

# NRC INSPECTION MANUAL

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## INSPECTION PROCEDURE 69006

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### CLASS I RESEARCH AND TEST REACTORS ORGANIZATION AND OPERATIONS AND MAINTENANCE ACTIVITIES

PROGRAM APPLICABILITY: 2545

#### 69006-01 INSPECTION OBJECTIVES

01.01 To determine if the licensee has maintained its organization as required by technical specifications (TS), since the last inspection.

01.02 To determine if the licensee's operational and maintenance activities have been consistent with regulatory requirements, since the last inspection.

#### 69006-02 INSPECTION REQUIREMENTS

##### 02.01 Organization and Staffing

- a. Organization. Determine if the licensee's organization has been maintained consistent with TS requirements and licensee commitments.
- b. Annual Report. Determine if the organization reported in the annual report is consistent with TS requirements.
- c. Shift Staffing. Determine if the minimum shift staffing composition for operation, including on-call personnel, is as described in the TS.

##### 02.02 Operations and Maintenance

- a. Administrative Controls. Determine if the administrative controls for the conduct of operations and maintenance activities are consistent with TS requirements.
- b. Logs and Significant Problems. Determine if the licensee resolved significant problems identified from the review of the operations and maintenance logs in accordance with licensee procedures, and TS.

- c. Maintenance Records. Determine if maintenance activities were performed consistent with the requirements of the TS and the licensee's administrative controls and procedures.
- d. Operations Records. Determine if measured parameters are consistent with those required by the TS.
- e. Operations and Maintenance Observations. Determine if the licensee's operations and maintenance activities comply with the requirements in the TS and the licensee's administrative controls.

## 69006-03 INSPECTION GUIDANCE

### General Guidance

Where possible, direct observation of activities should be used by the inspector to satisfy the requirements of this inspection procedure. Records, that may be reviewed in lieu of direct observations, include operator logs, scram records, maintenance logs, maintenance authorization forms, and tag-out and jumper logs. The inspector should review records generated before the last inspection only as needed to ensure continuity.

General guidance may be found in the ANS Section 15 Standards as listed in Appendix B to Inspection Procedure 69001, "Class II Research and Test Reactors." Specific standards of interest for this inspection procedure are listed in the Reference section. Additional general guidance may be found in the Division 2 Regulatory Guides, and the "Other Regulatory Guides of Possible Interest to Division 2 Recipients" listed in the Division 2 Regulatory Guides Table of Contents. The reference to this guidance is to aid the inspector in technical evaluation of licensee programs and is not to be used as requirements unless the licensee has committed in writing to the NRC to use the specific guidance document.

The sample sizes and resource estimates suggested in the inspection procedure is provided for broad planning purposes and to define the typical depth of the inspection. It is not intended to be a rigid requirement on the inspector. Actual inspection at any facility may require more or less effort depending on past inspection history, conditions at the facility, and safety significance.

### Specific Guidance

#### 03.01 Organization and Staffing

- a. Organization. During the inspection, the licensee's organizational or administrative records should be reviewed with cognizant staff and management to determine if changes were made to the licensee's organization. Only changes since the last inspection need be reviewed. If changes have been made, particular attention should be given to (1) organizational structure, reporting chains and lines of succession, (2) responsibilities, authorities and limits of key personnel, (3) availability of key personnel and (4) assignment and qualifications of new personnel. All changes to the licensee's organization should be consistent with the

TS and the Safety Analysis Report (SAR), and supporting documentation. Where applicable, this inspection item should not duplicate the effort in Inspection Procedure 69007 "Class I Research and Test Reactor Review and Audit, and Design Change Functions."

- b. Annual Report. If practical, the inspector should review this before conducting the onsite inspection. The inspector should delete this inspection requirement if the annual report is not required or the facility's organization is not required to be reported in the annual report.
- c. Shift Staffing. The observation of selected portions of three operating shifts or the review of records for three start-ups should provide an acceptable sample for this inspection requirement. The TS generally provide all the requirements for this item. The records and guidance provided to the operator should indicate clearly the specific personnel required at the facility for operations (such as a licensed operator and another individual to contact appropriate individuals in an emergency). The records and guidance provided to the operator should also clearly indicate required on-call personnel such as a specific licensed Senior Reactor Operator. Having both a licensed reactor operator and licensed senior reactor operator at the facility generally satisfies the requirements for operations and on-call personnel. The inspector should ask the licensee to demonstrate the availability of one required on-call personnel at a convenient time during one shift.

