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UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, D.C. 20555

May 22, 1985

IE INFORMATION NOTICE NO. 85-40: DEFICIENCIES IN EQUIPMENT QUALIFICATION TESTING AND CERTIFICATION PROCESS

Addressees:

All holders of a nuclear power reactor operating license (OL) or a construction permit (CP).

Purpose:

This information notice is to alert licensees that quality-related deficiencies in the qualification documentation, review, approval, and certification process have been identified by the Vendor Program Branch (VPB) of the NRC during its review of qualification activities. NRC observations suggest that some vendor qualification activities and practices may not provide a sufficient basis for qualification certification.

It is suggested that recipients review this information for specific and generic applicability to ensure that documentation supporting environmental qualification of safety-related equipment at their facilities is complete. Suggestions contained in this notice do not constitute NRC requirements; therefore, no specific action or response is required.

Description of Circumstances:

10 CFR 50.49, Regulatory Guide 1.89 (Revision 1, June 1984), and IEEE Standards 323-1974 and 323-1983 each require auditable information demonstrating qualification to provide continuing assurance to licensee management and the NRC that equipment in use is qualified for the entire period during which it is installed in the nuclear power plant. 10 CFR 50, Appendix B, provides quality assurance requirements for the generation of all elements of qualification files. IEEE Standard 323-1974, Section 8 (endorsed by Regulatory Guide 1.89), requires that individual elements of qualification files be reviewed and approved by the licensee. Since July 1982, the VPB has actively inspected vendor qualification efforts for compliance to these NRC requirements. Inspections have been performed at manufacturing facilities, independent testing laboratories, architect-engineers, and nuclear steam supply system (NSSS) vendors.

NRC observations at the vendor level provide examples where more active licensee participation in the qualification effort should have occurred. In some cases, certification of qualification is now difficult to justify because of documentation and test practices employed by vendors. Some examples of NRC findings follow.

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1. Qualification activities not performed under a QA program consistent with 10 CFR 50, Appendix B

   - Qualification testing of Class 1E equipment was conducted without appropriate QA programs.
   - No QA requirements were imposed on organizations providing safety-related services (such as irradiation, calibration, and analyses) associated with the qualification process.

2. Qualification test report conclusions not supported by test data or test data not available

   - Test profiles shown in qualification reports were not actually achieved during test.
   - Reports identified specimens or materials that were different from those actually tested.
   - Test records showed inadequate sensitivity/resolution of test equipment.
   - Documentation required by the standards referenced in the test report was not available (test plans, equipment lists, and calibration records).
   - Test anomalies were not adequately reported or evaluated.
   - Similarity between test specimens and items to be qualified was not established.

3. Documentation to support the validity of qualification not maintained for lifetime of the equipment

   - Supporting test data were destroyed after five years.

4. Inadequate review, approval, or certification of test results

   - Interfaces/responsibilities of organizations involved in the qualification process were not clearly defined.
   - Test reports contained statements that testing satisfied the "guidelines" or "intent" of standards referenced in the specification.

Detailed descriptions of NRC findings and results of these inspections are published in NUREG-0040, "Licensee Contractor and Vendor Inspection Status Report," Volumes 6, 7, and 8. This report is published quarterly by the NRC, and it can be obtained from the Superintendent of Documents, U.S. Government Printing Office, Post Office Box 37082, Washington, D.C. 20013-7982.

Correspondence with contractors and vendors relative to the inspection data contained in NUREG-0040 is placed in the NRC Public Document Room, 1717 H Street, N. W., Washington, D.C. 20555.

Discussion:

The deficiencies described in this notice resulted from the review of a vendor's qualification activities against the applicable procurement document requirement or, in the case of generic qualification, against the applicable QA criteria.

An overall assessment of identified deficiencies (1) suggests that some vendor qualification activities may not adequately support the applicable NRC requirements, and (2) emphasizes the need for increased licensee attention to the adequacy of their vendor procurement control practices for qualification activities and the definition of responsibilities and interfaces in the qualification process.

Documentation from vendors and test laboratories form the basis for meeting the equipment qualification requirements of paragraphs (d), (e), (f) and (j) of 10 CFR 50.49. This documentation may include procurement specifications, test plans, test procedures, test logbooks, qualification test reports, test data, analyses and corrective action to resolve test anomalies, test configurations and interfaces, and quality assurance information.

The NRC staff considers the above-identified deficiencies to be representative examples of problems with vendors and test laboratories providing qualification services to other vendors and user utilities. Although there may be specific problems applicable to a particular utility, the staff expects that user utilities will consider the overall applicability of the above information in establishing qualification of safety-related equipment.

No specific action or written response is required by this notice. If you have any questions regarding this notice, please contact the Regional Administrator of the appropriate NRC regional office or this office.

Edward L. Jordan, Director
Division of Emergency Preparedness
and Engineering Response
Office of Inspection and Enforcement

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Attachment: List of Recently Issued IE Information Notices

LIST OF RECENTLY ISSUED IE INFORMATION NOTICES

Information Notice No.	Subject	Date of Issue	Issued to
85-39	Auditability of Electrical Equipment Qualification Records At Licensees' Facilities	5/22/85	All power reactor facilities holding an OL or CP
85-38	Loose Parts Obstruct Control Rod Drive Mechanism	5/21/85	All PWR facilities designed by B&W holding an OL or CP
85-37	Chemical Cleaning Of Steam Generator At Milestone 2	5/14/85	All pressure water reactor facilities holding an OL or CP
84-55 Sup. 1	Seal Table Leaks At PWRs	5/14/85	All power reactor facilities holding an OL or CP
85-20 Sup. 1	Motor-Operated Valve Failures Due To Hammering Effect	5/14/85	All power reactor facilities holding an OL or CP
85-36	Malfunction Of A Dry-Storage, Panoramic, Gamma Exposure Irradiator	5/9/85	All licensees possessing gamma irradiators
84-52 Sup. 1	Inadequate Material Procurement Controls On The Part Of Licensees And Vendors	5/8/85	All power reactor facilities holding an OL or CP
85-35	Failure Of Air Check Valves To Seat	4/30/85	All power reactor facilities holding an OL or CP
85-34	Heat Tracing Contributes To Corrosion Failure Of Stainless Steel Piping	4/30/85	All power reactor facilities holding an OL or CP
84-84 Rev. 1	Deficiencies In Ferro-Resonant Transformers	4/24/85	All power reactor facilities holding an OL or CP

OL = Operating License
CP = Construction Permit