Subject 4200A

June 8, 2012

SUMMARY OF TOPICS

The following proposed first edition of the Standard for Products Incorporating Button Cell Batteries of Lithium and Similar Technologies, UL 4200A, is being proposed for preliminary review and comment only:

> ***1. For Preliminary Review Only: Proposed First Edition of the Standard for Safety for Products Incorporating Button Cell Batteries of Lithium and Similar Technologies***

COMMENTS DUE: JULY 9, 2012

This proposal is for review and comment only (no ballot at this time). Please note that comments on a preliminary review document will not receive a response from the proposal author through CSDS. Instead, the proposal author will be asked to review the comments and adjust the proposals and/or supporting rationale as the author determines to be appropriate. The preliminary review process is an informal mechanism that provides authors with the opportunity to refine their proposals before they advance to the next stage in UL's standards development process.

In some cases, the author of the proposals may choose to discontinue them. In this case, the author need not do anything after preliminary review has ended. Normally, the next step in the process is the more formal STP ballot and stakeholder review process. Only comments posted during the STP ballot and stakeholder review process will be provided with a response in CSDS.

UL's goal is to have no interest category comprise more than one-third of the STP membership balance. To improve the current balance for STP 4200, UL is looking for participants in all categories except the Producer interest category. Definitions for these interest categories are available on the Standards STP Internet site:

http://www.ul.com/global/eng/pages/solutions/standards/developstandards/participation/interestcategories/

If you are interested in applying for STP 4200 membership or are aware of potential candidates for this STP, please contact the STP Project Manager, Mitchell.Gold@ul.com.

1. For Preliminary Review Only: Proposed First Edition of the Standard for Safety for Products Incorporating Button Cell Batteries of Lithium and Similar Technologies

RATIONALE

Proposal submitted by: Ken Boyce, UL LLC

The National Capital Poison Center (NCPC) has reported an increase in the number of incidents involving small children ingesting small lithium batteries in the "button/coin" configuration. These incidents have led to injury and death due to the generation of hydroxide when the battery is in contact with saliva, causing perforations of the esophagus or other serious physiological damage in as little

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as two hours. The Pediatrics article “Preventing Battery Ingestions: An Analysis of 8648 Cases” indicates 92% of the batteries identified with serious injury or death over the last decade were 20 mm lithium coin cells (http://pediatrics.aappublications.org/content/125/6/1178.long).

The Standard for Products Incorporating Button Cell Batteries of Lithium and Similar Technologies, UL 4200A, is being proposed as a new horizontal standard and is intended to promote consistency in requirements for appliances that may incorporate lithium or similar button/coin cells. The horizontal standard is structured so as to allow use in conjunction with an end-product equipment safety standard where one exists. This proposal extends the work of the Consumer Electronics Product Safety Working Group under STP 60065 specifically with respect to audio/video equipment.

The scope of this proposal includes button/coin cell batteries with a diameter of 32 mm or less based on established limits in ASTM F963 for ingestion of small parts. Products for dedicated professional or commercial use are excluded from the scope as these products are not intended to be used where children are present.

This proposal provides an approach consisting of two safeguards: equipment construction and a user warning. The equipment construction requirements give the manufacturer two different design approaches: (1) the use of a tool, or (2) the application of a minimum of two independent and simultaneous movements of the securing mechanism. Preconditioning and mechanical abuse testing are used to demonstrate the effectiveness of the product construction. During and after the abuse tests, the equipment must restrict access to the button/coin battery. Markings and instructions are used to provide standardized safety information to consumers.

PROPOSAL

Standard for Safety for Products Incorporating Button Cell Batteries of Lithium and Similar Technologies

INTRODUCTION

1 Scope

1.1 These requirements cover household type products that incorporate or may use button or coin cell batteries.

1.2 These requirements do not cover products that use forms of batteries other than button or coin cells.

1.3 These requirements do not apply to products that by virtue of their dedicated purpose and instructions are not intended to be used in locations where they may be accessed by children, such as products for dedicated professional or commercial use.

1.4 These requirements are intended to supplement other safety requirements for products that incorporate button or coin cell batteries, and are not intended to supersede specific requirements that are incorporated into other safety standards to mitigate physiological hazards from button or coin cells.

2 Units of Measurement

2.1 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.

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3 Undated References

3.1 Any undated reference to a code or standard appearing in the requirements of this standard shall be interpreted as referring to the latest edition of that code or standard.

4 Glossary

4.1 For the purpose of this standard the following definitions apply.

4.2 ACCESSIBLE – Able to be contacted by the accessibility probe.

4.3 BUTTON/COIN CELL BATTERY – A single cell battery having a diameter of 32 mm maximum and greater than its height.

4.4 PORTABLE – Products specifically designed to be carried easily, with mass not exceeding 18 kg.

CONSTRUCTION

5 Products with Button/Coin Cell Batteries

5.1 Products that use button/coin cell batteries shall be designed to minimize the risk of children removing and ingesting or aspirating the batteries.

5.2 To reduce the likelihood of unintentional access, button/coin cell batteries shall not be contacted by test probe 11 of Protection of Persons and Equipment by Enclosures – Probes for Verification, IEC 61032.

5.3 The probe shall be applied to any depth that the opening will permit; and shall be rotated or angled before, during, and after insertion through the opening to any position that is necessary to examine the enclosure. The probe shall be used as a measuring instrument to judge the accessibility provided by an opening, and not as an instrument to judge the strength of a material; it shall be applied with the minimum force necessary to determine accessibility.

5.4 During the examination of a product to determine whether it complies with the requirements in 5.3, a part of the enclosure that may be opened or removed by the user, either without using a tool or with less effort than two independent and simultaneous movements by hand, is to be opened or removed.

5.5 Products that locate button/coin cell batteries inside a battery compartment shall be designed to prevent children from removing the battery by one of the following methods:

a) A tool, such as a screwdriver or coin, is required to open the battery compartment; or

b) The battery compartment door/cover requires the application of a minimum of two independent and simultaneous movements of the securing mechanism to open by hand.

Compliance is checked by the tests of Section 6.

5.6 If screws or similar fasteners are used to secure the door/cover providing access to a battery compartment, the fasteners shall be captive to the door/cover.

Exception: This requirement does not apply to large panel doors on large devices which are not likely to be discarded or left off the equipment.

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