

## **CPSC Staff Proposal for UL 507 Electric Fans\*** - March 28, 2007

The CPSC staff proposes to delete item k) under Section 1.8 of the Scope of UL 507 *Electric Fans* and add a new section in PART 2 that has specific requirements for equipment used for home-use inflatable children's toys. Wording that is currently in the standard and is proposed to be deleted is shown with a line through it. The CPSC staff proposed new wording has been underlined. The rationale for the staff proposal is also presented.

### **Scope**

1.8 These requirements do not cover:

- k) ~~Blowers or inflators intended for use with inflatable bouncing toys or similar children's products.~~

## **EQUIPMENT USED FOR HOME-USE INFLATABLE CHILDREN'S TOYS**

### **XXA General**

These requirements apply to electrical fans for home-use inflatable children's toys. In addition to applicable requirements in Part 1 of this Standard, electric fans used for home-use inflatable children's products shall also comply with UL 507 Sections 134-138 for Outdoor Use Equipment. These requirements supplement and, in some cases, modify the general requirements in Part 1 and Sections 134-138 of the Standard. The requirements in UL 507 do not address the safety of the inflatable part of the home-use inflatable children's toy.

### **XXB Construction**

XXB.1 The power cord length shall be a minimum of 25 feet (7.62m).

XXB.2 The power cord and electric fan shall be protected by a Listed Ground-Fault Circuit-Interrupter (GFCI) and the appliance shall be grounded. The GFCI shall be an integral part of the grounded appliance cord, located within 12 inches (305 mm) of the attachment plug face.

### **XXC Markings**

XXC.1 The motor or the electrical cord shall have the following or equivalent warning.

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

 **WARNING – Electrocution Hazard**  
**DO NOT USE EXTENSION CORDS**  
**WITH THIS PRODUCT.”**

XXC.2 Warnings to secure the electric fan and inflatable and not to use extension cords should be prominently and permanently displayed on the product and placed in bold print in the instructions.

## **Rationale**

This proposal was discussed at the UL Subject 507 STP, Electric Fans, in March 2006.<sup>i</sup> Electric fans that are Listed to UL 507, *Standard for Safety for Electric Fans*, are marketed and used with home-use children’s inflatables. However, UL 507 specifically excludes from the scope of requirements in section 1.8 item k) “Blowers or inflators intended for use with inflatable bouncing toys or similar children’s products.”

During the past few years, the CPSC staff has become aware of many new home-use inflatable children’s toys on the market while incidents associated with inflatables have increased significantly.<sup>ii,iii</sup> Because of inadequate staking, some of these incidents have resulted in entire products being blown over with children in or near the product. Although the injuries and deaths have not been associated with electrocution or shock, it is known that electrocution incidents can occur with electrical products and extension cords when children in bare feet are exposed to similar outdoor environments.<sup>iv</sup>

The CPSC staff has worked with UL staff to define the minimum level of safety requirements that should be considered for home-use inflatables and the associated electric fan. Because these products may be in use around wet locations with children in their bare feet, the CPSC staff believes that it is essential that the electric fans certified for use for this application have listed ground-fault circuit-interrupters (GFCIs) protecting the power cord and electric fan. This will help protect consumers from electric shock in the event of fan tip-over or faults with the power cord or fan.

For Section XXB.1, the proposed requirement for the power supply cord to be a minimum of 25 feet is consistent with requirements in other UL standards for equipment used in or around water, such as UL 1081, *Standard for Safety for Swimming Pool Pumps, Filters and Chlorinators*, Section 9 Power Supply Connections – Cord- and Plug-Connected Units.

For Section XXB.2, the proposed requirement for the GFCI to be an integral part of the grounded appliance cord located within 12 inches of the attachment plug face is consistent with requirements in other UL standards that address electrical shock incidents involving equipment used in and around water,

such as UL 1776, *Standard for Safety for High-Pressure Cleaning Machines*, Section 16 Supply Connections.

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<sup>i</sup> Subject 507 - Summary of Topics, UL Subject 507 – Electric Fans, Agenda Item 4, Inflators for Use with Bouncers and Similar Inflatable Toy Products, April 5, 2006.

<sup>ii</sup> Hardy, C., Hosker, J., Sceviour, J., *Inflatable Amusement Ride Safety*, Worcester Polytechnic Institute, Electronic Projects Collection, E-project-011106-151204, January 2006, (<http://www.wpi.edu/Pubs/E-project/Available/E-project-011106-151204/>).

<sup>iii</sup> Levenson, Mark S., *Amusement Ride-Related Injuries and Deaths in the United States: 2005 Update*, U.S. Consumer Product Safety Commission, September 2005, (<http://www.cpsc.gov/LIBRARY/Amus2005.pdf>).

<sup>iv</sup> Garrett and Kyle, *An Evaluation of the U.S. Consumer Product Safety Commission's Electrocution Reduction Program*, U.S. Consumer Product Safety Commission, November 2002, Tab C pp 5-9, (<http://www.cpsc.gov/library/foia/foia03/os/electropt1.pdf> and <http://www.cpsc.gov/library/foia/foia03/os/electropt2.pdf>).