

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, DC 20555-0001

December 12, 2025

INFORMATION NOTICE 2025-06: LESSONS LEARNED FROM U.S. NUCLEAR
REGULATORY COMMISSION INSPECTIONS
OF COMMERCIAL GRADE DEDICATION AT
NUCLEAR POWER PLANTS

ADDRESSEES

All holders of operating licenses, construction permits, or combined licenses for nuclear power reactors, except those that have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel.

PURPOSE

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice (IN) to alert addressees to recent information related to lessons learned from NRC inspections of commercial grade dedicated items at nuclear power plants. The NRC expects that addressees will review the information for applicability to their facilities and consider actions, as appropriate, to identify and address similar issues. Suggestions contained in this IN are not NRC requirements. Therefore, no specific action or written response is required.

DESCRIPTION OF CIRCUMSTANCES

Recently, the NRC staff initiated an update to the Reactor Oversight Process engineering inspections in furtherance of the NRC safety mission. One of the new inspection programs relates to Commercial Grade Dedication (CGD) as described in Attachment 21N.03, "Commercial Grade Dedication," to NRC Inspection Procedure (IP) 71111, "Reactor Safety—Initiating Events, Mitigating Systems, Barrier Integrity." In particular, the NRC issued IP 71111.21N.03 to review the implementation of the licensee's process for dedicating commercial-grade items (CGIs), as defined in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 21, "Reporting of Defects and Noncompliance," and required to be conducted in accordance with the applicable provisions of Appendix B to 10 CFR Part 50 (Appendix B) to provide reasonable assurance that CGIs will perform their intended safety function.

During public meetings in late 2022 and early 2023 (for example, see Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML22258A010, ML22270A076 and ML23023A243), the NRC staff described the objectives and intent of the IP 71111.21N.03 inspections, and indicated that lessons learned from those inspections would be made available to stakeholders. NRC staff began implementing IP 71111.21N.03 in January 2023, with the inspection to be conducted once at each operating power reactor site in the inspection cycle ending December 31, 2026.

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DISCUSSION

The NRC staff conducted inspections using IP 71111.21N.03 to review the implementation of the licensee's process for dedicating CGIs. The NRC staff also conducted these inspections to review implementation of the licensee's procurement process for safety-related components as required in Appendix B or 10 CFR 50.69, "Risk-informed categorization and treatment of structures, systems and components for nuclear power reactors."

Initial NRC inspections using IP 71111.21N.03 identified numerous lessons learned related to CGIs at the sampled nuclear power plants. The following is a summary of the major lessons learned:

1. The NRC inspections found that some licensees did not identify and/or evaluate critical characteristics of CGIs contrary to 10 CFR, Part 50, Appendix B, Criterion III, "Design Control," or Criterion IV, "Procurement Document Control." Examples included:
 - Failure to ensure design basis temperature requirements for safety injection tank vent to containment valve diaphragms were included in documentation for diaphragm replacement.
 - Prescribing incorrect electrical insulation testing in procurement documentation.
 - Failure to ensure the applicable design basis was correctly translated into specifications, drawings, and instructions for reverse engineering activities on safety-related electronic circuit boards.
 - Failure to ensure new filter-drier designs were suitable for safety chiller use.
 - Failure to ensure the control of unidentified embedded digital devices in the design and testing of commercial grade components.
 - Failure to provide objective evidence of quality for lubricants prior to their application in final component installation.
 - Failure to ensure that applicable regulatory requirements and the design basis were correctly translated into specifications, drawings, and procedures used to ensure 700-RTC relay circuits were installed correctly.
2. The NRC inspections found that some licensees did not furnish evidence or did not conform to certain documents contrary to 10 CFR Part 50, Appendix B, Criterion XVII, "Quality Assurance Records," or Criteria VII, "Control of Purchased Material, Equipment, and Services." Also, the NRC inspections found that some licensees failed to include appropriate quantitative or qualitative acceptance criteria in a procedure affecting quality contrary to 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings." Some specific examples were:
 - Failure to retain commercial grade surveys and source surveillances for the life of commercially dedicated basic components.

- Failure to provide commercial grade dedication surveys for demonstrating that Flexitallic gaskets procured from a commercial vendor were manufactured to meet the critical characteristics necessary for the gaskets to perform their safety function in installed applications.
 - Failure to include appropriate acceptance criteria in a service water strainer maintenance procedure to establish that emergency core cooling system service water strainer inspections were satisfactorily accomplished.
 - Failure to include the appropriate critical characteristics to be verified of commercially purchased items in a quality receipt inspection procedure used in the dedication of items for installation in safety-related applications. This led to the installation of commercial grade items on safety-related equipment prior to completing the required dedication activities.
3. The inspectors identified a non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to ensure activities affecting quality were prescribed by documented instructions and procedures appropriate to the circumstance. Specifically, the licensee failed to ensure the instructions prescribed in procedures appropriately verified the critical characteristics of commercially purchased items while dedicating the items for installation in safety-related applications. This led to commercial items being installed on safety-related equipment prior to completing required dedication activities.

The NRC staff suggests that licensees review this information for applicability to their facilities and consider actions, as appropriate, to identify and address similar issues. Review and consideration of the information in this IN will support CGD inspections at licensee facilities.

CONTACTS

This IN requires no specific action or written response. Please direct any questions about this matter to the technical contacts listed below or to the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

/RA/

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Note: NRC generic communications may be found on the NRC public Web site, <http://www.nrc.gov>, under Electronic Reading Room/Document Collections.

SUBJECT: NRC INFORMATION NOTICE 2025-06, "LESSONS LEARNED FROM U.S. NUCLEAR REGULATORY COMMISSION INSPECTIONS OF COMMERCIAL GRADE DEDICATION AT NUCLEAR POWER PLANTS" DATE: DECEMBER 12, 2025

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