the term is used in Article 250 is the basic cause for the industry-wide misunderstanding of grounding and bonding. CMP-5 is to be commended for addressing this issue and will do the electrical industry a great service by supporting the term, “Equipment Bonding Conductor”.

Panel Meeting Action: Reject

Panel Statement: The panel has determined that the concepts in Proposal 5-1 require further study. See the panel action and statement on Comment 5-1.

Number Eligible to Vote: 16

Ballot Results: Affirmative: 16

Comment on Affirmative:

BOKSINER: See my comment on affirmative on Comment 5-1.

6-1 Log #1162 NEC-P06

Final Action: Reject

(Entire Document)

Note: See Technical Correlating Committee Note on Comment 5-1.

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 6-1

Recommendation: Equipment grounding conductor to be changed to equipment bonding conductor.

Substantiation: Eustace Soares stated in his book “Grounding Electrical Distribution Systems for Safety”, if I were asked to describe what it is that is responsible for the mystery in “Grounding” my answer could be given in ONE word. That word would be TRADITION. Tradition has been the nemesis of the progress of civilization for centuries. The only way we can fight the enemy of tradition is to view the facts with an open mind and not let tradition close our eyes to the truth.

TRADITION says we did something fifty years or more ago so we became hide-bound (having an inflexible character) and continue to do it despite the changes over the years, which dictate otherwise.

Eustace Soares states in the preface of his book on grounding, “The effectiveness and safety of any system finally rests on the methods of installations. The book covers pitfalls that must be avoided in order to comply with the rules as set down in the Code.”

One of these pitfalls is to separate the differences between “Ground, grounded and grounding” and “Bond, bonded, and bonding.”

Ground, grounded and grounding relate to “Electrical systems that are grounded shall be connected to earth in a manner that will limit the voltage imposed by lightning, line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during normal operation.” Is it not the power supplier that needs, “line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during their normal operations?”

Bond, bonded, and bonding relate to “Non-current-carrying conductive materials enclosing electrical conductors or equipment, or forming part of such equipment, shall be connected together and to the electrical supply source in a manner that establishes an effective fault current path.”

Until the users of the National Electrical Code, change grounding and bonding to what they really are and mean, nearly everyone that tries to use the present NEC is always confused. Ground, grounded and grounding relate to lightning protection. Bond, bonded, bonding relates to fault current protection. When grounding and bonding are separated, that could be the first step in making grounding workable.

Panel Meeting Action: Reject

Panel Statement: CMP 6 is concerned with the physical aspects of conductors. CMP 5 has the primary responsibility for definitions and uses of grounding terminology. CMP 6 will reconsider this concept if and when CMP 5 makes the change from “equipment grounding conductor” to “equipment bonding conductor”.

Number Eligible to Vote: 11

Ballot Results: Affirmative: 11

6-2 Log #1171 NEC-P06

Final Action: Reject

(Entire Document)

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 6-1

Recommendation: Change equipment grounding conductor to equipment bonding conductor.

Substantiation: The NEC is supposed to be “THE BOOK” for electricians and the users of electricity. The biggest part of the NEC is easy to understand but “GROUNDING” is another subject. How many people have been injured or killed, or had personal property destroyed by the misunderstanding of

grounding? This little three word (equipment bonding conductor) change could be the most important change ever made in the NEC.

Panel Meeting Action: Reject

Panel Statement: See panel action and statement on Comment 6-1.

Number Eligible to Vote: 11

Ballot Results: Affirmative: 11

6-3 Log #2129e NEC-P06

Final Action: Reject

(Entire Document)

Submitter: Paul Dobrowsky Holley, NY

Comment on Proposal No: 6-1

Recommendation: Accept the proposal.

Substantiation: I still believe changing the term equipment grounding conductor (EGC) to equipment bonding conductor (EBC) remains the best thing to do, and understand there is still much to do. Although the necessary 2/3 vote by CMP5 was not achieved, a majority vote was, indicating that there is support for the change. Using the present term, one must “ignore” the actual language. It is amazing how many individuals shared verbal comments that using the proposed term is much clearer. These comments came from those that are very experienced. Some indicate that the existing terms are acceptable and have been used for many years. That doesn’t make them correct, and to understand the function and concept, one must actually ignore the definitions. What about the new user of the NEC? We need to think of the future and whether this change is helpful.

Some have argued that a great expense will be incurred, but what about the hidden expense of misunderstanding. If a FPN is included with the new definition (EBC) indicating that the term equipment grounding conductor was for this purpose in past editions of the NEC, product standards and manufacturers instructions can be changed as part of the normal revision process. In the 2002 NEC, the term “lighting fixture” was changed to “luminaire” with no indication of a tremendous expense to the industry. Retailers continue to advertise they are selling lighting fixtures. In many applications, the device terminal described as that intended for the connection of the equipment grounding conductor actually is “grounded” using equipment bonding jumper. That jumper doesn’t get connected to ground; it completes the fault current path by bonding. In many instances, the fault can be cleared with no current passing through “ground.” Electricians will continue to connect the green colored or bare conductor to the green device terminal regardless of whether the manufacturer’s literature describes it as an equipment grounding terminal.

Some have argued that there will be a fortune to be made in seminars. I believe that this will be fairly easy to explain and will actually decrease the amount of education necessary in the future because the terms will be more self evident of what they are being used for. In 250.80 and 250.84 we provide exceptions that “do not require elbows buried in the earth to be grounded.” They are in the earth! Isn’t that grounded by the definition?

The discussions related to the proposed concept have been very interesting and enlightening and has already increased the awareness of the differences between grounding and bonding. The true quality of many individuals was very evident, and exemplifies the NEC process. Even those individuals that disagree with this change continue to remain good friends.

Panel Meeting Action: Reject

Panel Statement: See panel action and statement on Comment 6-1.

Number Eligible to Vote: 11

Ballot Results: Affirmative: 11

7-1 Log #580 NEC-P07

Final Action: Accept

(Entire Document)

Submitter: Technical Correlating Committee on National Electrical Code®

Comment on Proposal No: 7-2

Recommendation: See Technical Correlating Committee Note on Proposal 7-101.

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 agrees that the correct reference is NFPA 220. Fine Print Notes 1 and 2 will remain as currently worded in the 2002 NEC. Also, see the panel action and statement on Comment 7-93.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Vote Not Returned: 1 ANASTASI

7-2 Log #967 NEC-P07

Final Action: Reject

(Entire Document)

Note: See Technical Correlating Committee Note on Comment 5-1.

Submitter: Dorothy Kellogg, American Chemistry Council

Comment on Proposal No: 7-1

Recommendation: The final panel action should be accept.

Substantiation: The ACC continues to support Mr. Dobrowsky’s proposal to change the term “equipment grounding conductor” to “equipment bonding con-

ductor” throughout the National Electrical Code. The ACC believes that the change will clarify the understanding of the term and the actual purpose of this conductor as stated in the submitter’s substantiation.

Panel Meeting Action: Reject

Panel Statement: The panel agrees that there is confusion in the field surrounding these two terms and supports the concept of this change. However, the decision to use the terms “grounding” or “bonding” is the responsibility of Code-Making Panel 5. Code-Making Panel 7 requests that the Technical Correlating Committee appoint a Task Group to study the impact of such a change. Code-Making Panel 7 requests the opportunity to review any changes of these terms that are under their purview.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Vote Not Returned: 1 ANASTASI

7-3 Log #1149 NEC-P07
(Entire Document)

Final Action: Reject

Submitter: John H. Stricklin Mtn. Home, ID

Comment on Proposal No: 7-1

Recommendation: Equipment grounding conductor to be changed to equipment bonding conductor.

Substantiation: Eustace Soares stated in his book “Grounding Electrical Distribution Systems for Safety”, if I were asked to describe what it is that is responsible for the mystery in “Grounding” my answer could be given in ONE word. That word would be TRADITION. Tradition has been the nemesis of the progress of civilization for centuries. The only way we can fight the enemy of tradition is to view the facts with an open mind and not let tradition close our eyes to the truth.

TRADITION says we did something fifty years or more ago so we became hide-bound (having an inflexible character) and continue to do it despite the changes over the years, which dictate otherwise.

Eustace Soares states in the preface of his book on grounding, “The effectiveness and safety of any system finally rests on the methods of installations. The book covers pitfalls that must be avoided in order to comply with the rules as set down in the Code.”

One of these pitfalls is to separate the differences between “Ground, grounded and bonding” and “Bond, bonded, and bonding.”

Ground, grounded and bonding relate to “Electrical systems that are grounded shall be connected to earth in a manner that will limit the voltage imposed by lightning, line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during normal operation.” Is it not the power supplier that needs, “line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during their normal operations?”

Bond, bonded, and bonding relate to “Non-current-carrying conductive materials enclosing electrical conductors or equipment, or forming part of such equipment, shall be connected together and to the electrical supply source in a manner that establishes an effective fault current path.”

Until the users of the National Electrical Code, change grounding and bonding to what they really are and mean, nearly everyone that tries to use the present NEC is always confused. Ground, grounded and bonding relate to lightning protection. Bond, bonded, bonding relates to fault current protection. When grounding and bonding are separated, that could be the first step in making grounding workable.

Panel Meeting Action: Reject

Panel Statement: The panel agrees that there is confusion in the field surrounding these two terms and supports the concept of this change. However, the decision to use the terms “grounding” or “bonding” is the responsibility of Code-Making Panel 5. Code-Making Panel 7 requests that the Technical Correlating Committee appoint a Task Group to study the impact of such a change. Code-Making Panel 7 requests the opportunity to review any changes of these terms that are under their purview.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Vote Not Returned: 1 ANASTASI

7-4 Log #1172 NEC-P07
(Entire Document)

Final Action: Reject

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 7-1

Recommendation: Change equipment grounding conductor to equipment bonding conductor.

