

LOG OF MEETING

CPSC OFFICE OF THE SECRETARY
FREEDOM OF INFORMATION

Date of Meeting: April 13 7 APR 1998 A 11:48
Place of Meeting: CPSC Headquarters
4330 East-West Highway
Bethesda, MD 20814
Meeting Requested By: Neil Chernoff
27th Century Technologies, Inc
P.O. Box 767244
Atlanta, GA 30076
Subject: Safety issues with batteries, battery chargers,
and charging methods

Attendees:

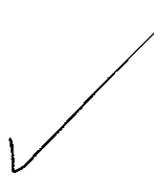
Neil Chernoff	27th Century Technologies, Inc
Julia M. McCalmon	Thompson, Hine, & Flory
Bernie Colten	Bernard Colten & Associates
Bill Hellerman	Hellerman Associates
Robert E. Lee Hall, Jr.	Global Funding Associates
Gordon Gillerman	Underwriters' Laboratories
Sam Christy	Product Safety Letter
Aaron Banerjee	CPSC - Engineering
William H. King, Jr.	CPSC - Engineering
Ron Reichel	CPSC - Engineering Lab
Mai Ngo	CPSC - Engineering
Brian Lee	CPSC - Health Sciences
Andrew Trotta	CPSC - Engineering
Doug Lee	CPSC - Engineering
Sheela Kadambi	CPSC - Engineering

Source of Entry: Aaron Banerjee

Summary of Meeting:

Mr. Chernoff started his presentation with a history of batteries, mentioning the Voltaic pile. He described the four parts of a battery: the anode, cathode, electrolyte, and separator.

He stated that there are six types of batteries in common use today: alkaline, nickel-cadmium, lead-acid, nickel-metal-hydride, lithium-ion, and zinc-air. The focus of his presentation was mainly on lead-acid batteries (commonly used in



children's ride-on toys) and lithium-ion.

Regarding lead-acid batteries, Mr. Chernoff was concerned about the constant current charging method commonly used to recharge batteries in ride-on toys. He stated that the charger provides no indication as to whether or not the battery is fully charged, or even if the charger is working. He further mentioned that overcharging lead acid batteries may cause them to vent, catch fire, or explode. In addition to the fire and explosion, he addressed the issue of the sulfuric acid inside the battery being sprayed about during a battery failure.

Mr. Chernoff provided an instruction sheet for a battery charger. He pointed out that the sheet advised the consumer that the battery may hiss or bubble during charging. Mr. Chernoff was most concerned because he stated that this indicates heat is being generated in the lead-acid battery, and heating the sulfuric acid inside the battery may lead to catastrophic battery failure. He indicated that hissing and bubbling in the sealed lead-acid batteries in ride-on toys was an improper and unsafe charging technique.

Mr. Chernoff feels the solution to the battery charging problem for lead-acid batteries is a smart charger which will detect when the battery is fully charged and shut off. He demonstrated a sample charger which he intends to market. The charger was described as being a pulse type fast charger which would indicate to the user when the battery was being charged and turn off appropriately when the battery was fully charged. He claimed that his pulse type charger was not only safer, but also could recharge batteries in a fraction of the time as a constant current charger. There were other aspects of the charger which are proprietary information at this time and were not discussed.

With respect to lithium-ion batteries, Mr. Chernoff felt they were inherently unsafe. He stated that lithium is used in bombs.

Mr. Chernoff was concerned about an article he had recently read. The article was about airlines installing electric outlets near armrests so first and business class passengers can plug in laptop computers in flight and work while the battery recharges. The article states that representatives of leading battery manufacturers have sent warning letters to the FAA and 20 carriers expressing concern that equipment failures could result in elevated battery temperatures, noxious fumes, flames, and explosions. Mr. Chernoff pointed out that if the battery manufacturers are concerned about the hazards of recharging batteries on airplanes, it would stand to reason that there is actually a hazard.

As a solution to the problems with lithium-ion batteries, Mr. Chernoff suggests not using lithium-ion and using nickel-metal-hydride instead.

Jennifer Hargrave suggested the possibility of looking at the flammability performance of each specimen. Evaluation could be made based on less than 14 samples. The industry continued to be concerned about testing 14 samples.

Moe Cain summarized the industry position. He stated the firms don't have a single answer to this problem. The proposal CPSC submitted doesn't seem to fit in the testing and QC programs that the industry is currently using. We need to figure out how the education program fits into the program. We should focus attention on the problem fabrics only. CPSC should state its enforcement principles, including what they look for in assessing the amount of civil penalties. We should look at some of the other testing (evaluation of specimens) suggestions. CPSC should look at the incident data.

The ASTM training program was mentioned. The brochures will be going out shortly. CPSC mentioned that it will draft a letter encouraging firms to take this course.

CPSC staff stated it would consider the options available to it including an Enforcement Policy statement.

Distribution:

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CPSC Participants