

**U.S. Consumer Product Safety Commission
LOG OF MEETING**

CPSC 601 (11/01) Cleared
4-11-2002

SUBJECT: Electric Vending Machines

DATE OF MEETING: August 21, 2002

LOG ENTRY SOURCE: William H. King, Jr., ES *WHK*

DATE OF LOG ENTRY: August 22, 2002

LOCATION: Room 518, East West Towers

CPSC ATTENDEE(S):
William H. King, Jr., ES
Andrew Trotta, ESEE
Doug Lee, ESEE
Risana Chowdhury, EPHA

NON-CPSC ATTENDEE(S):
Larry Eils, National Automatic Merchandising Association (NAMA)
Thomas McMahon, NAMA

SUMMARY OF MEETING: Mr. Eils requested the meeting to discuss the CPSC staff draft proposal for the next edition of the National Electrical Code (NEC) with regard to providing improved, integral shock hazard protection for electric vending machines. A copy of the draft proposal is attached.

Mr. King provided background information, reviewing incident data from CPSC



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to be cleared 8/22/02
AB
No Mfrs/PrvtLbels or
Products Identified
Exempted by

files that indicated that consumers have been electrocuted when in contact with electric vending machines.

Messrs. Eils and McMahon provided some information regarding the vending machine industry. They indicated that there were about 10 major manufacturers of vending machines, and an additional 10 manufacturers that produce money-operated water dispensers. They also noted that the average life of a vending machine is 10 years, with many units being re-manufactured or rehabilitated after that period and returned to service. They said that this industry supports the UL standard with machines being certified by UL to the standard. The standard does not presently require ground-fault circuit interrupter (GFCI) protection or double insulation for vending machines, as is being proposed by CPSC staff for introduction into the NEC.

The attendees discussed points raised in the exchange of recent correspondence (copies of letters attached).

CPSC staff indicated that they will provide NAMA with additional incident data regarding shocks from vending machines. The NAMA representatives indicated that within the next month they would provide any further comments with regard to the CPSC proposal, and that the vending machine industry was prepared to accept at some future date the application of GFCI technology.

DRAFT

Proposal for NFPA 70

Submitter: William King
U.S. Consumer Product Safety Commission
4330 East West Highway
Bethesda, MD 20814-4408
USA
wking@cpsc.gov
301-504-0508
Fax# - 301-504-0533
ROP/ROC Option: Print

Proposal for NFPA: 70

Section/Paragraph: Art. 422, Part IV. Construction, para. 422.5X

Recommendation: Add new paragraph to Part IV of Article 422 as follows:

Vending Machines. Cord-and-plug connected vending machines shall comply with at least one of the following conditions:

- (1) Ground-fault circuit-interrupter protection for personnel. The ground-fault circuit interrupter shall be a factory-installed, integral part of the attachment plug or be located in the power supply cord within 300 mm (12 in.) of the attachment plug. For a cord-and-plug connected vending machines manufactured prior to January 1, 2005, 125-volt, single-phase, 15- and 20-ampere receptacles for the machines shall have ground-fault circuit-interrupter protection for personnel as an alternative to devices installed at the factory.
- (2) Protected by a system of double insulation, or its equivalent.

Substantiation: Since 1995 the U.S. Consumer Product Safety Commission (CPSC) has documented three electrocutions in three separate incidents (CPSC Investigation Nos. 950823CCN2720, 970922CCC2427 & 980402CCC3732). Two of the deaths were to children, ages 9 & 10, when they contacted the machine; the third involved a service person. In all cases a vending machine conductor intended to carry current faulted to the exposed frame of the machine, and the ground-fault path was damaged or inadequate.

In addition, two electric shock events involving electric vending machines were recently reported in trade magazines. One article, entitled "Case of the Legal Candy Machine", was published in the

January 2002 edition of "Electrical Construction and Maintenance Magazine" ("EC&M", published by Intertec, a Primedia Company, Overland Park, KS). An electro-forensic engineering consultant, who found that the candy vending machine had a broken grounding pin on the power cord, wrote this article. The other article, "Vending Machine Accident Underscores NEC Grounding Requirements", was published in the January/February 2002 edition of "IAEI News", a publication of the International Association of Electrical Inspectors, Richardson, TX. An attorney, citing evidence that the vending machine caused severe injuries to a consumer because it was not properly grounded, wrote this article.

This proposal is submitted to the *NEC* Committee for adoption because the committee membership broadly represents the electrical community that can affect a solution to prevent these deaths in a timely manner on a national scale.

Change Recommends: New Text

Original Material: Yes

WHK 8/02