Substantiation: The NEC is supposed to be “THE BOOK” for electricians and the users of electricity. The biggest part of the NEC is easy to understand but “GROUNDING” is another subject. How many people have been injured or killed, or had personal property destroyed by the misunderstanding of grounding? This little three word (equipment bonding conductor) change could be the most important change ever made in the NEC.

Panel Meeting Action: Reject

Panel Statement: The panel agrees that there is confusion in the field surrounding these two terms and supports the concept of this change. However, the decision to use the terms “grounding” or “bonding” is the responsibility of Code-Making Panel 5. Code-Making Panel 7 requests that the Technical Correlating Committee appoint a Task Group to study the impact of such a change. Code-Making Panel 7 requests the opportunity to review any changes of these terms that are under their purview.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Vote Not Returned: 1 ANASTASI

7-5 Log #2129f NEC-P07
(Entire Document)

Final Action: Reject

Submitter: Paul Dobrowsky Holley, NY

Comment on Proposal No: 7-1

Recommendation: Accept the proposal.

Substantiation: I still believe changing the term equipment grounding conductor (EGC) to equipment bonding conductor (EBC) remains the best thing to do, and understand there is still much to do. Although the necessary 2/3 vote by CMP5 was not achieved, a majority vote was, indicating that there is support for the change. Using the present term, one must “ignore” the actual language. It is amazing how many individuals shared verbal comments that using the proposed term is much clearer. These comments came from those that are very experienced. Some indicate that the existing terms are acceptable and have been used for many years. That doesn’t make them correct, and to understand the function and concept, one must actually ignore the definitions. What about the new user of the NEC? We need to think of the future and whether this change is helpful.

Some have argued that a great expense will be incurred, but what about the hidden expense of misunderstanding. If a FPN is included with the new definition (EBC) indicating that the term equipment grounding conductor was for this purpose in past editions of the NEC, product standards and manufacturers instructions can be changed as part of the normal revision process. In the 2002 NEC, the term “lighting fixture” was changed to “luminaire” with no indication of a tremendous expense to the industry. Retailers continue to advertise they are selling lighting fixtures. In many applications, the device terminal described as that intended for the connection of the equipment grounding conductor actually is “grounded” using equipment bonding jumper. That jumper doesn’t get connected to ground; it completes the fault current path by bonding. In many instances, the fault can be cleared with no current passing through “ground.” Electricians will continue to connect the green colored or bare conductor to the green device terminal regardless of whether the manufacturer’s literature describes it as an equipment grounding terminal.

Some have argued that there will be a fortune to be made in seminars. I believe that this will be fairly easy to explain and will actually decrease the amount of education necessary in the future because the terms will be more self evident of what they are being used for. In 250.80 and 250.84 we provide exceptions that “do not require elbows buried in the earth to be grounded.” They are in the earth! Isn’t that grounded by the definition?

The discussions related to the proposed concept have been very interesting and enlightening and has already increased the awareness of the differences between grounding and bonding. The true quality of many individuals was very evident, and exemplifies the NEC process. Even those individuals that disagree with this change continue to remain good friends.

Panel Meeting Action: Reject

Panel Statement: The panel agrees that there is confusion in the field surrounding these two terms and supports the concept of this change. However, the decision to use the terms “grounding” or “bonding” is the responsibility of Code-Making Panel 5. Code-Making Panel 7 requests that the Technical Correlating Committee appoint a Task Group to study the impact of such a change. Code-Making Panel 7 requests the opportunity to review any changes of these terms that are under their purview.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14

Vote Not Returned: 1 ANASTASI

8-1 Log #955 NEC-P08
(Entire Document)

Final Action: Reject

Note: See Technical Correlating Committee Note on Comment 5-1.

Submitter: Dorothy Kellogg, American Chemistry Council

Comment on Proposal No: 8-1

Recommendation: The

Final Action should be accept.

Substantiation: The ACC continues to support Mr. Dobrowsky’s proposal to change the term “equipment grounding conductor” to “equipment bonding conductor” throughout the National Electrical Code. The ACC believes that the change will clarify the understanding of the term and the actual purpose of this conductor as stated in the submitter’s substantiation.

Panel Meeting Action: Reject

Panel Statement: The panel continues to reject changing “equipment grounding conductor” to “equipment bonding conductor” throughout the NEC. A generic change to the Code may not address any technical issues that may exist. The submitter provided no additional technical information to substantiate the change. CMP 8 recommends that the TCC consider appointing a task group, including members from CMP 8 and other panels, to review the technical issues.

Number Eligible to Vote: 13

Ballot Results: Affirmative: 13

8-2 Log #1150 NEC-P08
(Entire Document)

Final Action: Reject

Submitter: John H. Stricklin Mtn. Home, ID

Comment on Proposal No: 8-1

Recommendation: Equipment grounding conductor to be changed to equipment bonding conductor.

Substantiation: Eustace Soares stated in his book “Grounding Electrical Distribution Systems for Safety”, if I were asked to describe what it is that is responsible for the mystery in “Grounding” my answer could be given in ONE word. That word would be TRADITION. Tradition has been the nemesis of the progress of civilization for centuries. The only way we can fight the enemy of tradition is to view the facts with an open mind and not let tradition close our eyes to the truth.

TRADITION says we did something fifty years or more ago so we became hide-bound (having an inflexible character) and continue to do it despite the changes over the years, which dictate otherwise.

Eustace Soares states in the preface of his book on grounding, “The effectiveness and safety of any system finally rests on the methods of installations. The book covers pitfalls that must be avoided in order to comply with the rules as set down in the Code.”

One of these pitfalls is to separate the differences between “Ground, grounded and grounding” and “Bond, bonded, and bonding.”

Ground, grounded and grounding relate to “Electrical systems that are grounded shall be connected to earth in a manner that will limit the voltage imposed by lightning, line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during normal operation.” Is it not the power supplier that needs, “line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during their normal operations?”

Bond, bonded, and bonding relate to “Non-current-carrying conductive materials enclosing electrical conductors or equipment, or forming part of such equipment, shall be connected together and to the electrical supply source in a manner that establishes an effective fault current path.”

Until the users of the National Electrical Code, change grounding and bonding to what they really are and mean, nearly everyone that tries to use the present NEC is always confused. Ground, grounded and grounding relate to lightning protection. Bond, bonded, bonding relates to fault current protection. When grounding and bonding are separated, that could be the first step in making grounding workable.

Panel Meeting Action: Reject

Panel Statement: See panel statement and action on Comment 8-1.

Number Eligible to Vote: 13

Ballot Results: Affirmative: 13

8-3 Log #1173 NEC-P08
(Entire Document)

Final Action: Reject

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 8-1

Recommendation: Change equipment grounding conductor to equipment bonding conductor.

Substantiation: The NEC is supposed to be “THE BOOK” for electricians and the users of electricity. The biggest part of the NEC is easy to understand but “GROUNDING” is another subject. How many people have been injured or killed, or had personal property destroyed by the misunderstanding of grounding? This little three word (equipment bonding conductor) change could be the most important change ever made in the NEC.

Panel Meeting Action: Reject

Panel Statement: See panel statement and action on Comment 8-1.

Number Eligible to Vote: 13

Ballot Results: Affirmative: 13

8-4 Log #2129g NEC-P08
(Entire Document)

Final Action: Reject

Submitter: Paul Dobrowsky Holley, NY

Comment on Proposal No: 8-1

Recommendation: Accept the proposal.

Substantiation: I still believe changing the term equipment grounding conductor (EGC) to equipment bonding conductor (EBC) remains the best thing to do, and understand there is still much to do. Although the necessary 2/3 vote by CMP5 was not achieved, a majority vote was, indicating that there is support for the change. Using the present term, one must “ignore” the actual language. It is amazing how many individuals shared verbal comments that using the proposed term is much clearer. These comments came from those that are very experienced. Some indicate that the existing terms are acceptable and have been used for many years. That doesn’t make them correct, and to understand the function and concept, one must actually ignore the definitions. What about the new user of the NEC? We need to think of the future and whether this change is helpful.

Some have argued that a great expense will be incurred, but what about the hidden expense of misunderstanding. If a FPN is included with the new definition (EBC) indicating that the term equipment grounding conductor was for this purpose in past editions of the NEC, product standards and manufacturers instructions can be changed as part of the normal revision process. In the 2002 NEC, the term “lighting fixture” was changed to “luminaire” with no indication of a tremendous expense to the industry. Retailers continue to advertise they are selling lighting fixtures. In many applications, the device terminal described as that intended for the connection of the equipment grounding conductor actually is “grounded” using equipment bonding jumper. That jumper doesn’t get connected to ground; it completes the fault current path by bonding. In many instances, the fault can be cleared with no current passing through “ground.” Electricians will continue to connect the green colored or bare conductor to the green device terminal regardless of whether the manufacturer’s literature describes it as an equipment grounding terminal.

Some have argued that there will be a fortune to be made in seminars. I believe that this will be fairly easy to explain and will actually decrease the amount of education necessary in the future because the terms will be more self evident of what they are being used for. In 250.80 and 250.84 we provide exceptions that “do not require elbows buried in the earth to be grounded.” They are in the earth! Isn’t that grounded by the definition?

The discussions related to the proposed concept have been very interesting and enlightening and has already increased the awareness of the differences between grounding and bonding. The true quality of many individuals was very evident, and exemplifies the NEC process. Even those individuals that disagree with this change continue to remain good friends.

