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NATIONAL TRANSPORTATION SAFETY BOARD

WASHINGTON, D.C.

POWERPOINT PRESENTATION

BATTERY SAFETY AND CONSUMER PRODUCT RECALLS

by

Richard L. Stern

CPSC Presentation to National Transportation Safety Board July 12, 2006

Battery Safety and Consumer Product Recalls

Presented by:
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U.S. Consumer Product Safety Commission

These comments are those of the CPSC staff, have not been reviewed or approved by, and may not necessarily reflect the views of, the Commission.

U.S. Consumer Product Safety Commission

- An independent federal regulatory agency created in 1972
- Headed by three Commissioners nominated by the President and confirmed by the Senate for seven-year terms
- FY06 Budget - $62.149M w/440 FTEs

U.S. Consumer Product Safety Commission

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Battery Issues

- Increasing number of consumer products are being powered by batteries
- Primary (non-rechargeable) and secondary (rechargeable) batteries are becoming more powerful
- More high-energy batteries in service increases the likelihood of an unsafe failure
- 23 battery recalls since September 2003, involving 194 incidents w/at least 16 injuries

CPSC Negotiated Battery Recalls
Oct. 2003 - Sept. 2004

5 Recalls -

- Cell Phone Batteries (140,000 secondary)
  - 4 incidents (1 minor burn injury)
- Flashlight Batteries (12,500 primary)
  - 2 incidents (no injuries)
- Flashlight Batteries (20,000 primary)
  - 5 incidents (4 reports of property damage/injury)
- Cell Phone Batteries (50,000 secondary)
  - 18 incidents (includes property damage/injury)
- Notebook Computer Batteries (28,000 secondary)
  - 4 incidents (no injuries)

CPSC Negotiated Battery Recalls
Oct. 2004 - Sept. 2005

10 Recalls –

- Cell Phone Batteries (1 million secondary)
  - 14 incidents (property damage/2 minor burns)
- Headlamp Batteries (1,000 secondary)
  - No incidents/injuries
- Portable DVD Player Batteries (47,000 secondary)
  - 11 incidents (5 explosions)/2 burned fingers
- Notebook Computer Batteries (128,000 secondary)
  - 6 incidents/no injuries
- Water Scooter Batteries (2,200 secondary)
  - 9 incidents of explosions/3 facial injuries

CPSC Negotiated Battery Recalls Oct. 2004 - Sept. 2005 Con't

- Notebook Computer Batteries (10,000 secondary)
  - 6 incidents/no injuries
- GPS Navigation System Batt. (10,300 secondary)
  - 15 incidents (overheating/swelling)/no injuries
- Portable DVD Player Batteries (116,000 secondary)
  - 10 incidents (overheating/fire)/no injuries
- Cordless Drill/Driver Batteries (2,000 secondary)
  - 6 incidents (rupturing)/1 injury
- Water Scooter Batteries (475 secondary)
  - 5 incidents (explosion)/2 injuries

CPSC Negotiated Battery Recalls
Oct. 2005 – Jun. 2006

8 Recalls -

- Notebook Computer Batteries (85,000 secondary)
  - 16 incidents (overheating/melting)/no injury
- Digital Camera Batteries (200,000 secondary)
  - 4 incidents (overheating/melting)/no injuries
- Portable DVD Player Batt. (165,000 secondary)
  - 8 incidents (overheating/melting)/no injuries
- Notebook Computer Batteries (22,000 secondary)
  - 3 incidents (overheating)/no injuries

CPSC Negotiated Battery Recalls Oct. 2005 – Jun. 2006 Con't

- Wireless Conference Phone Batteries (21,000 secondary)
  - 2 incidents (overheating)/no injuries
- Wireless Conference Phone Batteries (4,200 secondary)
  - 9 incidents/no property damage/no injuries
- Portable DVD Player Batteries (102,000 secondary)
  - 17 incidents (overheating)/3 minor burn injuries
- Notebook Computer Batteries (4,100 secondary)
  - 20 incidents (overheating)/1 burn injury

Reasons for Battery Recalls

- Design Problems
  - Lacks safety circuit
  - Lacks adequate (or any) overcharge protection
  - Lacks adequate physical protection
- Quality Control Problems
  - Improper placement of leads
  - Contaminants in cell
  - Uneven forming of cell

What's Next

- Worst Case
  - Continuing increase in the number and power of batteries in consumer products
  - Continuing increase in the number of incidents of unsafe battery failures
  - Continuing increase in the number of battery recalls

What's Next

- Best Case
  - Improved physical protection of batteries
  - Improved protective circuitry to detect and prevent damage from both internal and external short-circuits
  - Improved battery chemistry to prevent thermal runaway
  - Happy consumers with long-life batteries that pose little, if any, risk of injury from foreseeable failures

Questions?

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