



March 6, 2023

Ms. Deborah R. Prince [Transmitted via email]
Chair, Underwriters Laboratories (UL) STP 8400 on Standards for Safety for Virtual Reality, Augmented Reality and Mixed Reality Technology Equipment
Underwriters Laboratories Standards & Engagement
12 Laboratory Drive
Research Triangle Park, NC
27709-3995 USA

Dear Ms. Prince:

This letter is the U.S. Consumer Product Safety Commission (CPSC) staff's¹ response to the recirculation ballot pertaining to Underwriters Laboratories UL Standards Technical Panel (STP) 8400 Topic 1, *First Edition of the Standard for Safety for Virtual Reality, Augmented Reality and Mixed Reality Technology Equipment*. CPSC staff abstains from voting on this ballot item, but appreciates the opportunity to provide the following comments and recommendations for future STP activity towards improving the standard.

CPSC staff assesses that the draft standard includes many important requirements and best practices whereas, currently, there is no applicable standard in place to address the hazards identified by the STP. However, there remains work to be completed, as voiced by CPSC staff in STP meetings and a letter accompanying CPSC staff's previous abstain ballot vote. CPSC staff is specifically concerned with the following issues related to this ballot:

- (1) Reasonably foreseeable use of the products by children has not adequately been addressed (e.g., developing visual and musculoskeletal systems);
- (2) Requirements related to biomechanical stress, such as neck strain, may not be sufficiently protective against injury as the studies on which these specifications were based involved limited populations and sample sizes (e.g., not adequately representative of the neck muscle density of the foreseeable user groups);
- (3) Peripheral devices and third-party software are not adequately addressed in the standard; and
- (4) Much of the standard is informative rather than normative, and dependent on risk assessments, which may reduce the consistency in testing and evaluation.

¹ The views or opinions expressed in this letter are solely those of the staff, and these views and opinions do not necessarily represent those of the Commission.

Additionally, CPSC staff is concerned that there has been very limited participation by consumers and consumer groups, as well as regulatory agencies other than the CPSC, in the development of the standard. Staff considers input from these stakeholders necessary for a robust safety standard.

CPSC staff appreciates the subcommittee's efforts and looks forward to working with the STP to further improve the standard to address the safety of virtual reality equipment.

Sincerely,

Treye Thomas, PhD
Lead Toxicologist
Office of Hazard Identification and Reduction

Stephen Harsanyi
Engineering Psychologist
Directorate for Engineering Sciences

cc: Jacqueline Campbell – CPSC Voluntary Standards Coordinator