Panel Meeting Action: Reject

Panel Statement: See panel statement and action on Comment 8-1.

Number Eligible to Vote: 13

Ballot Results: Affirmative: 13

(Note: The sequence no. 8-5 was not used)

9-1 Log #922 NEC-P09
(Entire Document)

Final Action: Reject

Note: See Technical Correlating Committee Note on Comment 5-1.

Submitter: Dorothy Kellogg, American Chemistry Council

Comment on Proposal No: 9-1

Recommendation: As stated in the Explanation of Negative by Mr. Young, the panel should have voted to accept this proposal as it applies to articles under the scope of Code-Making Panel 9.

Substantiation: The terms “bonding” and “grounding” are often confused with one another but describe two different concepts. The adoption of this proposal throughout the code should improve the understanding of the concept of bonding noncurrent carrying conductive parts together and of connection of an electrical system to earth.

Panel Meeting Action: Reject

Panel Statement: CMP 9 agrees that CMP 5 has jurisdiction over this issue. Currently, there is no clear consensus as defined by the NFPA Regulations Governing Committee Projects in CMP 5 with regard to changing the terminology from equipment grounding conductor to equipment bonding conductor. Action taken by CMP 5 on this issue should be consistent throughout the NEC. CMP 9 reaffirms its panel statement on Proposal 9-1 as published on page 14 in the Report on Proposals.

Number Eligible to Vote: 11

Ballot Results: Affirmative: 11

9-2 Log #1151 NEC-P09
(Entire Document)

Final Action: Reject

Submitter: John H. Stricklin Mtn. Home, ID
Comment on Proposal No: 9-1

Recommendation: Equipment grounding conductor to be changed to equipment bonding conductor.

Substantiation: Eustace Soares stated in his book "Grounding Electrical Distribution Systems for Safety", if I were asked to describe what it is that is responsible for the mystery in "Grounding" my answer could be given in ONE word. That word would be TRADITION. Tradition has been the nemesis of the progress of civilization for centuries. The only way we can fight the enemy of tradition is to view the facts with an open mind and not let tradition close our eyes to the truth.

TRADITION says we did something fifty years or more ago so we became hide-bound (having an inflexible character) and continue to do it despite the changes over the years, which dictate otherwise.

Eustace Soares states in the preface of his book on grounding, "The effectiveness and safety of any system finally rests on the methods of installations. The book covers pitfalls that must be avoided in order to comply with the rules as set down in the Code."

One of these pitfalls is to separate the differences between "Ground, grounded and grounding" and "Bond, bonded, and bonding."

Ground, grounded and grounding relate to "Electrical systems that are grounded shall be connected to earth in a manner that will limit the voltage imposed by lightning, line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during normal operation." Is it not the power supplier that needs, "line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during their normal operations?"

Bond, bonded, and bonding relate to "Non-current-carrying conductive materials enclosing electrical conductors or equipment, or forming part of such equipment, shall be connected together and to the electrical supply source in a manner that establishes an effective fault current path."

Until the users of the National Electrical Code, change grounding and bonding to what they really are and mean, nearly everyone that tries to use the present NEC is always confused. Ground, grounded and grounding relate to lightning protection. Bond, bonded, bonding relates to fault current protection. When grounding and bonding are separated, that could be the first step in making grounding workable.

Panel Meeting Action: Reject

Panel Statement: See panel action and statement on Comment 9-1.

Number Eligible to Vote: 11

Ballot Results: Affirmative: 11

9-3 Log #1174 NEC-P09
(Entire Document)

Final Action: Reject

Submitter: John Stricklin, International Assoc. of Electrical Inspectors
Comment on Proposal No: 9-1

Recommendation: Change equipment grounding conductor to equipment bonding conductor.

Substantiation: The NEC is supposed to be "THE BOOK" for electricians and the users of electricity. The biggest part of the NEC is easy to understand but "GROUNDING" is another subject. How many people have been injured or killed, or had personal property destroyed by the misunderstanding of grounding? This little three word (equipment bonding conductor) change could be the most important change ever made in the NEC.

Panel Meeting Action: Reject

Panel Statement: See panel action and statement on Comment 9-1.

Number Eligible to Vote: 11

Ballot Results: Affirmative: 11

9-4 Log #2129h NEC-P09
(Entire Document)

Final Action: Reject

Submitter: Paul Dobrowsky Holley, NY
Comment on Proposal No: 9-1

Recommendation: Accept the proposal.

Substantiation: I still believe changing the term equipment grounding conductor (EGC) to equipment bonding conductor (EBC) remains the best thing to do, and understand there is still much to do. Although the necessary 2/3 vote by CMP5 was not achieved, a majority vote was, indicating that there is support for the change. Using the present term, one must "ignore" the actual language. It is amazing how many individuals shared verbal comments that using the proposed term is much clearer. These comments came from those that are very experienced. Some indicate that the existing terms are acceptable and have been used for many years. That doesn't make them correct, and to understand the function and concept, one must actually ignore the definitions. What about the new user of the NEC? We need to think of the future and whether this change is helpful.

Some have argued that a great expense will be incurred, but what about the hidden expense of misunderstanding. If a FPN is included with the new definition (EBC) indicating that the term equipment grounding conductor was for this purpose in past editions of the NEC, product standards and manufacturers instructions can be changed as part of the normal revision process. In the 2002 NEC, the term "lighting fixture" was changed to "luminaire" with no indication of a tremendous expense to the industry. Retailers continue to advertise they are selling lighting fixtures. In many applications, the device terminal described as that intended for the connection of the equipment grounding conductor actually is "grounded" using equipment bonding jumper. That jumper doesn't get connected to ground; it completes the fault current path by bonding. In many instances, the fault can be cleared with no current passing through "ground." Electricians will continue to connect the green colored or bare conductor to the green device terminal regardless of whether the manufacturer's literature describes it as an equipment grounding terminal.

Some have argued that there will be a fortune to be made in seminars. I believe that this will be fairly easy to explain and will actually decrease the amount of education necessary in the future because the terms will be more self evident of what they are being used for. In 250.80 and 250.84 we provide exceptions that "do not require elbows buried in the earth to be grounded." They are in the earth! Isn't that grounded by the definition?

The discussions related to the proposed concept have been very interesting and enlightening and has already increased the awareness of the differences between grounding and bonding. The true quality of many individuals was very evident, and exemplifies the NEC process. Even those individuals that disagree with this change continue to remain good friends.

Panel Meeting Action: Reject

Panel Statement: See panel action and statement on Comment 9-1.

Number Eligible to Vote: 11

Ballot Results: Affirmative: 11

10-1 Log #1152 NEC-P10
(Entire Document)

Final Action: Reject

Note: See Technical Correlating Committee Note on Comment 5-1.

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 10-1

Recommendation: Equipment grounding conductor to be changed to equipment bonding conductor.

Substantiation: Eustace Soares stated in his book "Grounding Electrical Distribution Systems for Safety", if I were asked to describe what it is that is responsible for the mystery in "Grounding" my answer could be given in ONE word. That word would be TRADITION. Tradition has been the nemesis of the progress of civilization for centuries. The only way we can fight the enemy of tradition is to view the facts with an open mind and not let tradition close our eyes to the truth.

TRADITION says we did something fifty years or more ago so we became hide-bound (having an inflexible character) and continue to do it despite the changes over the years, which dictate otherwise.

Eustace Soares states in the preface of his book on grounding, "The effectiveness and safety of any system finally rests on the methods of installations. The book covers pitfalls that must be avoided in order to comply with the rules as set down in the Code."

One of these pitfalls is to separate the differences between "Ground, grounded and grounding" and "Bond, bonded, and bonding."

Ground, grounded and grounding relate to "Electrical systems that are grounded shall be connected to earth in a manner that will limit the voltage imposed by lightning, line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during normal operation." Is it not the power supplier that needs, "line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during their normal operations?"

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Until the users of the National Electrical Code, change grounding and bonding to what they really are and mean, nearly everyone that tries to use the present NEC is always confused. Ground, grounded and grounding relate to lightning protection. Bond, bonded, bonding relates to fault current protection. When grounding and bonding are separated, that could be the first step in making grounding workable.

Panel Meeting Action: Reject

Panel Statement: This comment and associated proposal is outside the purview of Code-Making Panel 10, since the term does not exist in Articles 240 or 780.

Any task group action on this issue could have an indirect impact on Panel 10. Therefore, the panel requests their participation if a Technical Correlating Committee task group is appointed on this issue.

Number Eligible to Vote: 12

Ballot Results: Affirmative: 12

10-2 Log #1175 NEC-P10
(Entire Document) **Final Action: Reject**

Note: See Technical Correlating Committee Note on Comment 5-1.

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 10-1

Recommendation: Change equipment grounding conductor to equipment bonding conductor.

Substantiation: The NEC is supposed to be “THE BOOK” for electricians and the users of electricity. The biggest part of the NEC is easy to understand but “GROUNDING” is another subject. How many people have been injured or killed, or had personal property destroyed by the misunderstanding of grounding? This little three word (equipment bonding conductor) change could be the most important change ever made in the NEC.

Panel Meeting Action: Reject

Panel Statement: This comment and associated proposal is outside the purview of Code-Making Panel 10, since the term does not exist in Articles 240 or 780.

Any task group action on this issue could have an indirect impact on Panel 10. Therefore, the panel requests their participation if a Technical Correlating Committee task group is appointed on this issue.

