December 4, 2000

Mr. Robert M. Berhinig
Mr. Charles McCall
Underwriters Laboratories Inc.
333 Pfingsten Road
Northbrook, IL 60062-2096

Dear Messrs. McCall and Berhinig:

The Nuclear Regulatory Commission's (NRC), Division of Nuclear Reactor Regulation, Plant Systems Branch has reviewed your response to our comments dated July 17, 2000, regarding Underwriters Laboratories (UL) 2196 Bulletin concerning the proposed fire testing standard for Fire Resistive Cable (FRC). Based on our review of the standard as it is currently written, and the response to our comments provided in your November 3, 2000, letter, it appears that the standard will not be suitable for use to adequately determine equivalency of FRC in lieu of the NRC's requirements for one or three-hour fire rated barriers as stated in 10 CFR Part 50 Appendix R, Section III.G applications.

If this standard were to be published in its current form, the NRC would need to see the following issues addressed by the end user in order to determine if the specific FRC would be acceptable based on current NRC guidance for NRC regulated applications:

1. Cables would have to be tested with equal or greater voltage and current which will be used in their application. Unless the intended voltage and current are used during the fire test, there would be little confidence that the FRC would be representative of actual installations.

2. The testing would have to consider the application of the cables, such as, power, control, or instrumentation uses when determining acceptance criteria. Instrument, control and power cables should be tested to different tolerances depending on application. Without knowing the intended application of the FRC, there would be little confidence that a generic test of a certain FRC would be applicable to all applications of the FRC.

3. Since temperature criterion is not applicable to FRC, full insulation resistance testing would need to be performed in accordance with NRC guidance as stated in Generic Letter 86-10, Supplement 1, to assure cable functionality during the full thermal insult.

4. The assumption that a two conductor cable will bound a multi-conductor cable is not well established. Bounding tests would need to be performed prior to this being standardized.

If you have any questions concerning these comments, please contact Daniel Frumkin at (301) 415-2280.

Sincerely,

**/RA/**

Eric Weiss, Section Chief
Fire Protection Engineering and Special Projects Section
Plant Systems Branch
Division of System Safety and Analysis
Office of Nuclear Reactor Regulation

If you have any questions concerning these comments, please contact Daniel Frumkin at (301) 415-2280.

Sincerely,

**/RA/**

Eric Weiss, Section Chief
Fire Protection Engineering and Special Projects Section
Plant Systems Branch
Division of System Safety and Analysis
Office of Nuclear Reactor Regulation

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