



U.S. CONSUMER PRODUCT SAFETY COMMISSION  
4330 EAST WEST HIGHWAY  
BETHESDA, MD 20814

March 2, 2020

Deborah Prince  
Program Manager  
Underwriters Laboratory  
12 Laboratory Drive  
Research Triangle Park, NC 27709

RE: *Additive Manufacturing/3D Printing of Consumer Products*

Dear Ms. Prince:

On October 30, 2019, Richard McCallion and other U.S. Consumer Product Safety Commission (CPSC) staff briefed the Commission on Additive Manufacturing/3D Printing and potential associated hazards. The slide presentation from the briefing is attached for your review and consideration. As part of the briefing, staff<sup>1</sup> outlined a number of hazard areas with 3D printing technology, in which voluntary standards development could help reduce potential hazards and risks.

Staff is concerned by hazards posed by the 3D printing process and 3D printed consumer products. Specifically, there are potential fire, electrical, chemical (*e.g.*, emissions), and mechanical hazards associated with the 3D printer and printed products. Additionally, staff is particularly interested in potential hazards associated with children, a vulnerable population, including children using 3D printers and 3D printed consumer products intended for children.

Standards developing organizations, such as UL, are well-positioned to lead the development of consensus standards to help guide the range of stakeholders (including manufacturers, importers, material suppliers, and intellectual property holders) about the best way to ensure the safety of consumers who use these products. In particular, these standards should address the 3D printer and the lifecycle of the 3D printed products over a full range of potential exposures, by implementing a good risk-management strategy. CPSC staff requests that UL consider the development of additional standards or best practice guidance for the electrical safety of 3D printers.

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<sup>1</sup> This letter and the attached slides were written by CPSC staff and have not been reviewed or approved by the Commission, and therefore may not necessarily reflect the views of the Commission.

CPSC staff understands that Underwriters Laboratories (UL) established a research advisory group that became a UL Standards Technical Panel (STP) that developed the first edition of the ANSI/CAN/UL 2904, “*Standard Method for Testing and Assessing Particle and Chemical Emissions from 3D Printers.*”

We welcome the chance to meet with you and others at UL, and we can arrange a briefing to outline CPSC staff’s concerns and recommendations to explore other approaches to support consumer safety regarding 3D printing. If this is of interest to UL, please contact me by email at: pedwards@cpsc.gov, or by telephone at: 301-987-2224. We appreciate the opportunity to work with you on this very important consumer safety issue.

Sincerely,

Patricia Edwards  
Voluntary Standards Coordinator

Cc: Richard McCallion, Program Area Risk Manager, Mechanical, Recreational, Sports and Seniors

Trey Thomas, Ph.D., Program Area Risk Manager, Chemical, Nano, and Emerging Materials

Scott Ayers, Voluntary Standards Specialist