Number Eligible to Vote: 12

Ballot Results: Affirmative: 12

10-3 Log #2129i NEC-P10
(Entire Document) **Final Action: Reject**

Note: See Technical Correlating Committee Note on Comment 5-1.

Submitter: Paul Dobrowsky Holley, NY

Comment on Proposal No: 10-1

Recommendation: Accept the proposal.

Substantiation: I still believe changing the term equipment grounding conductor (EGC) to equipment bonding conductor (EBC) remains the best thing to do, and understand there is still much to do. Although the necessary 2/3 vote by CMP5 was not achieved, a majority vote was, indicating that there is support for the change. Using the present term, one must “ignore” the actual language. It is amazing how many individuals shared verbal comments that using the proposed term is much clearer. These comments came from those that are very experienced. Some indicate that the existing terms are acceptable and have been used for many years. That doesn’t make them correct, and to understand the function and concept, one must actually ignore the definitions. What about the new user of the NEC? We need to think of the future and whether this change is helpful.

Some have argued that a great expense will be incurred, but what about the hidden expense of misunderstanding. If a FPN is included with the new definition (EBC) indicating that the term equipment grounding conductor was for this purpose in past editions of the NEC, product standards and manufacturers instructions can be changed as part of the normal revision process. In the 2002 NEC, the term “lighting fixture” was changed to “luminaire” with no indication of a tremendous expense to the industry. Retailers continue to advertise they are selling lighting fixtures. In many applications, the device terminal described as that intended for the connection of the equipment grounding conductor actually is “grounded” using equipment bonding jumper. That jumper doesn’t get connected to ground; it completes the fault current path by bonding. In many instances, the fault can be cleared with no current passing through “ground.” Electricians will continue to connect the green colored or bare conductor to the green device terminal regardless of whether the manufacturer’s literature describes it as an equipment grounding terminal.

Some have argued that there will be a fortune to be made in seminars. I believe that this will be fairly easy to explain and will actually decrease the amount of education necessary in the future because the terms will be more self evident of what they are being used for. In 250.80 and 250.84 we provide exceptions that “do not require elbows buried in the earth to be grounded.” They are in the earth! Isn’t that grounded by the definition?

The discussions related to the proposed concept have been very interesting and enlightening and has already increased the awareness of the differences between grounding and bonding. The true quality of many individuals was very evident, and exemplifies the NEC process. Even those individuals that disagree with this change continue to remain good friends.

Panel Meeting Action: Reject

Panel Statement: This comment and associated proposal is outside the purview of Code-Making Panel 10, since the term does not exist in Articles 240 or 780.

Any task group action on this issue could have an indirect impact on Panel 10. Therefore, the panel requests their participation if a Technical Correlating Committee task group is appointed on this issue.

Number Eligible to Vote: 12

Ballot Results: Affirmative: 12

11-1 Log #1148 NEC-P11
(Entire Document) **Final Action: Reject**

Submitter: John H. Stricklin Mtn. Home, ID

Comment on Proposal No: 11-15

Recommendation: Equipment grounding conductor to be changed to equipment bonding conductor.

Substantiation: Eustace Soares stated in his book “Grounding Electrical Distribution Systems for Safety”, if I were asked to describe what it is that is responsible for the mystery in “Grounding” my answer could be given in ONE word. That word would be TRADITION. Tradition has been the nemesis of the progress of civilization for centuries. The only way we can fight the enemy of tradition is to view the facts with an open mind and not let tradition close our eyes to the truth.

TRADITION says we did something fifty years or more ago so we became hide-bound (having an inflexible character) and continue to do it despite the changes over the years, which dictate otherwise.

Eustace Soares states in the preface of his book on grounding, “The effectiveness and safety of any system finally rests on the methods of installations. The book covers pitfalls that must be avoided in order to comply with the rules as set down in the Code.”

One of these pitfalls is to separate the differences between “Ground, grounded and grounding” and “Bond, bonded, and bonding.”

Ground, grounded and grounding relate to “Electrical systems that are grounded shall be connected to earth in a manner that will limit the voltage imposed by lightning, line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during normal operation.” Is it not the power supplier that needs, “line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during their normal operations?”

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Until the users of the National Electrical Code, change grounding and bonding to what they really are and mean, nearly everyone that tries to use the present NEC is always confused. Ground, grounded and grounding relate to lightning protection. Bond, bonded, bonding relates to fault current protection. When grounding and bonding are separated, that could be the first step in making grounding workable.

Panel Meeting Action: Reject

Panel Statement: See the panel action and statement on Comment 11-2.

Number Eligible to Vote: 14

Ballot Results: Affirmative: 14

11-2 Log #1176 NEC-P11
(Entire Document) **Final Action: Reject**

Note: See Technical Correlating Committee Note on Comment 5-1.

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 11-1

Recommendation: Change equipment grounding conductor to equipment bonding conductor.

Substantiation: The NEC is supposed to be “THE BOOK” for electricians and the users of electricity. The biggest part of the NEC is easy to understand but “GROUNDING” is another subject. How many people have been injured or killed, or had personal property destroyed by the misunderstanding of grounding? This little three word (equipment bonding conductor) change could be the most important change ever made in the NEC.

Panel Meeting Action: Reject

Panel Statement: The recommendation has not provided specific text and does not meet the requirements of Section 4-5.5 of the NFPA Regulations Governing Committee Projects. CMP-11 recommends that the Technical Correlating Committee study this issue in a more comprehensive fashion.

Number Eligible to Vote: 14

Ballot Results: Affirmative: 14

11-3 Log #2129j NEC-P11
(Entire Document) **Final Action: Reject**

Submitter: Paul Dobrowsky Holley, NY

Comment on Proposal No: 11-1

Recommendation: Accept the proposal.

Substantiation: I still believe changing the term equipment grounding conductor (EGC) to equipment bonding conductor (EBC) remains the best thing to do, and understand there is still much to do. Although the necessary 2/3 vote by CMP5 was not achieved, a majority vote was, indicating that there is support for the change. Using the present term, one must “ignore” the actual language. It is amazing how many individuals shared verbal comments that using the proposed term is much clearer. These comments came from those that are very experienced. Some indicate that the existing terms are acceptable and

have been used for many years. That doesn't make them correct, and to understand the function and concept, one must actually ignore the definitions. What about the new user of the NEC? We need to think of the future and whether this change is helpful.

Some have argued that a great expense will be incurred, but what about the hidden expense of misunderstanding. If a FPN is included with the new definition (EBC) indicating that the term equipment grounding conductor was for this purpose in past editions of the NEC, product standards and manufacturers instructions can be changed as part of the normal revision process. In the 2002 NEC, the term "lighting fixture" was changed to "luminaire" with no indication of a tremendous expense to the industry. Retailers continue to advertise they are selling lighting fixtures. In many applications, the device terminal described as that intended for the connection of the equipment grounding conductor actually is "grounded" using equipment bonding jumper. That jumper doesn't get connected to ground; it completes the fault current path by bonding. In many instances, the fault can be cleared with no current passing through "ground." Electricians will continue to connect the green colored or bare conductor to the green device terminal regardless of whether the manufacturer's literature describes it as an equipment grounding terminal.

Some have argued that there will be a fortune to be made in seminars. I believe that this will be fairly easy to explain and will actually decrease the amount of education necessary in the future because the terms will be more self evident of what they are being used for. In 250.80 and 250.84 we provide exceptions that "do not require elbows buried in the earth to be grounded." They are in the earth! Isn't that grounded by the definition?

The discussions related to the proposed concept have been very interesting and enlightening and has already increased the awareness of the differences between grounding and bonding. The true quality of many individuals was very evident, and exemplifies the NEC process. Even those individuals that disagree with this change continue to remain good friends.

Panel Meeting Action: Reject

Panel Statement: See the panel action and statement on Comment 11-2.

Number Eligible to Vote: 14

Ballot Results: Affirmative: 14

12-1 Log #925 NEC-P12
(Entire Document)

Final Action: Reject

Note: Based on the Technical Correlating Committee action on Comment 5-1, the Technical Correlating Committee directs that Comment 12-1 be reported as "Reject".

Submitter: Dorothy Kellogg, American Chemistry Council

Comment on Proposal No: 12-1

Recommendation: The Final Action should be accept.

Substantiation: The ACC continues to support Mr. Dobrowsky's proposal to change the term "equipment grounding conductor" to "equipment bonding conductor" throughout the National Electrical Code. The ACC believes that the change will clarify the understanding of the term and the actual purpose of this conductor as stated in the submitter's substantiation.

Panel Meeting Action: Accept

Panel Statement: Panel 12 is in favor of the change in wording and requests participation in any task group that may be formed to study this issue.

Number Eligible to Vote: 10

Ballot Results: Affirmative: 7 Negative: 3

Explanation of Negative:

JANIKOWSKI: The term "equipment grounding conductor" has been around and taught in trade schools, at seminars, and used in publications like Soares from the beginning. Introducing a new definition could cause confusion.

LOTTMANN: NEMA disagrees with the panel action. This proposal has fostered significant debate in the code process. After considering all of the debate, it is clear that the issue is one of education and not terminology. Changing the term from "equipment grounding conductor" to "equipment bonding conductor" in no way changes the need for qualified persons and continuing education. The present terminology is well understood by those who understand the purposes of grounding and bonding. The panel members and the public need to consider the magnitude of the change compared to the benefit. The change will create a nightmare of revisions and changes in terminology across the entire electrical system. The benefit is practically nonexistent.

PRICHARD: This comment should be Rejected. Code-Making Panel 5 has primary responsibility for definitions and uses of grounding terminology. Code-Making Panel 5 has recommended the Technical Correlating Committee appoint a Task Group to go through the entire code and make recommendations for changing "equipment grounding conductor" to "equipment bonding conductor".

