

FORM FOR PROPOSAL FOR 2014 NATIONAL ELECTRICAL CODE®

INSTRUCTIONS — PLEASE READ CAREFULLY

Type or print **legibly** in **black ink**. Use a separate copy for each proposal. Limit each proposal to a **SINGLE** section. All proposals **must be received by NFPA by 5 p.m., EST, Friday, November 4, 2011**, to be considered for the 2014 National Electrical Code. Proposals received after 5:00 p.m., EST, Friday, November 4, 2011, will be returned to the submitter. If supplementary material (photographs, diagrams, reports, etc.) is included, you may be required to submit sufficient copies for all members and alternates of the technical committee.

For technical assistance, please call NFPA at 1-800-344-3555.

FOR OFFICE USE ONLY

Log #: _____

Date Rec'd: _____

Please indicate in which format you wish to receive your ROP/ROC ☒ electronic ☐ paper ☐ download
(Note: If choosing the download option, you must view the ROP/ROC from our website; no copy will be sent to you.)

Date 2 Nov 2011 Name John C. Wiles, Jr Tel. No. 575-646-6105
Company Southwest Technology Development Institute, New Mexico State University Email jwiles@nmsu.edu
Street Address 3705 RESEARCH DR/MSC 3 SOL City LAS CRUCES State NM Zip 88003

*****If you wish to receive a hard copy, a street address *MUST* be provided. Deliveries cannot be made to PO boxes.**

Please indicate organization represented (if any) PV INDUSTRY FORUM

1. Section/Paragraph 690.46

2. Proposal Recommends (check one): ☒ new text ☐ revised text ☐ deleted text

3. Proposal (include proposed new or revised wording, or identification of wording to be deleted): [Note: Proposed text should be in legislative format; i.e., use underscore to denote wording to be inserted (inserted wording) and strike-through to denote wording to be deleted (~~deleted wording~~).]

Revise 690.46 as follows. Add the following second paragraph.

690.46 Array Equipment Grounding Conductors. Equipment grounding conductors for PV modules smaller than 6 AWG shall comply with 250.120(C).

Solid (non-stranded) equipment-grounding conductors and grounding-electrode conductors of 6 AWG and smaller shall be permitted in raceways for PV array grounding.

4. **Statement of Problem and Substantiation for Proposal:** (Note: State the problem that would be resolved by your recommendation; give the specific reason for your Proposal, including copies of tests, research papers, fire experience, etc. If more than 200 words, it may be abstracted for publication.)

Section 310.106(C) requires the use of stranded conductors of 8 AWG and larger in raceways, with an exception for the use larger, solid conductors where permitted elsewhere in the Code. This proposal allows the use of solid conductors larger than 8 AWG.

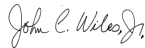
Given the problem of moisture, which is generally present at the location of the modules, and the installation requirements of 690.46/250.120(C), it would simplify PV installations if the use of solid conductors of 6 AWG in raceways were allowed. This would address not only issues of water migration into stranded grounding conductors and subsequent degradation of the conductor and/or connection, but would also allow electricians to more effectively deal with the concerns of inspectors who expect to see grounding conductors smaller than 6 AWG protected in a raceway. The allowance of 6 AWG solid conductors in raceways would allow an electrician to run an unspliced #6 (or smaller) solid conductor from the DC disconnect or combiner box to the array. This conductor could then be used to bond all of the mounting components and even connect to any auxiliary grounding electrodes installed at the location of the array without a splice.

5. Copyright Assignment

- (a) ☒ I am the author of the text or other material (such as illustrations, graphs) proposed in the Proposal.
- (b) ☐ Some or all of the text or other material proposed in this Proposal was not authored by me. Its source is as follows: (please identify which material and provide complete information on its source)

I hereby grant and assign to the NFPA all and full rights in copyright in this Proposal and understand that I acquire no rights in any publication of NFPA in which this Proposal in this or another similar or analogous form is used. Except to the extent that I do not have authority to make an assignment in materials that I have identified in (b) above, I hereby warrant that I am the author of this Proposal and that I have full power and authority to enter into this assignment.

Signature (Required)



PLEASE USE SEPARATE FORM FOR EACH PROPOSAL

Mail to: Secretary, Standards Council · National Fire Protection Association
1 Batterymarch Park · Quincy, MA 02169-7471 OR
Fax to: (617) 770-3500 OR Email to: proposals_comments@nfpa.org 8/5/2010