LOG OF MEETING

SUBJECT: Status of recommendations made by CPSC to upgrade UL 217, Single and Multiple Station Smoke Detector Standard

DATE OF MEETING: October, 30, 1995

PLACE: Consumer Product Safety Commission, Bethesda, MD

NON-COMMISSION ATTENDEES:
Paul Patty, Underwriters Laboratories
Sandra Ruiter, Underwriters Laboratories
Chris Barton, Product Safety Letter

COMMISSION ATTENDEES:
Julie Ayres, Directorate for Laboratory Sciences
Dennis McCoskrie, Directorate for Engineering Sciences
Margaret Neily, Office of the Executive Director
Linda Smith, Directorate for Epidemiology and Health Sciences
Andrew Ulsamer, Directorate for Laboratory Sciences

LOG ENTRY SOURCE: Julie Ayres

SUMMARY OF MEETING:

As a follow-up to the CPSC letter dated October 20, 1995, UL met with Commission staff to discuss the progress and status of recommendations to enhance the Single and Multiple Station Smoke Detector Standard.

The first item discussed was a means to eliminate the large number of smoke detectors disconnected due to unwanted alarms. CPSC staff advocated adding a "silencing button" on the face of every new detector and presented supporting data. This included the results of previous CPSC smoke detector studies, the difficulty consumers have in re-locating detectors, and the problems with condominiums and apartments that require smoke detectors. UL staff acknowledged awareness of many problems consumers experience and agreed to consider requiring a silencing means on all AC-powered detectors. Adding the requirement to AC-powered detectors will reduce the need for consumers to relocate their AC-powered detector further from the nuisance source. It can also help in apartments and condominiums where detectors cannot be properly located. However, most smoke detectors are not AC-powered, and a need exists to silence battery-powered smoke detectors. At this time, UL would not agree to impose the requirements on battery-powered detectors.

UL also discussed the advantages of the combination ionization/photoelectric smoke detector. Incorporating both sensors into the detector allows the detector to be somewhat less sensitive, but still able to sense a fire rapidly.

CPSC staff then discussed ways in which to establish a standardized mounting plate and electrical connections. CPSC staff met previously with the National Electrical Manufacturers Association and discussed the possibility. UL staff indicated that they are not willing to propose standardizing the plates and connectors without support of industry, and will discuss the matter with industry.

UL staff then extensively explained the development of the Smoldering Smoke Test and answered CPSC staff questions. UL believes that the test replicates a true smoldering fire. CPSC staff expressed concerns about ionization smoke detectors unable to respond to a smoldering fire situation. CPSC presented data received from the Norwegian Fire Research Laboratory. UL staff asked to review the data and find what criteria were used in the study.

The next issue discussed was the Dust Test. At the Industry Advisory Council (IAC) Meeting in January 1995, CPSC staff discussed replacing the Dust Test with a substance that matched the particulate found in consumers' homes, rather than the current fine cement dust. Responding to that issue, UL indicated that they still had not found an appropriate particulate. CPSC staff recommended that until a new test particulate is found, a modification to the test may serve to eliminate nuisance alarms experienced by consumers. CPSC staff suggested that following the dust exposure to the detector, the detector should be cleaned using the manufacturer instructions, and tested to see whether it returned to normal sensitivity. UL stated they would consider the new criteria for the Dust Test.

The CPSC staff raised the Corrosion Test as the next concern. UL allows smoke detectors to use pressure contacts on the horn element. In CPSC studies on smoke detectors, staff engineers discovered failures of the horn element due to corrosion between the horn contact and the pressure contact. Participants discussed several options available to eliminate the problem. These included prohibiting pressure contacts in detectors, proposing a self-test feature to "scrub" the contacts, and changing the Corrosion Test. CPSC staff discussed modifying the Corrosion Test to better replicate contaminants found in the household environment, such as by using the Batelle Test with thermal cycling. UL stated that they will continue research into the possibility of replacing the test.

CPSC staff also expressed concern that a large population may be susceptible to fire danger because it is unable to hear the frequency range in which the horn operates. A discussion of the present Audibility Test revealed that it only measures sound level output. UL staff stated that UL 1971 requires visible strobes for hearing impaired individuals, and that this should satisfy the population of concern. However, CPSC staff provided UL staff with a recent study suggesting that older adults with only moderate hearing impairment had difficulty hearing alarms

without realizing their extent of hearing loss. UL said that further study may require that all products operate in lower frequency or in a range of frequencies.

Next, UL staff discussed the Survivability Test proposed by CPSC staff. The test would most likely expose a detector to 250°F for four minutes. At the completion of the test, the detector must perform appropriately. UL staff explained that the proposal will be distributed to the IAC and discussed.

CPSC staff explained its additional concern that the horn component does not have any reliability predictions. UL staff indicated that they will research the issue to include predictions for the horn.

Finally, a discussion concerning date codes surfaced. Smoke detectors do not include a user-understandable date code. UL and CPSC staff discussed the reluctance of manufacturers to include a readable date code. One solution proposed was to attach a label that consumers can fill in on the day they install the detector. UL may propose this idea to the IAC this year.

Paul Patty indicated that proposals including some of the topics discussed at the meeting would be sent to the IAC in January 1996. Following a comment period, UL may incorporate accepted changes into the new edition of the standard.