

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.

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

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Please indicate organization represented (if any) Chair--NFPA CMP4 Task Group on Firefighter Safety

1. Section/Paragraph 690.12

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~~).]

690.12 PV Arrays on Buildings Response to Emergency Shutdown.

For PV Systems installed on roofs of buildings, photovoltaic source circuits shall be deenergized from all sources within 10 seconds of when the utility supply is deenergized or when the PV power source disconnecting means is opened. When the source circuits are deenergized, the maximum voltage at the module and module conductors shall be 80 volts.

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.)

In order to increase the electrical and fire safety of PV systems on buildings, this provision is proposed. This will implement a significant improvement in safety for rooftop PV systems based on the safety concerns of the Fire Service during emergency operations on a PV-equipped structure. The recent DHS/AFG funded research project by UL provides further evidence of the need for the ability to deenergize this generator in the event of an emergency.

The proposal addresses the deenergization of rooftop wiring leaving only the module wiring and internal conductors of the module still energized. PV source circuit conductors include all wiring between modules or modular electronic devices up to the combining point. In order to meet this requirement, some electronic means will be necessary to shut off the module at the source circuit level. This shutdown must coincide with a utility outage, or manual inverter shutdown. A PV module-level dc-dc converter, single-module micro-inverter, and ac module would all meet this requirement at the module end of the circuit. Simple remotely controlled electronic switches can also meet this requirement. The 80 volts at the module and module conductors is to allow typical modules, up to 72 cells, to be used on rooftop PV systems without modifying the internal wiring of the module. The inverter, or utilization load would also have to have some method to deenergize the input conductors should the product have internal storage such as capacitance or a battery.

5. Copyright Assignment

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(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)

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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.

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