12-2 Log #1147 NEC-P12
(Entire Document)

Final Action: Reject

Note: Based on the Technical Correlating Committee action on Comment 5-1, the Technical Correlating Committee directs that Comment 12-1 be reported as "Reject".

Submitter: John H. Stricklin Mtn. Home, ID

Comment on Proposal No: 12-1

Recommendation: Equipment grounding conductor to be changed to equipment bonding conductor.

Substantiation: Eustace Soares stated in his book "Grounding Electrical Distribution Systems for Safety", if I were asked to describe what it is that is responsible for the mystery in "Grounding" my answer could be given in ONE word. That word would be TRADITION. Tradition has been the nemesis of the progress of civilization for centuries. The only way we can fight the enemy of tradition is to view the facts with an open mind and not let tradition close our eyes to the truth.

TRADITION says we did something fifty years or more ago so we became hide-bound (having an inflexible character) and continue to do it despite the changes over the years, which dictate otherwise.

Eustace Soares states in the preface of his book on grounding, "The effectiveness and safety of any system finally rests on the methods of installations. The book covers pitfalls that must be avoided in order to comply with the rules as set down in the Code."

One of these pitfalls is to separate the differences between "Ground, grounded and grounding" and "Bond, bonded, and bonding."

Ground, grounded and grounding relate to "Electrical systems that are grounded shall be connected to earth in a manner that will limit the voltage imposed by lightning, line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during normal operation." Is it not the power supplier that needs, "line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during their normal operations?"

Bond, bonded, and bonding relate to "Non-current-carrying conductive materials enclosing electrical conductors or equipment, or forming part of such equipment, shall be connected together and to the electrical supply source in a manner that establishes an effective fault current path."

Until the users of the National Electrical Code, change grounding and bonding to what they really are and mean, nearly everyone that tries to use the present NEC is always confused. Ground, grounded and grounding relate to lightning protection. Bond, bonded, bonding relates to fault current protection. When grounding and bonding are separated, that could be the first step in making grounding workable.

Panel Meeting Action: Accept

Panel Statement: Panel 12 is in favor of the change in wording and requests participation in any task group that may be formed to study this issue.

Number Eligible to Vote: 10

Ballot Results: Affirmative: 7 Negative: 3

Explanation of Negative:

JANIKOWSKI: See my Explanation of Negative Vote on Comment 12-1.

LOTTMANN: See my explanation of negative vote on Comment 12-1.

PRICHARD: See my Explanation of Negative Vote on Comment 12-1.

12-3 Log #1177 NEC-P12
(Entire Document)

Final Action: Reject

Note: Based on the Technical Correlating Committee action on Comment 5-1, the Technical Correlating Committee directs that Comment 12-1 be reported as "Reject".

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 12-1

Recommendation: Change equipment grounding conductor to equipment bonding conductor.

Substantiation: The NEC is supposed to be "THE BOOK" for electricians and the users of electricity. The biggest part of the NEC is easy to understand but "GROUNDING" is another subject. How many people have been injured or killed, or had personal property destroyed by the misunderstanding of grounding? This little three word (equipment bonding conductor) change could be the most important change ever made in the NEC.

Panel Meeting Action: Accept

Panel Statement: Panel 12 is in favor of the change in wording and requests participation in any task group that may be formed to study this issue.

Number Eligible to Vote: 10

Ballot Results: Affirmative: 7 Negative: 3

Explanation of Negative:

JANIKOWSKI: See my Explanation of Negative Vote on Comment 12-1.

LOTTMANN: See my explanation of negative vote on Comment 12-1.

PRICHARD: See my Explanation of Negative Vote on Comment 12-1.

12-3a Log #2129k NEC-P12
(Entire Document)

Note: Based on the Technical Correlating Committee action on Comment 5-1, the Technical Correlating Committee directs that Comment 12-1 be reported as "Reject".

Submitter: Paul Dobrowsky Holley, NY

Comment on Proposal No: 12-1

Recommendation: Accept the proposal.

Substantiation: I still believe changing the term equipment grounding conductor (EGC) to equipment bonding conductor (EBC) remains the best thing to do, and understand there is still much to do. Although the necessary 2/3 vote by CMP5 was not achieved, a majority vote was, indicating that there is support for the change. Using the present term, one must "ignore" the actual language. It is amazing how many individuals shared verbal comments that using the proposed term is much clearer. These comments came from those that are very experienced. Some indicate that the existing terms are acceptable and have been used for many years. That doesn't make them correct, and to understand the function and concept, one must actually ignore the definitions. What about the new user of the NEC? We need to think of the future and whether this change is helpful.

Some have argued that a great expense will be incurred, but what about the hidden expense of misunderstanding. If a FPN is included with the new definition (EBC) indicating that the term equipment grounding conductor was for this purpose in past editions of the NEC, product standards and manufacturers instructions can be changed as part of the normal revision process. In the 2002 NEC, the term "lighting fixture" was changed to "luminaire" with no indication of a tremendous expense to the industry. Retailers continue to advertise they are selling lighting fixtures. In many applications, the device terminal described as that intended for the connection of the equipment grounding conductor actually is "grounded" using equipment bonding jumper. That jumper doesn't get connected to ground; it completes the fault current path by bonding. In many instances, the fault can be cleared with no current passing through "ground." Electricians will continue to connect the green colored or bare conductor to the green device terminal regardless of whether the manufacturer's literature describes it as an equipment grounding terminal.

Some have argued that there will be a fortune to be made in seminars. I believe that this will be fairly easy to explain and will actually decrease the amount of education necessary in the future because the terms will be more self evident of what they are being used for. In 250.80 and 250.84 we provide exceptions that "do not require elbows buried in the earth to be grounded." They are in the earth! Isn't that grounded by the definition?

The discussions related to the proposed concept have been very interesting and enlightening and has already increased the awareness of the differences between grounding and bonding. The true quality of many individuals was very evident, and exemplifies the NEC process. Even those individuals that disagree with this change continue to remain good friends.

Panel Meeting Action: Accept

Panel Statement: Panel 12 is in favor of the change in wording and requests participation in any task group that may be formed to study this issue.

Number Eligible to Vote: 10

Ballot Results: Affirmative: 8 Negative: 2

Explanation of Negative:

JANIKOWSKI: See my Explanation of Negative Vote on Comment 12-1.

PRICHARD: See my Explanation of Negative Vote on Comment 12-1.

13-1 Log #934 NEC-P13
(Entire Document)

Final Action: Reject

Note: See Technical Correlating Committee Action on Comment 5-1.

Submitter: Dorothy Kellogg, American Chemistry Council

Comment on Proposal No: 13-1

Recommendation: This proposal should be accepted. Change "equipment grounding conductor" to "equipment bonding conductor" throughout the NEC.
Substantiation: NEC wide proposal to change "equipment grounding conductor" to "equipment bonding conductor" where appropriate does clarify the actual purpose of this conductor.

Panel Meeting Action: Reject

Panel Statement: Panel 5 is ultimately responsible for Article 250, Grounding, and Panel 1 is responsible for Article 100, Definitions. This and similar proposals recommending changing "equipment grounding conductor" to "equipment bonding conductor" are not a simple change or straightforward issue. Panel 13 would be amiss to make any changes with regard to grounding terminology that would be in conflict with the actions of Panel 5 and Panel 1. In addition, this recommendation and the original substantiation do not provide any technical data or documentation to substantiate that the use of the present term has led to unsafe installations. The existing evidence is quite the opposite as substantiated by over 20 years of successful and safe installations.

Such a major change in the Code terminology must be based on an inadequacy with the present code. Safety records and history do not indicate such

an inadequacy. Before any such change can be considered, all the issues must be investigated to ensure clarity and to determine the overall impact, such as the cost and the effect to industrial standards, product listings, listing standards, engineering standards, and so forth. Panel 13 rejects changing this terminology in our venue until such time as Panel 5 investigates and determines that this change is necessary and desirable.

Number Eligible to Vote: 14

Ballot Results: Affirmative: 14

13-2 Log #1178 NEC-P13
(Entire Document)

Final Action: Reject

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 13-1

Recommendation: Change equipment grounding conductor to equipment bonding conductor.

Substantiation: The NEC is supposed to be "THE BOOK" for electricians and the users of electricity. The biggest part of the NEC is easy to understand but "GROUNDING" is another subject. How many people have been injured or killed, or had personal property destroyed by the misunderstanding of grounding? This little three word (equipment bonding conductor) change could be the most important change ever made in the NEC.

Panel Meeting Action: Reject

Panel Statement: See panel action and statement on Comment 13-1. The panel recommends that the submitter provide the documentation to substantiate the comment.

Number Eligible to Vote: 14

Ballot Results: Affirmative: 14

13-2a Log #2129l NEC-P13
(Entire Document)

Final Action: Reject

Submitter: Paul Dobrowsky Holley, NY

Comment on Proposal No: 13-1

Recommendation: Accept the proposal.

Substantiation: I still believe changing the term equipment grounding conductor (EGC) to equipment bonding conductor (EBC) remains the best thing to do, and understand there is still much to do. Although the necessary 2/3 vote by CMP5 was not achieved, a majority vote was, indicating that there is support for the change. Using the present term, one must "ignore" the actual language. It is amazing how many individuals shared verbal comments that using the proposed term is much clearer. These comments came from those that are very experienced. Some indicate that the existing terms are acceptable and have been used for many years. That doesn't make them correct, and to understand the function and concept, one must actually ignore the definitions. What about the new user of the NEC? We need to think of the future and whether this change is helpful.

