

# FORM FOR PROPOSALS FOR 2008 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, 2005, to be considered for the 2008 National Electrical Code. Proposals received after 5:00 p.m., EST, Friday, November 4, 2005, 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.

LOG #

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Company U.S. Consumer Product Safety Commission

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Please Indicate Organization Represented (if any) U.S. Consumer Product Safety Commission

1. Section/Paragraph 210.8(C)

2. Proposal recommends (check one):  new text  revised text  deleted text

3. Proposal (include proposed new wording, or identification of wording to be deleted):

(See attached Proposal)

4. Statement of Problem and Substantiation for Proposal:

(See attached Statement of Problem and Substantiation for Proposal)

5.  This Proposal is original material (Note: Original material is considered to be the submitter's own idea based on or as a result of his/her own experience, thought or research and, to the best of his/her knowledge, is not copied from another source.)

This Proposal is not original material, its source (if known) is as follows: \_\_\_\_\_

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Quincy, MA 02269 or FAX to 617-770-3500

## Proposal for 210.8 (C)

Revise 210.8(C) as follows:

### (C) Boat Hoists

Ground-fault circuit-interrupter protection for personnel shall be provided for outlets that supply 120/240-volt boat hoists installed in dwelling unit locations and supplied by ~~125-volt, 15- and 20-ampere~~ branch circuits.

### Statement of Problem and Substantiation for Proposal:

The essential severe shock/electrocution protection provided by 210.8(C) for personnel in contact with a boat hoist or in the water near a boat hoist should not be limited to 120 V installations.

The following four reports from the CPSC In-depth Investigation (IDI) database describe four incidents resulting in five electrocution deaths from 1994 to 2003 from contact with a boat hoist:

IDI No. 940817CNE5182 - A 17-year old young man was electrocuted as he stood in water to guide a boat as it was being lowered by a powered boat lift or hoist. An electrified lift cable came in contact with the victim's chest, and the victim was electrocuted. No GFCI was present in the hoist or electrical system.

IDI No. 960530CCC6242 - A 14-year old male was electrocuted when he grabbed the cable on an activated boat davit while waist deep in water. Local code enforcement officials stated that the davit, which was not GFCI-protected, was not grounded properly.

IDI No. 000531CNE5571 - An 11-year old male was electrocuted while standing on a metal portion of a seawall. He reached out and touched an electrical boatlift cable. The victim had been swimming in a canal and playing with some ducks. He had gotten out of the canal and was attempting to get a better view of the ducks by supporting himself with the cable. The victim died at the hospital.

IDI No. 030630HCC1686 - Two males, ages 15 and 16, were electrocuted while retrieving a football in a canal and coming in contact with metal components of a boatlift. The wiring leading to the lift was reported to be not installed to Code (only buried seven inches). A rebar had inadvertently been driven through the supply cable, bridging the hot and ground conductors. No information was available as to the presence of a GFCI.

These accounts show the high level of risk that dock installations pose when a fault occurs because of the exposure to readily-accessible dead metal parts and large body surface area exposure with a favorable ground path (bodies of water). Although these cases were caused by non-Code compliant wiring practices, these deaths may have been preventable through the implementation of ground fault protection.

Also, electrical installations at residential piers and docks are often not subjected to regular safety or maintenance inspections. Water and weather exposure subject electrical components to corrosion problems that could degrade grounding and bonding connections and accelerate equipment failures. Even if the systems are inspected, the hazards can develop suddenly after a storm or from high tide water. Protection is needed at this location whether it is 120-volt or 240-volt equipment. This location is hazardous for electrical shock incidents based on the electrical source of energy in this location and the corrosive environment. See attached articles on "*Is Your Boat Or Marina on Unsafe Ground? Electric Shock Drowning*" and "*The Critical Ground System.*"

Any source of energy near water needs to have ground-fault circuit-interrupter protection for personnel. By adding this requirement, all energy sources around a residential boat dock would be protected by ground-fault personnel protection and reduce the chances of additional electrocution incidents.

Submitter: Doug Lee, U.S. Consumer Product Safety Commission Staff\*