

**LOG OF MEETING****DIRECTORATE FOR ENGINEERING SCIENCES**

**SUBJECT:** Meeting with Underwriter's Laboratories Thermoplastics  
Ad Hoc Committee.

**DATE(S) OF MEETING:** February 11, 1998

**PLACE:** UL Offices, Research Triangle Park, NC

**LOG ENTRY SOURCE:** Hammad Ahmad Malik

**DATE OF ENTRY:** February 17, 1998

**COMMISSION ATTENDEES:** Hammad Malik, ESEE  
William H. King, ESEE

**NON COMMISSION ATTENDEES:**

George Fechtmann, U.L. Melville  
 Pat Toner, Society of the Plastics Industry (SPI)  
 Don Talka, U.L. Melville  
 Marcia L. Hardy, Albermarle Corp.  
 Al Brozauski, U.L. Santa Clara  
 Debbie Oates, U.L. Melville  
 Bob Davidson, U.L. Melville  
 Rich Nute, Hewlett Packard San Diego  
 Larry Bruno, U.L. Melville  
 Len Swatkowski, American Home Appliance Manufacturers  
 Timothy Kettering, The Geon Co.

**SUMMARY OF MEETING:** Mr. Larry Bruno provided opening remarks and then all attendees introduced themselves.

William King, U.S. Consumer Product Safety Commission, gave a brief introduction of the CPSC data collection system and generally how the 1995 Residential Fire Estimates were compiled. The attendees were also informed of the availability of the Injury Surveillance Desk to outside inquiries.

Mr. Larry Bruno gave an overview of the committee mission statement. There was much discussion as to the exact language of the mission statement. In the end a consensus developed around the following statement: "Mission to re-evaluate the existing requirements of UL 746C with respect to today's products and materials, with the objective of reducing the likelihood of ignition and propagation of fire from the product under investigation to its environment." Mr.

Bob Davidson provided information as to modes of heat transfer in appliances under fire conditions to assist the attendees while considering the mission statement.

William King and Hammad Malik provided a four incident summaries to the committee to illustrate the ignition of thermoplastic enclosures in electrical products. These incidents included fires in irons, portable electric fans, and toasters.

Mr. Bob Davidson presented an ignition scenario video tape to illustrate the possibility of ignition caused by arcing at screw terminals.

Prior to breaking for lunch, Mr. Larry Bruno inquired if the group appeared to be in agreement with modifying UL 746C to reflect that manufacturers had to utilize fire resistant thermoplastics unless they could pass a more rigorous end-product flame test or prove that there was essentially little possibility of the enclosure igniting through a hazard based safety engineering analysis. The committee essentially did not comment.

After lunch, Mr. Bob Davidson presented the fault tree model that he developed based on NFPA 550 Fire Safety Concepts Tree. The fault tree model loosely demonstrates the sequence of events necessary to result in ignition of the enclosure materials and propagation outside the enclosure.

Mr. Bob Davidson requested that all members provide any available plastics ignition data. He indicated that he really could not develop the model any further without this data.

Prior to bringing the meeting to a close, Mr. Larry Bruno again inquired if the group appeared to be in agreement with modifying UL 746C to reflect that manufacturers had to utilize fire resistant thermoplastics unless they could pass a more rigorous end-product flame test or prove that there was essentially little possibility of the enclosure igniting through a hazard based safety engineering analysis. Some members of the group from industry expressed disagreement with this modification.

In closing, Mr. Larry Bruno asked that CPSC staff provide a definition of attended and unattended appliances and provide recommendations to modify UL 746C to allow for better selection of the areas of flame application during the end-product flame test. Mr. King indicated that he will also seek reconsideration by the group to the CPSC staff proposal submitted in 1996 and tabled by UL.