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LOG OF MEETING

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SUBJECT: Ten Year Smoke Detector

DATE OF MEETING: April 27, 1995

PLACE: Consumer Product Safety Commission, Bethesda, MD

NON-COMMISSION ATTENDEES:

Thomas A. Gionta, BRK Brands  
John Lanman, BRK Brands  
Matthew T. Hamm, BRK Brands  
Linda Dark, Black, Manafort, Stone & Kelly

COMMISSION ATTENDEES:

Margaret Neily, Engineering Sciences  
Andrew Stadnik, Engineering Sciences  
Linda Smith, Epidemiology  
Cathy Downs, Compliance  
Julie I. Shapiro, Laboratory Sciences  
Terry Van Houten, Human Factors  
Chuck Smith, Economic Analysis  
James F. Hoebel, Engineering Sciences

LOG ENTRY SOURCE: James Hoebel

SUMMARY OF MEETING: BRK Brands is developing a new smoke detector designed to last 10 years without battery replacement. The new product is intended to address the field problem caused by dead, missing, or disconnected batteries. The battery in BRK's product can not be removed: the entire detector is designed to be discarded at the end of the battery's useful life. BRK's smoke detector has been submitted to Underwriters Laboratories Inc. for testing and listing. Prototypes of the detector and companion instructions were provided to CPSC staff, during an earlier meeting between BRK and the Commission Chairman.

The Commission staff examined the detector and instructions. BRK had requested a meeting with technical representatives of CPSC to inform them of how they were addressing the staff's concerns about dead or missing batteries in smoke detectors.

Staff was concerned that the product is promoted as "maintenance free." The unit must be periodically tested and cleaned. BRK advised that they no longer plan to say "maintenance free" on the packaging or other materials.

The detector cover cannot be removed for cleaning by a consumer. The detector cover was intentionally designed not to be removed to prevent the consumer from removing the batteries and thereby disconnecting the power source (one reason cited by the CPSC staff for inoperable smoke detectors). Currently all smoke detectors powered by household current are designed with covers that cannot be removed. Staff suggested that vacuuming

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from outside the cover may not effectively remove debris (including insects) built up during normal usage. Such debris may affect detector performance. There is some evidence that debris would cause a detector to become more sensitive (sounding at lower smoke concentrations). BRK will consider ways to address this concern.

The horn assembly depends on pressure contact rather than a positive connection. This is true for most other detectors on the market today. Field evidence from CPSC studies involving conventional detectors, not 10-year detectors, indicates corrosion problems in some cases leading to inadequate contact and failure of the horn to alarm. Positive soldering is a solution to this issue. BRK indicated they would examine this design feature.

Battery testing by the manufacturer is ongoing. Since the full 10 year life expectancy of the batteries has not yet been demonstrated, staff expressed some concern over the real useful life of the product. BRK will provide additional data on the battery design requirements and test results to date.

The detector is designed to chirp about once per minute for 15 minutes after the silencer button has been activated. Such chirping itself may be viewed as a nuisance, and discourage the user to keep the detector. Such chirping may also be confused with the low battery warning. Staff suggested consideration of other signals indicating silencer activation, such as visual cues (e.g., light). BRK indicated that the California State Fire Marshal requires the one chirp per minute.

The word "replaceable" is used throughout the instructions. Since none of the components are replaceable, the word "disposable" was suggested.

CPSC staff asked if detector sensitivity had been evaluated after multiple smoke exposures. Apparently such testing has not been done.

BRK will consider staff comments, and inform staff of any changes.