Some have argued that a great expense will be incurred, but what about the hidden expense of misunderstanding. If a FPN is included with the new definition (EBC) indicating that the term equipment grounding conductor was for this purpose in past editions of the NEC, product standards and manufacturers instructions can be changed as part of the normal revision process. In the 2002 NEC, the term "lighting fixture" was changed to "luminaire" with no indication of a tremendous expense to the industry. Retailers continue to advertise they are selling lighting fixtures. In many applications, the device terminal described as that intended for the connection of the equipment grounding conductor actually is "grounded" using equipment bonding jumper. That jumper doesn't get connected to ground; it completes the fault current path by bonding. In many instances, the fault can be cleared with no current passing through "ground." Electricians will continue to connect the green colored or bare conductor to the green device terminal regardless of whether the manufacturer's literature describes it as an equipment grounding terminal.

Some have argued that there will be a fortune to be made in seminars. I believe that this will be fairly easy to explain and will actually decrease the amount of education necessary in the future because the terms will be more self evident of what they are being used for. In 250.80 and 250.84 we provide exceptions that "do not require elbows buried in the earth to be grounded." They are in the earth! Isn't that grounded by the definition?

The discussions related to the proposed concept have been very interesting and enlightening and has already increased the awareness of the differences between grounding and bonding. The true quality of many individuals was very evident, and exemplifies the NEC process. Even those individuals that disagree with this change continue to remain good friends.

Panel Meeting Action: Reject

Panel Statement: See panel action and statement on Comment 13-1.

Number Eligible to Vote: 14

Ballot Results: Affirmative: 12 Abstain: 2

Comment on Affirmative:

STAFFORD: I agree with the panel actions and concur with the panel statement for 13-1. However, my records do not indicate where this proposal was acted upon by the panel.

WOOD: My records indicate that the panel did not act on this comment. However, I agree with the panel action on Proposal 13-1, and the listed panel action on Comment 13-2a.

Explanation of Abstention:

HORNBERGER: My records indicate that this comment was not acted upon at the meeting. The comment was not distributed with the NFPA comment mailing to the panel members, and is not listed in the comments available on the Panel 13 or the public site.

KOVACIK: My notes do not indicate the panel discussed or acted on this comment. As such, I cannot Accept or Reject the stated panel action.

13-3 Log #1153 NEC-P13
(Entire Document)

Final Action: Reject

Submitter: John Stricklin, International Assoc. of Electrical Inspectors
Comment on Proposal No: 13-1

Recommendation: Equipment grounding conductor to be changed to equipment bonding conductor.

Substantiation: Eustace Soares stated in his book "Grounding Electrical Distribution Systems for Safety", if I were asked to describe what it is that is responsible for the mystery in "Grounding" my answer could be given in ONE word. That word would be TRADITION. Tradition has been the nemesis of the progress of civilization for centuries. The only way we can fight the enemy of tradition is to view the facts with an open mind and not let tradition close our eyes to the truth.

TRADITION says we did something fifty years or more ago so we became hide-bound (having an inflexible character) and continue to do it despite the changes over the years, which dictate otherwise.

Eustace Soares states in the preface of his book on grounding, "The effectiveness and safety of any system finally rests on the methods of installations. The book covers pitfalls that must be avoided in order to comply with the rules as set down in the Code."

One of these pitfalls is to separate the differences between "Ground, grounded and grounding" and "Bond, bonded, and bonding."

Ground, grounded and grounding relate to "Electrical systems that are grounded shall be connected to earth in a manner that will limit the voltage imposed by lightning, line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during normal operation." Is it not the power supplier that needs, "line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during their noraml operations?"

Bond, bonded, and bonding relate to "Non-current-carrying conductive materials enclosing electrical conductors or equipment, or forming part of such equipment, shall be connected together and to the electrical supply source in a manner that establishes an effective fault current path."

Until the users of the National Electrical Code, change grounding and bonding to what they really are and mean, nearly everyone that tries to use the present NEC is always confused. Ground, grounded and grounding relate to lightning protection. Bond, bonded, bonding relates to fault current protection. When grounding and bonding are separated, that could be the first step in making grounding workable.

Panel Meeting Action: Reject

Panel Statement: See the panel action and statement on Comment 13-1.

Number Eligible to Vote: 14

Ballot Results: Affirmative: 14

14-1 Log #1154 NEC-P14
(Entire Document)

Final Action: Reject

Note: See Technical Correlating Committee Note on Comment 5-1.

Submitter: John Stricklin, International Assoc. of Electrical Inspectors
Comment on Proposal No: 14-1

Recommendation: Equipment grounding conductor to be changed to equipment bonding conductor.

Substantiation: Eustace Soares stated in his book "Grounding Electrical Distribution Systems for Safety", if I were asked to describe what it is that is responsible for the mystery in "Grounding" my answer could be given in ONE word. That word would be TRADITION. Tradition has been the nemesis of the progress of civilization for centuries. The only way we can fight the enemy of tradition is to view the facts with an open mind and not let tradition close our eyes to the truth.

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Panel Meeting Action: Reject

Panel Statement: CMP 14 understands that this is a global NEC issue and needs to be resolved by the TCC with appropriate inputs from the affected CMPs. CMP 5 appears to be the lead panel in this work effort.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 14 Abstain: 1

Explanation of Abstention:

WELDON: I am not sure what the intentions of this comment is, and, since I was not at the meeting, I did not hear the panel's conversations concerning this Comment. Therefore, I with to Abstain.

14-2 Log #1179 NEC-P14
(Entire Document)

Final Action: Reject

Submitter: John Stricklin, International Assoc. of Electrical Inspectors
Comment on Proposal No: 14-1

Recommendation: Change equipment grounding conductor to equipment bonding conductor.

Substantiation: The NEC is supposed to be "THE BOOK" for electricians and the users of electricity. The biggest part of the NEC is easy to understand but "GROUNDING" is another subject. How many people have been injured or killed, or had personal property destroyed by the misunderstanding of grounding? This little three word (equipment bonding conductor) change could be the most important change ever made in the NEC.

Panel Meeting Action: Reject

Panel Statement: CMP 14 understands that this is a global NEC issue and needs to be resolved by the TCC with appropriate inputs from the affected CMPs. CMP 5 appears to be the lead panel in this work effort.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

14-2a Log #2129m NEC-P14
(Entire Document)

Final Action: Reject

Submitter: Paul Dobrowsky Holley, NY

Comment on Proposal No: 14-1

Recommendation: Accept the proposal.

Substantiation: I still believe changing the term equipment grounding conductor (EGC) to equipment bonding conductor (EBC) remains the best thing to do, and understand there is still much to do. Although the necessary 2/3 vote by CMP5 was not achieved, a majority vote was, indicating that there is support for the change. Using the present term, one must "ignore" the actual language. It is amazing how many individuals shared verbal comments that using the proposed term is much clearer. These comments came from those that are very experienced. Some indicate that the existing terms are acceptable and have been used for many years. That doesn't make them correct, and to understand the function and concept, one must actually ignore the definitions. What about the new user of the NEC? We need to think of the future and whether this change is helpful.

Some have argued that a great expense will be incurred, but what about the hidden expense of misunderstanding. If a FPN is included with the new definition (EBC) indicating that the term equipment grounding conductor was for this purpose in past editions of the NEC, product standards and manufacturers instructions can be changed as part of the normal revision process. In the 2002 NEC, the term "lighting fixture" was changed to "luminaire" with no indication of a tremendous expense to the industry. Retailers continue to advertise they are selling lighting fixtures. In many applications, the device terminal described as that intended for the connection of the equipment grounding conductor actually is "grounded" using equipment bonding jumper. That jumper doesn't get connected to ground; it completes the fault current path by bonding. In many instances, the fault can be cleared with no current passing through "ground." Electricians will continue to connect the green colored or bare conductor to the green device terminal regardless of whether the manufacturer's literature describes it as an equipment grounding terminal.

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The discussions related to the proposed concept have been very interesting

and enlightening and has already increased the awareness of the differences between grounding and bonding. The true quality of many individuals was very evident, and exemplifies the NEC process. Even those individuals that disagree with this change continue to remain good friends.

Panel Meeting Action: Reject

Panel Statement: CMP 14 understands that this is a global NEC issue and needs to be resolved by the TCC with appropriate inputs from the affected CMPs. CMP 5 appears to be the lead panel in this work effort.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

15-1 Log #1155 NEC-P15
(Entire Document)

Final Action: Reject

Note: See Technical Correlating Committee Note on Comment 5-1.

Submitter: John Stricklin, International Assoc. of Electrical Inspectors
Comment on Proposal No: 15-1

Recommendation: Equipment grounding conductor to be changed to equipment bonding conductor.

Substantiation: Eustace Soares stated in his book "Grounding Electrical Distribution Systems for Safety", if I were asked to describe what it is that is responsible for the mystery in "Grounding" my answer could be given in ONE word. That word would be TRADITION. Tradition has been the nemesis of the progress of civilization for centuries. The only way we can fight the enemy of tradition is to view the facts with an open mind and not let tradition close our eyes to the truth.

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Panel Meeting Action: Reject

Panel Statement: The panel continues to reject the proposal because it has been referred to Panel 5, which has responsibility for grounding and bonding, to ensure proper coordination of the terms "grounding" and "bonding" throughout the Code.

Number Eligible to Vote: 12

Ballot Results: Affirmative: 12

15-2 Log #1180 NEC-P15
(Entire Document)

Final Action: Reject

Submitter: John Stricklin, International Assoc. of Electrical Inspectors
Comment on Proposal No: 15-1

Recommendation: Change equipment grounding conductor to equipment bonding conductor.

