



**UNITED STATES CONSUMER PRODUCT SAFETY COMMISSION  
WASHINGTON, D.C. 20207**

June 24, 2002

Mr. David R. Wester  
Lead Engineering Associate  
Standards Department  
Underwriters Laboratories Inc.  
1285 Walt Whitman Road  
Melville, New York 11747

**Re:** *Request for Comments on Proposed Requirements for the Second Edition of the Standard for Fixed and Location-Dedicated Electric Room Heaters, UL 2021*

Dear Mr. Wester,

This letter addresses the U. S. Consumer Product Safety Commission (CPSC) staff comments on the proposed requirements, impact statement, and proposed effective date of your June 3, 2002 bulletin regarding fixed and location-dedicated electric room heaters.

**1. Revision of Abnormal Operation Test and Marking Details**

Currently, the inclusion of a warning label on a wall-mounted heater exempts a heater from the Terrycloth Drape and Padded Surface Tests. The proposed requirement is that a heater intended to be mounted less than 6 feet from the floor be required to pass these tests, regardless of the presence of a warning label. The CPSC staff agrees with the proposals described in this section, believing that the presence of a warning label does not make a heater safe. The staff also recognizes that terrycloth materials such as towels, and padded surfaces such as furniture, are unlikely to be positioned 6 feet from the floor in a residential setting. However, the Curtain Drape Test is the only abnormal test for heaters intended to be mounted 6 feet or more from the floor. The Curtain Drape Test needs to be evaluated for completeness in fault coverage for heaters marked in accordance with Section 60.23.

## **2. Replacement of the Requirement for Splices and Wire Connections**

The current version of the voluntary standard includes general language regarding splices and mechanically securing soldered connections. UL proposes to implement more specific requirements for splices and connections by requiring that such connections comply with one or more existing UL standards for connectors. The CPSC staff agrees with the proposals described in this section. However, the staff feels that the requirements of UL 486C, the voluntary standard for a common connection found in fixed and location-dedicated electric room heaters, are not sufficiently rigorous for this application. Specifically, the requirements of UL 486C do not evaluate the current-carrying ability of a splicing wire connector, only its mechanical properties. The mechanical properties are not a sufficient predictor of electrical performance. The heater environment is one of high ambient temperatures and high current levels. Poor electrical connections in this environment are more likely to result in a shock, electrocution, or fire hazard than in other applications. Additional measures beyond those stipulated in UL 486C need to be taken to reduce the number of fire incidents that are associated with wiring connections in the relatively harsh environment of electric heaters.

### **Impact Statements and Proposed Effective Dates**

The CPSC staff feels that one full year is too long a period to make these changes effective. One function of the bulletin process is to expedite necessary and important changes to the voluntary standard. During the proposed year-long process, there will be about 2000 fires, 100 injuries, 10 deaths, and about \$20 million in property losses attributable to fixed-position electric heaters, according to CPSC estimates<sup>1</sup>. Delaying prompt implementation of these proposed changes won't change these estimates for the better. Designing or modifying a heater to pass the Terrycloth Drape and Padded Wall tests can be achieved without the invention of new technology or manufacturing techniques. CPSC staff believes that the proposed changes will serve to reduce the risks of fires and electrocutions. These changes should be implemented in time to affect next year's production cycle of electric heaters.

The CPSC staff appreciates the opportunity to receive and comment upon the proposed requirements for the voluntary standard UL 2021. We look forward to further discussions and activities with the Standards Technical Panel STP 1042 as we strive to reduce consumer hazards.

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<sup>1</sup> Mah, Jean et al., "1998 Residential Fire Loss Estimates," U.S. Consumer Product Safety Commission, Directorate for Epidemiology, March 2001.

Sincerely,

Randy Butturini, PE  
Directorate of Engineering Sciences  
U.S. Consumer Product Safety Commission