#### 03.02 Operations and Maintenance

- a. Administrative Controls. The inspector should give particular attention to the conduct of operations and maintenance activities, related to those for the operability of safety-related reactor instrumentation and equipment. These controls may include tag-out logs, jumper controls, and authorizations for maintenance.
- b. Logs and Significant Problems. The review of 50 percent of the logs since the last inspection should provide an acceptable sample for this inspection requirement. Both the facilities operations and maintenance records should be reviewed. The licensee's procedures provide the requirements for logs. The logs should be reviewed for problems regarding license or TS requirements. Significant problems may also be required to be documented in the annual report by TS or in a Licensee Event Report. Problems identified in this review or in reports should have been resolved by the licensee as required by their procedures or as specified in applicable reports.
- c. Maintenance Records. The review of 25 percent of the records (but no more than 5) of the maintenance activities since the last inspection should provide an acceptable sample for this inspection requirement. The inspector should consider reviewing the records of non-routine maintenance performed since the last inspection to ensure the facility was not changed in a manner inconsistent with SAR commitments, TS requirements, or 10 CFR 50.59. The licensee's administrative controls should specify the level of authority required to conduct maintenance. For maintenance activities, radiation controls should be consistent with the licensee's procedural controls, including the licensee's ALARA procedures.

Some site-specific TS may not require maintenance procedures, others may require procedures for maintenance affecting reactor safety issues, and still others may require maintenance procedures for all TS-related items. The inspector should determine if the licensee is meeting the applicable requirements for their facility.

- d. Operations Records. Observation of two TS required parameters at a selected time during three different shifts or review of the records for two TS required parameters for three recent operating periods, should provide an acceptable sample for this inspection requirement. The parameters observed should be varied from those observed in the previous inspection. At some facilities, only a few TS parameters are monitored or recorded, so the parameters can not be varied. If the parameters can not be varied, the same parameters should be observed. Examples of the type of parameters include nuclear power and primary system coolant temperature instrumentation. Some facilities record TS required parameters in the operator log book, and review of the logs as specified above may fulfill this inspection requirement.
- e. Operations and Maintenance Observations. The observation of selected portions of one operational activity and one maintenance activity, required by TS, should provide an acceptable sample for this inspection requirement. The inspector should consider observation of operational activities such as pre-start-up checks, start-ups, shutdowns, and reactor power changes. This observation should examine major systems and components, and interlock features. If possible, the inspector should use one of the same procedures reviewed in Inspection Procedure 69008 "Class I Research and Test Reactors Procedures," Sections 02.02 and 03.02. If the licensee is not performing these activities during the inspection, a similar number of records should provide acceptable observations for this inspection requirement.

The previous efforts in this inspection procedure and the determination of administrative requirements in Inspection Procedure 69008 should provide the inspector with the requirements for the direct observation of operational and maintenance activities. Tagouts, jumper controls and authorizations for these activities should be included. The level of authority to conduct and to review these activities should be verified. These activities should be conducted consistent with the applicable radiological control requirements.

The procedure should enable the licensee to accomplish the task within the design characteristics and the safety review considerations. The procedure should be consistent with the descriptions in the TS, the Limiting Conditions of Operation (LCOs), the Safety Evaluation Report (SER), and the SAR or as-built descriptions. The activity should be able to be acceptably accomplished using the procedure as a guide for the current facility configuration. The inspector should determine if significant hold points, hazards, and precautions are identified and observed. The inspector should make sure that this inspection does not distract the operators from their duties.

69006-04 RESOURCE ESTIMATE

For planning purposes, the direct inspection effort to complete this inspection procedure is estimated to be eight hours.

69006-05 REFERENCES

ANSI/ANS 15.1, "The Development of Technical Specifications for Research Reactors," 1982.

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