Substantiation: The NEC is supposed to be "THE BOOK" for electricians and the users of electricity. The biggest part of the NEC is easy to understand but "GROUNDING" is another subject. How many people have been injured or killed, or had personal property destroyed by the misunderstanding of grounding? This little three word (equipment bonding conductor) change could be the most important change ever made in the NEC.

Panel Meeting Action: Reject

Panel Statement: The panel continues to reject the proposal because it has been referred to Panel 5, which has responsibility for grounding and bonding, to ensure proper coordination of the terms "grounding" and "bonding" throughout the Code.

Number Eligible to Vote: 12

Ballot Results: Affirmative: 12

15-2a Log #2129n NEC-P15
(Entire Document)

Final Action: Reject

Submitter: Paul Dobrowsky Holley, NY

Comment on Proposal No: 15-1

Recommendation: Accept the proposal.

Substantiation: I still believe changing the term equipment grounding conductor (EGC) to equipment bonding conductor (EBC) remains the best thing to do, and understand there is still much to do. Although the necessary 2/3 vote by CMP5 was not achieved, a majority vote was, indicating that there is support for the change. Using the present term, one must "ignore" the actual language. It is amazing how many individuals shared verbal comments that using the proposed term is much clearer. These comments came from those that are very experienced. Some indicate that the existing terms are acceptable and have been used for many years. That doesn't make them correct, and to understand the function and concept, one must actually ignore the definitions. What about the new user of the NEC? We need to think of the future and whether this change is helpful.

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Panel Meeting Action: Reject

Panel Statement: The panel continues to reject the proposal because it has been referred to Panel 5, which has responsibility for grounding and bonding, to ensure proper coordination of the terms "grounding" and "bonding" throughout the Code.

Number Eligible to Vote: 12

Ballot Results: Affirmative: 12

16-1 Log #1156 NEC-P16
(Entire Document)

Final Action: Reject

Note: See Technical Correlating Committee Note on Comment 5-1.

Submitter: John Stricklin, International Assoc. of Electrical Inspectors
Comment on Proposal No: 16-1

Recommendation: Equipment grounding conductor to be changed to equipment bonding conductor.

Substantiation: Eustace Soares stated in his book "Grounding Electrical Distribution Systems for Safety", if I were asked to describe what it is that is responsible for the mystery in "Grounding" my answer could be given in ONE word. That word would be TRADITION. Tradition has been the nemesis of the progress of civilization for centuries. The only way we can fight the enemy of tradition is to view the facts with an open mind and not let tradition close our eyes to the truth.

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Until the users of the National Electrical Code, change grounding and bonding to what they really are and mean, nearly everyone that tries to use the present NEC is always confused. Ground, grounded and grounding relate to lightning protection. Bond, bonded, bonding relates to fault current protection. When grounding and bonding are separated, that could be the first step in making grounding workable.

Panel Meeting Action: Reject

Panel Statement: See CMP 16 statement on Comment 16-2a.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-2 Log #1181 NEC-P16
(Entire Document)

Final Action: Reject

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 16-1

Recommendation: Change equipment grounding conductor to equipment bonding conductor.

Substantiation: The NEC is supposed to be “THE BOOK” for electricians and the users of electricity. The biggest part of the NEC is easy to understand but “GROUNDING” is another subject. How many people have been injured or killed, or had personal property destroyed by the misunderstanding of grounding? This little three word (equipment bonding conductor) change could be the most important change ever made in the NEC.

Panel Meeting Action: Reject

Panel Statement: See CMP 16 statement on Comment 16-2a.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

16-2a Log #2129o NEC-P16
(Entire Document)

Final Action: Reject

Submitter: Paul Dobrowsky Holley, NY

Comment on Proposal No: 16-1

Recommendation: Accept the proposal.

Substantiation: I still believe changing the term equipment grounding conductor (EGC) to equipment bonding conductor (EBC) remains the best thing to do, and understand there is still much to do. Although the necessary 2/3 vote by CMP5 was not achieved, a majority vote was, indicating that there is support for the change. Using the present term, one must “ignore” the actual language. It is amazing how many individuals shared verbal comments that using the proposed term is much clearer. These comments came from those that are very experienced. Some indicate that the existing terms are acceptable and have been used for many years. That doesn’t make them correct, and to understand the function and concept, one must actually ignore the definitions. What about the new user of the NEC? We need to think of the future and whether this change is helpful.

Some have argued that a great expense will be incurred, but what about the hidden expense of misunderstanding. If a FPN is included with the new definition (EBC) indicating that the term equipment grounding conductor was for this purpose in past editions of the NEC, product standards and manufacturers instructions can be changed as part of the normal revision process. In the 2002 NEC, the term “lighting fixture” was changed to “luminaire” with no indication of a tremendous expense to the industry. Retailers continue to advertise they are selling lighting fixtures. In many applications, the device terminal described as that intended for the connection of the equipment grounding conductor actually is “grounded” using equipment bonding jumper. That jumper doesn’t get connected to ground; it completes the fault current path by bonding. In many instances, the fault can be cleared with no current passing through “ground.” Electricians will continue to connect the green colored or bare conductor to the green device terminal regardless of whether the manufacturer’s literature describes it as an equipment grounding terminal.

Some have argued that there will be a fortune to be made in seminars. I believe that this will be fairly easy to explain and will actually decrease the amount of education necessary in the future because the terms will be more self evident of what they are being used for. In 250.80 and 250.84 we provide exceptions that “do not require elbows buried in the earth to be grounded.” They are in the earth! Isn’t that grounded by the definition?

The discussions related to the proposed concept have been very interesting and enlightening and has already increased the awareness of the differences between grounding and bonding. The true quality of many individuals was very evident, and exemplifies the NEC process. Even those individuals that disagree with this change continue to remain good friends.

Panel Meeting Action: Reject

Panel Statement: CMP 16 acknowledges that the terms “bonding” and “grounding” may often be misused. However, the Code must continue to maintain the distinction between bonding and grounding. The AC equipment grounding conductor is not a bonding conductor, but truly a grounding conductor. Its function is to conduct fault currents, permitting operation of fault overcurrent protection devices (i.e., circuit breakers) in the event of a phase-to-ground (equipment frame) fault. The original proposal would impact a long-standing, familiar term, likely resulting in confusion in the NEC community. A particular safety problem has not been identified, and clarity is not improved by the proposed change.

Number Eligible to Vote: 15

Ballot Results: Affirmative: 15

17-1 Log #1157 NEC-P17
(Entire Document)

Final Action: Reject

Note: See **Technical Correlating Committee Note on Comment 5-1.**

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 17-1

Recommendation: Equipment grounding conductor to be changed to equipment bonding conductor.

Substantiation: Eustace Soares stated in his book “Grounding Electrical Distribution Systems for Safety”, if I were asked to describe what it is that is responsible for the mystery in “Grounding” my answer could be given in ONE word. That word would be TRADITION. Tradition has been the nemesis of the progress of civilization for centuries. The only way we can fight the enemy of tradition is to view the facts with an open mind and not let tradition close our eyes to the truth.

TRADITION says we did something fifty years or more ago so we became hide-bound (having an inflexible character) and continue to do it despite the changes over the years, which dictate otherwise.

Eustace Soares states in the preface of his book on grounding, “The effectiveness and safety of any system finally rests on the methods of installations. The book covers pitfalls that must be avoided in order to comply with the rules as set down in the Code.”

One of these pitfalls is to separate the differences between “Ground, grounded and grounding” and “Bond, bonded, and bonding.”

Ground, grounded and grounding relate to “Electrical systems that are grounded shall be connected to earth in a manner that will limit the voltage imposed by lightning, line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during normal operation.” Is it not the power supplier that needs, “line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during their normal operations?”

Bond, bonded, and bonding relate to “Non-current-carrying conductive materials enclosing electrical conductors or equipment, or forming part of such equipment, shall be connected together and to the electrical supply source in a manner that establishes an effective fault current path.”

Until the users of the National Electrical Code, change grounding and bonding to what they really are and mean, nearly everyone that tries to use the present NEC is always confused. Ground, grounded and grounding relate to lightning protection. Bond, bonded, bonding relates to fault current protection. When grounding and bonding are separated, that could be the first step in making grounding workable.

Panel Meeting Action: Reject

Panel Statement: CMP 5 has primary responsibility on this issue and has not yet reached a consensus. Therefore, CMP 17 continues to reject the proposal for the reasons given in the ROP.

Number Eligible to Vote: 9

Ballot Results: Affirmative: 9

17-2 Log #1182 NEC-P17
(Entire Document)

Final Action: Reject

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 17-1

Recommendation: Change equipment grounding conductor to equipment bonding conductor.

Substantiation: The NEC is supposed to be “THE BOOK” for electricians and the users of electricity. The biggest part of the NEC is easy to understand but “GROUNDING” is another subject. How many people have been injured or killed, or had personal property destroyed by the misunderstanding of grounding? This little three word (equipment bonding conductor) change could be the most important change ever made in the NEC.

Panel Meeting Action: Reject

Panel Statement: See panel action and statement on Comment 17-1.

Number Eligible to Vote: 9

Ballot Results: Affirmative: 9

17-2a Log #2129p NEC-P17
(Entire Document)

Final Action: Reject

Submitter: Paul Dobrowsky Holley, NY

Comment on Proposal No: 17-1

Recommendation: Accept the proposal.

