NUCLEAR ENERGY INSTITUTE

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May 1, 2006

Mr. Michael E. Mayfield
Director - Division of Engineering
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: NEI 06-05, Medium Voltage Underground Cable

PROJECT NUMBER: 689

Dear Mr. Mayfield:

The Nuclear Energy Institute (NEI)[1] offers the attached White Paper for your information concerning the NRC concerns related to potential common-mode failure of medium voltage underground cables. These concerns were expressed in a letter to me dated February 05, 2004. A public meeting was held in June 2004 to discuss the staff concerns and review available information. Following this meeting, NEI agreed to consider the concerns. After consultation with our industry representatives, we decided that there was benefit in developing the attached White Paper.

In December 2004, NEI formed a Medium Voltage Underground (MVU) Cable Issues Task Force to address the NRC concerns. Following a meeting in January 2005, an industry survey was prepared to collect data concerning MVU cable installations, manufacturing types, failure modes, and cable replacement attribute data, if failures had occurred.

[1] NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry.

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The purpose of this White Paper is to address the potential effects of aging on medium voltage underground cables, review cable construction, evaluate insulation improvements made over the years, and document actual operating histories based on a comprehensive survey of installed cables.

MVU cables that experience prolonged, wetted conditions may have degraded insulation, based upon the insulation material. Thus, such cables may be more susceptible to the effects of voltage surges, such as lightning, that can lead to failure. Increased care during installation and the use of modern cable insulation have addressed this. NEI Survey evaluations conclude that MVU cable failures are random and are not a common-mode failure. Thus, we do not believe that there is a generic concern that needs to be addressed.

NEI believes that utilities should be cognizant of potential effects of the loss of a MVU cable and its impact on plant operations. Accordingly, we will distribute this White Paper to the Industry.

We would be pleased to meet with you and your staff to discuss this paper. If you have any questions about the attachment, please contact me at 202.739.8080; am@nei.org or Gordon Clefton at 202.739.8086; gac@nei.org.

Sincerely,

Alexander Marion

Attachment

c: Document Control Desk