

REGULATORY AUDIT PLAN  
BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
IN SUPPORT OF THE REVIEW OF THE AGING CABLE MANAGEMENT METHODOLOGY  
TOPICAL REPORT  
ANALYSIS AND MEASUREMENT SERVICES CORPORATION  
DOCKET NO. 99902075; EPID L-2024-TOP-0030

1.0 BACKGROUND

By letter dated August 20, 2024 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML24233A208) and supplemented by letter dated December 4, 2024 (ADAMS Accession No. ML24339B787), Analysis and Measurement Services Corporation (AMS, the vendor) submitted Technical Report (TR) AMS-CABLE TR-R0, "Condition Monitoring Methodology for Life Extension and Aging Management of Electrical Cables," for U.S. Nuclear Regulatory Commission (NRC) review and approval. TR AMS-CABLE TR-R0 describes a cable condition monitoring methodology to extend the service life of electrical cables as installed in nuclear facilities. In addition, this TR can help quantify the aged condition of cables, make better decisions about cable repair and replacement schedules, satisfy plant life extension requirements, meet the cable aging management objectives of the nuclear industry, and improve on the time-based approaches currently used to determine cable lifetime.

By email dated March 11, 2025, the NRC staff accepted the cable methodology for review.

The NRC staff has identified the need to conduct a regulatory audit to better understand the vendor's platform by reviewing supporting documentation for the cable methodology.

2.0 REGULATORY AUDIT BASIS

TR AMS-CABLE TR-R0 would be applicable to safety and non-safety related electrical cables governed by Title 10 of the *Code of Federal Regulation* (10 CFR) Section 50.49, "Environmental qualification of electric equipment important to safety for nuclear power plants," 10 CFR Section 50.65, "Requirements for monitoring the effectiveness of maintenance at nuclear power plants," and 10 CFR Part 54, "Requirements for Renewal of Operating Licenses for Nuclear Power Plants."

According to 10 CFR Section 50.49, licensees are required to establish a program for environmentally qualifying certain electric equipment that is relied upon to remain functional during and following design basis events to ensure the integrity of the reactor coolant pressure boundary; the capability to shut down the reactor and maintain it in a safe shutdown condition; or the capability to prevent or mitigate the consequences of accidents.

According to 10 CFR Section 50.65, licensees are required to monitor the performance or condition of structures, systems, or components, against licensee-established goals, in a manner sufficient to provide reasonable assurance that these structures, systems, and components (SSCs) are capable of fulfilling their intended functions.

Part 54 of 10 CFR governs the issuance of renewed operating licenses and renewed combined licenses for nuclear power plants and include all SSCs relied on to comply with 10 CFR Section 50.49

### 3.0 REGULATORY AUDIT SCOPE AND METHODOLOGY

The objective of this audit is to better understand, via an independent evaluation, the technical bases used to develop the cable condition monitoring methodology proposed in the topical report and how the methodology could be consistently and conservatively applied and implemented. The NRC staff will review AMS supporting documents, as discussed in Section 4.0 of this audit plan, to determine if additional information will require docketing to develop and support conclusions for the NRC staff's safety evaluation of the requested application.

The NRC staff will perform the audit in accordance with this audit plan and Office of Nuclear Reactor Regulation (NRR) Office Instruction LIC-111, "Regulatory Audits," Revision 2, dated December 2024 (ADAMS Accession No. ML24309A281).

### 4.0 INFORMATION AND OTHER MATERIAL NECESSARY FOR THE REGULATORY AUDIT

The NRC staff requests that AMS have the following information readily available and accessible for the NRC staff's review via online portal:

- INPO AP-913, "Equipment Reliability Process Description (Revision 1)," Institute of Nuclear Power Operations, Atlanta, Georgia (November 2003).
- Evaluation used to develop Table 4.5, "Testing Interval Matrix," of the proposed topical report.
- Analyses/test reports used to develop the examples provided in Figures 4.2, 4.3, 4.4, 4.5, 4.7, 4.9, and 4.10 and Tables 4.2, 4.3, and 4.4 of the proposed topical report.

Additional information may be requested to be added to the portal by the NRC staff based on the staff's continued review of the application and based on audit discussions with the vendor. If the topical report relies on newer revisions of documents currently in the NRC records, copies of those may be requested on the audit portal until they are provided to the NRC through the document control desk.

Based on the audit, the NRC staff will determine whether additional information needs to be submitted on the docket for the staff to complete the review of the requested changes via request for additional information (RAI).

## 5.0 TEAM ASSIGNMENTS

The audit team will consist of the following NRC staff:

<b>NAME</b>	<b>DIVISION</b>	<b>BRANCH</b>
Lois M, James, Senior Project Manager	Division of Operating Reactor Licensing (DORL)	Licensing Projects Branch (LLPB)
Matthew McConnell, Senior Electrical Engineer	Division of Engineering and External Hazards (DEX)	Long Term Operations and Modernization Branch (ELTB)

## 6.0 LOGISTICS

The audit will be conducted from July 1, 2025, to September 5, 2025, primarily through an online portal (also known as electronic portal, ePortal, or electronic reading room) established by AMS.

The audit team will conduct a TEAMS-based entrance meeting with AMS on July 1, 2025, for the purposes of introducing the team, discussing the scope of the audit, and describing the information to be made available on the portal. Through the audit period the NRC staff will hold breakout sessions with representatives of AMS to answer audit team questions. An exit meeting/call will be held at the conclusion of the audit.

The NRC staff may require an onsite visit to better understand how the proposed methodology can be implemented and/or how results have been collected and recorded. The NRC project manager will coordinate any changes to the audit schedule and location with AMS.

## 7.0 SPECIAL REQUESTS

The audit team would like access to the documents listed in Section 4.0 above through an online portal that allows the audit team to access documents via the internet. The following conditions associated with the online portal must be maintained throughout the duration that the audit team has access to the online portal:

- The online portal will be password-protected or use two-factor authentication and separate passwords or two-factor access credentials will be assigned to the NRC staff members who are participating in the audit.
- The online portal will be sufficiently secure to prevent the NRC staff from printing, saving, downloading, or collecting any information on the online portal.
- Conditions of use of the online portal will be displayed on the login screen and will require acknowledgement by each user.

Access credential information should be provided directly to the NRC staff. The NRC project manager will provide to AMS the names and contact information of the NRC staff who will be participating in the audit. All other communications should be coordinated through the NRC project manager.

## 8.0 DELIVERABLES

An audit summary report will be prepared within 90 days of the completion of the audit. If the NRC staff identifies information during the audit that is needed to support its regulatory decision, the NRC staff will issue RAI to AMS.