



## MEETING LOG

**SUBJECT:** *Underwriters Laboratories (UL) Technical Committee (TC) 101 Meeting for Standard for Leakage Current for Utilization Equipment*

**FY 24 OP PLAN ENTRY:** National Electrical Code

**DATE OF MEETING:** May 2, 2024

**LOCATION OF MEETING:** Virtual

**CPSC STAFF FILING MEETING LOG:** Douglas Lee, Office of Hazard Identification and Reduction (EXHR)

**FILING DATE:** 05/22/24

**CPSC ATTENDEE(S):** Douglas Lee (EXHR)

**NON-CPSC ATTENDEE(S):**

Marina Currie, UL 101 Project Manager

UL TC 101 members and guests

Please contact UL staff for a list of attendees

### Summary of Meeting:

The TC 101 meeting was held to review standards work to address unwanted tripping of ground-fault circuit-interrupters (GFCIs) that has been occurring since the introduction of the Department of Energy requirements for higher energy efficient products. For this meeting, the four topics discussed were:

1. Ernesto Mendoza (Signify) provided an update on the use of modern techniques to digitalize the leakage current signal from appliances. A probe was constructed to represent the human body using the three-impedance model and apply software filtering to represent the human body frequency. The proposed digitalization method has been compared with the full measurement indication unit (MIU) network. The development of the digital leakage current meter is the first step in applying artificial intelligence to protect consumers from the risk of electric shock.
2. Dr. Hai Jiang (UL Solutions) provided an update on his work to develop a commercial digital leakage current tester from a firm in China. The firm is working to optimize hardware sampling and software.
3. Dr. Jiang also provided an update on developing and funding of a Study of Electrical Shock Reaction Effect for Mixed Frequency Signals. He is seeking to work with a university to do human subjects testing to get shock reaction data.
4. Milos Coric (UL Standards and Engagement) provided an update on the development of a working



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group and an arc-fault circuit-interrupter (AFCI) Interoperability Test similar to the TC 101 GFCI Interoperability Test. An appliance manufacturer volunteered to support and supply appliance samples for testing.

**Next Steps:** Staff will continue to monitor and participate in UL and *National Electrical Code* standards work. Staff will also review proposals when they are distributed for ballot or comment.