Substantiation: I still believe changing the term equipment grounding conductor (EGC) to equipment bonding conductor (EBC) remains the best thing to do, and understand there is still much to do. Although the necessary 2/3 vote by CMP5 was not achieved, a majority vote was, indicating that there is support for the change. Using the present term, one must “ignore” the actual language. It is amazing how many individuals shared verbal comments that using the proposed term is much clearer. These comments came from those that are very experienced. Some indicate that the existing terms are acceptable and have been used for many years. That doesn’t make them correct, and to understand the function and concept, one must actually ignore the definitions. What about the new user of the NEC? We need to think of the future and whether this change is helpful.

Some have argued that a great expense will be incurred, but what about the hidden expense of misunderstanding. If a FPN is included with the new definition (EBC) indicating that the term equipment grounding conductor was for this purpose in past editions of the NEC, product standards and manufacturers instructions can be changed as part of the normal revision process. In the 2002 NEC, the term “lighting fixture” was changed to “luminaire” with no indication of a tremendous expense to the industry. Retailers continue to advertise they are selling lighting fixtures. In many applications, the device terminal described as that intended for the connection of the equipment grounding conductor actually is “grounded” using equipment bonding jumper. That jumper doesn’t get connected to ground; it completes the fault current path by bonding. In many instances, the fault can be cleared with no current passing through “ground.” Electricians will continue to connect the green colored or bare conductor to the green device terminal regardless of whether the manufacturer’s literature describes it as an equipment grounding terminal.

Some have argued that there will be a fortune to be made in seminars. I believe that this will be fairly easy to explain and will actually decrease the amount of education necessary in the future because the terms will be more self evident of what they are being used for. In 250.80 and 250.84 we provide exceptions that “do not require elbows buried in the earth to be grounded.” They are in the earth! Isn’t that grounded by the definition?

The discussions related to the proposed concept have been very interesting and enlightening and has already increased the awareness of the differences between grounding and bonding. The true quality of many individuals was very evident, and exemplifies the NEC process. Even those individuals that disagree with this change continue to remain good friends.

Panel Meeting Action: Reject

Panel Statement: See panel action and statement on Comment 17-1.

Number Eligible to Vote: 9

Ballot Results: Affirmative: 9

18-1 Log #1158 NEC-P18
(Entire Document)

Final Action: Hold

Note: See Technical Correlating Committee Note on Comment 5-1.

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 18-1

Recommendation: Equipment grounding conductor to be changed to equipment bonding conductor.

Substantiation: Eustace Soares stated in his book “Grounding Electrical Distribution Systems for Safety”, if I were asked to describe what it is that is responsible for the mystery in “Grounding” my answer could be given in ONE word. That word would be TRADITION. Tradition has been the nemesis of the progress of civilization for centuries. The only way we can fight the enemy of tradition is to view the facts with an open mind and not let tradition close our eyes to the truth.

TRADITION says we did something fifty years or more ago so we became hide-bound (having an inflexible character) and continue to do it despite the changes over the years, which dictate otherwise.

Eustace Soares states in the preface of his book on grounding, “The effectiveness and safety of any system finally rests on the methods of installations. The book covers pitfalls that must be avoided in order to comply with the rules as set down in the Code.”

One of these pitfalls is to separate the differences between “Ground, grounded and grounding” and “Bond, bonded, and bonding.”

Ground, grounded and grounding relate to “Electrical systems that are grounded shall be connected to earth in a manner that will limit the voltage imposed by lightning, line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during normal operation.” Is it not the power supplier that needs, “line surges, or unintentional contact with higher-voltage lines and that will stabilize the voltage to earth during their normal operations?”

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Panel Meeting Action: Hold

Panel Statement: The committee recognizes that there are multiple concepts and ramifications involved with this global change. There is insufficient time and data to properly evaluate the changes in a timely manner. The committee recommends to the TCC that a task group be formed to address these issues throughout the Code.

Number Eligible to Vote: 10

Ballot Results: Affirmative: 10

18-2 Log #1183 NEC-P18
(Entire Document)

Final Action: Hold

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 18-1

Recommendation: Change equipment grounding conductor to equipment bonding conductor.

Substantiation: The NEC is supposed to be “THE BOOK” for electricians and the users of electricity. The biggest part of the NEC is easy to understand but “GROUNDING” is another subject. How many people have been injured or killed, or had personal property destroyed by the misunderstanding of grounding? This little three word (equipment bonding conductor) change could be the most important change ever made in the NEC.

Panel Meeting Action: Hold

Panel Statement: See panel action and statement on Comment 18-1.

Number Eligible to Vote: 10

Ballot Results: Affirmative: 10

18-2a Log #2129q NEC-P18
(Entire Document)

Final Action: Hold

Submitter: Paul Dobrowsky Holley, NY

Comment on Proposal No: 18-1

Recommendation: Accept the proposal.

Substantiation: I still believe changing the term equipment grounding conductor (EGC) to equipment bonding conductor (EBC) remains the best thing to do, and understand there is still much to do. Although the necessary 2/3 vote by CMP5 was not achieved, a majority vote was, indicating that there is support for the change. Using the present term, one must “ignore” the actual language. It is amazing how many individuals shared verbal comments that using the proposed term is much clearer. These comments came from those that are very experienced. Some indicate that the existing terms are acceptable and have been used for many years. That doesn’t make them correct, and to understand the function and concept, one must actually ignore the definitions. What about the new user of the NEC? We need to think of the future and whether this change is helpful.

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The discussions related to the proposed concept have been very interesting and enlightening and has already increased the awareness of the differences between grounding and bonding. The true quality of many individuals was

very evident, and exemplifies the NEC process. Even those individuals that disagree with this change continue to remain good friends.

Panel Meeting Action: **Hold**

Panel Statement: See panel action and statement on Comment 18-1.

Number Eligible to Vote: 10

Ballot Results: Affirmative: 10

19-1 Log #1159 NEC-P19

Final Action: **Reject**

(Entire Document)

Note: See **Technical Correlating Committee Note on Comment 5-1.**

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 19-1

Recommendation: Equipment grounding conductor to be changed to equipment bonding conductor.

Substantiation: Eustace Soares stated in his book "Grounding Electrical Distribution Systems for Safety", if I were asked to describe what it is that is responsible for the mystery in "Grounding" my answer could be given in ONE word. That word would be TRADITION. Tradition has been the nemesis of the progress of civilization for centuries. The only way we can fight the enemy of tradition is to view the facts with an open mind and not let tradition close our eyes to the truth.

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Panel Meeting Action: **Reject**

Panel Statement: The submitter has not provided sufficient substantiation to validate that the proposed change to rename this conductor would clarify the situation. Training, not changing terminology, may be the solution to proper understanding of the NEC terms. CMP 19 understands that this is a global NEC issue and needs to be resolved by the TCC with appropriate input from the affected CMPs. CMP 5 appears to be the lead panel in this work effort.

Number Eligible to Vote: 8

Ballot Results: Affirmative: 8

19-1a Log #2129r NEC-P19

Final Action: **Reject**

(Entire Document)

Submitter: Paul Dobrowsky Holley, NY

Comment on Proposal No: 19-1

Recommendation: Accept the proposal.

Substantiation: I still believe changing the term equipment grounding conductor (EGC) to equipment bonding conductor (EBC) remains the best thing to do, and understand there is still much to do. Although the necessary 2/3 vote by CMP5 was not achieved, a majority vote was, indicating that there is support for the change. Using the present term, one must "ignore" the actual language. It is amazing how many individuals shared verbal comments that using the proposed term is much clearer. These comments came from those that are very experienced. Some indicate that the existing terms are acceptable and have been used for many years. That doesn't make them correct, and to understand the function and concept, one must actually ignore the definitions. What about the new user of the NEC? We need to think of the future and whether this change is helpful.

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The discussions related to the proposed concept have been very interesting and enlightening and has already increased the awareness of the differences between grounding and bonding. The true quality of many individuals was very evident, and exemplifies the NEC process. Even those individuals that disagree with this change continue to remain good friends.

Panel Meeting Action: **Reject**

Panel Statement: See the panel action and statement on Comment 19-1.

Number Eligible to Vote: 8

Ballot Results: Affirmative: 8

5-2 Log #720 NEC-P05

Final Action: **Accept**

(Entire Document)

Submitter: Alan H. Nadon, City of Elkhart, IN

Comment on Proposal No: 5-1

Recommendation: DO NOT change the term "equipment grounding conductor" to "equipment bonding conductor" throughout the NEC.

Substantiation: The term "equipment grounding conductor" is understood by qualified and trained users of the Code. The Code is not intended as an instruction manual for untrained persons.

Panel Meeting Action: **Accept**

Panel Statement: See panel action and statement on Comment 5-1.

Number Eligible to Vote: 16

Ballot Results: Affirmative: 16

Comment on Affirmative:

BOKSINER: See my comment on affirmative on Comment 5-1.

19-2 Log #1184 NEC-P19

Final Action: **Reject**

(Entire Document)

Submitter: John Stricklin, International Assoc. of Electrical Inspectors

Comment on Proposal No: 19-1

Recommendation: Change equipment grounding conductor to equipment bonding conductor.

Substantiation: The NEC is supposed to be "THE BOOK" for electricians and the users of electricity. The biggest part of the NEC is easy to understand but "GROUNDING" is another subject. How many people have been injured or killed, or had personal property destroyed by the misunderstanding of grounding? This little three word (equipment bonding conductor) change could be the most important change ever made in the NEC.

Panel Meeting Action: **Reject**

Panel Statement: See panel action and statement on Comment 19-1.

Number Eligible to Vote: 8

Ballot Results: Affirmative: 8