

FORM FOR PROPOSAL FOR 2014 NATIONAL ELECTRICAL CODE®

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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.

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Please indicate organization represented (if any) PV INDUSTRY FORUM

1. Section/Paragraph 240.12(I)

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~~).]

Add the following New Section to Article 240

240.21(I). Current Limited Sources. Circuits supplied by current-limited sources shall be protected at the source of currents that can damage those circuits.

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.)

When there are external sources of current that can damage these circuits such as parallel-connected strings of PV modules or external batteries or other devices, the overcurrent protection should be located at the source of those overcurrents.

Photovoltaic (PV) modules and PV utility-interactive inverters are current-limited, current sources of energy that cannot provide the high values of fault current that the typical ac voltage source or battery source can provide. The circuits and conductors that carry current from these PV sources are sized to have an ampacity of 125% of the rated maximum current from the source. See Section 690.8. Overcurrent devices for these circuits are required to be rated also at 125% of the rated short-circuit current from these sources.

Because of these required ratings, the circuit conductors are not subject to damage from fault currents originating from the source (the PV module). For PV systems, it is not correct to provide overcurrent protection at the PV Module source as required by the location requirements of 240.21.

This addition to the Code is necessary, because electricians and even professional engineers


frequently interpret Section 240.21 literally and place overcurrent protection for these circuits at the PV module source. With a required rating of 1.56 times the rated short-circuit current, an overcurrent device located here, provides little or no overcurrent protection for the circuit

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