U.S. CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, DC 20207

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Mr. Larry M. Eils
Senior Director Technical Services
National Automatic Merchandising Association
20 North Wacker Drive, Suite 3500
Chicago, IL 60606-3102

Dear Mr. Eils:

Thank you for your offer to discuss further the CPSC staff's draft code proposal seeking ground-fault circuit-interrupter (GFCI) protection against electrocution for electric vending machines. The staff recognizes that there are options and alternatives for discussion, but firmly believes that a safety upgrade of the product itself is in order.

In response to points raised in your June 24, 2002, letter, we provide the following:

Improper grounding occurring in the field - NAMA makes the point that a field change that removes the ground cannot be overcome at the manufacturing stage. However, the GFCI does not rely on the presence of a grounding conductor to provide electrocution protection Therefore, improved vending machine designs that have a GFCI protective device will be equipped to address this increased risk introduced by tampering and make these machines electrically safer. Electric vending machines are often located in damp or wet locations, in public places, and used by people standing on the ground. Under these circumstances, reliance on equipment grounding conductors for protection against electrocution is suspect at best.

An alternative design to a machine equipped with a GFCI would be a machine designed to be protected by a system of double insulation; as such systems are defined by nationally recognized standards. This alternative might address concerns about the loss of perishable food products (milk, yogurt, ice cream, ice, etc.) in the event of a GFCI trip.

Improved installation guidelines and programs - The CPSC staff completely supports a program of improved installation guidelines and programs for vending operators. But such a program should complement, and not replace design improvements for new machines. The installation guidelines would, for example, instruct installers of existing machines to connect them to branch circuits protected by GFCIs.

Nuisance GFCI tripping and the loss of perishable food products - Reports of nuisance tripping (tripping in the absence of a ground-fault condition) were associated with GFCIs produced over 20 years ago. Information from the housing industry, GFCI manufacturers, Underwriters Laboratories Inc., and CPSC's own experience indicates that nuisance tripping has been resolved. Current GFCIs are designed to meet rigorous requirements associated with events such as electrical surges, electro-magnetic interference, motor starting, and inductive load inrush.

As previously stated, alternative designs can address the issue of the loss of perishable food products. Not all refrigerated units vend food products considered perishable in the short term. These include canned and bottled drinks, coffee, snack foods (e.g., candy, chips, cakes, etc.). A GFCI trip would likely result in a response before such food products spoil.

Access to GFCI for testing - Vending machines are cord-connected appliances with plugs that get inserted into available receptacle outlets. The typical wall location for these outlets is considered readily accessible for those to whom ready access is requisite. While machines may be placed side-by-side, this does not render the cord and plug inaccessible for servicing or disconnecting the appliance from the electrical supply.

Cost of a GFCI plug or in-line GFCI - A mention is made regarding "a very expensive corrective device." The price of a weather resistant, heavy-duty GFCI plug or an in-line GFCI in the cord is in the $40 range (retail). This amount has to be measured in conjunction with the cost of the machine, and the anticipated service life of the machine.

The views expressed in this letter are those of the technical staff, and have not been reviewed by the Commissioners. We look forward with interest to addressing any further concerns.

Sincerely,

William H. King, Jr.