



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

May 18, 2015

Mr. Joseph E. Pollock, Vice President  
Nuclear Operations  
Nuclear Energy Institute  
1201 F Street NW, Suite 1100  
Washington, DC 20004

Dear Mr. Pollock:

The U.S. Nuclear Regulatory Commission (NRC) staff has considered a request to endorse proposed guidance dated May 1, 2015, from the Nuclear Energy Institute (NEI) entitled "NEI Alternate Approach Hoses and Cables" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15126A135). The NEI proposed guidance describes an alternate approach to NEI-12-06, Rev. 0, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide." Specifically, NEI 12-06, Rev. 0, Section 3.2.2, "Minimum Baseline Capabilities," includes the following:

In order to assure reliability and availability of the FLEX equipment required to meet these capabilities, the site should have sufficient equipment to address all functions at all units on-site, plus one additional spare, i.e., an N+1 capability, where "N" is the number of units on-site. Thus, a two-unit site would nominally have at least three portable pumps, three sets of portable ac/dc power supplies, three sets of hoses & cables, etc.

The NEI proposed alternate approach notes that hoses and cables connecting to various mechanical and electrical FLEX equipment are typically comprised of multiple sections. The current guidance in NEI 12-06, Section 3.2.2, will result in licensees storing and protecting an additional full set of all hose and cable sections needed for FLEX equipment deployed for a single unit. However, the NEI proposed alternative observes that it is highly unlikely that a full set of hose and cable sections would be damaged while stored or when being deployed. Therefore, providing an additional full set of FLEX hose and cable sections is not necessary.

The NEI proposed alternative proposes the following alternate methods to provide a spare FLEX hose and cable capability:

Method 1: Provide additional hose or cable equivalent to 10% of the total length of each type/size of hose or cable necessary for the "N" capability. For each type/size of hose or cable needed for the "N" capability, at least 1 spare of the longest single section/length must be provided.

Method 2: Provide spare cabling and hose of sufficient length and sizing to replace the single longest run needed to support any single FLEX strategy.

The NRC staff agrees that damage to all sections of FLEX hose and cable for a single unit during storage or deployment is unlikely. Therefore the proposed alternate methods described above are reasonable. The NRC staff notes that licensees using the alternate Method 2 must ensure that the FLEX pumps and portable generators are confirmed to have sufficient capability to meet flow and electrical requirements when a longer spare hose/cable is substituted for a shorter length. In addition, the NRC staff has not reviewed and is not endorsing the specific examples included the NEI endorsement request dated May 1, 2015. Licensees may need to provide additional justification regarding the acceptability of various cable and hose lengths with respect to voltage drops, and fluid flow resistance, rather than merely relying on the additional, longest length cable/hose as implied by Example 1-4 in the subject letter.

If you have any questions, please contact Mandy Halter at 301-415-0560 or [Mandy.Halter@nrc.gov](mailto:Mandy.Halter@nrc.gov)

Sincerely,

A handwritten signature in black ink, appearing to read "Jack R. Davis". The signature is written in a cursive style with a long horizontal stroke at the end.

Jack R. Davis, Director  
Japan Lessons-Learned Division  
Office of Nuclear Reactor Regulation

The NRC staff agrees that damage to all sections of FLEX hose and cable for a single unit during storage or deployment is unlikely. Therefore the proposed alternate methods described above are reasonable. The NRC staff notes that licensees using the alternate Method 2 must ensure that the FLEX pumps and portable generators are confirmed to have sufficient capability to meet flow and electrical requirements when a longer spare hose/cable is substituted for a shorter length. In addition, the NRC staff has not reviewed and is not endorsing the specific examples included the NEI endorsement request dated May 1, 2015. Licensees may need to provide additional justification regarding the acceptability of various cable and hose lengths with respect to voltage drops, and fluid flow resistance, rather than merely relying on the additional, longest length cable/hose as implied by Example 1-4 in the subject letter.

If you have any questions, please contact Mandy Halter at 301-415-0560 or [Mandy.Halter@nrc.gov](mailto:Mandy.Halter@nrc.gov)

Sincerely,

*/RA/*

Jack R. Davis, Director  
Japan Lessons-Learned Division  
Office of Nuclear Reactor Regulation

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