



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

## NRC INSPECTION MANUAL

SRXB

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INSPECTION PROCEDURE 61726

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### SURVEILLANCE OBSERVATIONS

PROGRAM APPLICABILITY: 2515

SALP FUNCTIONAL AREA: MAINTENANCE (MAINT)

#### 61726-01 INSPECTION OBJECTIVE

To ascertain, by direct observation of licensee activities, whether surveillance of safety significant systems and components are being conducted in accordance with technical specifications (TS) and other requirements.

#### 61726-02 INSPECTION REQUIREMENTS

02.01 At least once every two months witness the performance of a major surveillance test involving a safety-related system. For multi-unit site, witness surveillance tests on alternate units, if possible, such that no more than two successive observations are spent witnessing tests on the same unit. Perform the following steps:

- a. Review the surveillance procedure for conformance to TS requirements and verify proper licensee review/approval.
- b. Verify that required administrative approvals and tagouts are obtained prior to test initiation.
- c. Verify that operating system and test instrumentation is within its current calibration cycle.
- d. Observe portions of the removal of the system from service. Confirm that limiting condition for operations (LCOs) are met.
- e. Observe portions of the conduct of the surveillance test.
- f. Observe portions of the restoration of the system to service.
- g. Review test data for accuracy and completeness. Independently calculate selected test results data to verify its accuracy.
- h. Confirm that surveillance test documentation is reviewed and test discrepancies are rectified.

- i. Verify that test results meet TS requirements.
- j. Verify testing is done by qualified personnel.
- k. Verify that the surveillance schedule for this test was met and conformed with TS requirements.

02.02 Observe portions of selected surveillance tests involving different technical disciplines for safety-significant systems. For multi-unit sites, observe portions of at least one test at one unit every two months. Determine through observation and review of records, where appropriate, that:

- a. The surveillance test procedure conforms to TS requirements.
- b. Required administrative approvals and tagouts are obtained prior to initiating the test.
- c. Testing is being accomplished by qualified personnel in accordance with an approved test procedure.
- d. Required system and test instrumentation is within its current calibration cycle.
- e. LCOs are met.
- f. The test data are accurate and complete. Independently calculate selected test result data to verify the accuracy.
- g. Independently verify the system was properly returned to service.
- h. Test results meet TS requirements and test discrepancies are rectified.
- i. The surveillance test was completed at the required frequency per TS requirements.

02.03 Effectiveness of Licensee Controls

- a. Evaluate the effectiveness of the licensee's controls in identifying, resolving, and preventing problems by reviewing such areas as corrective actions systems, root cause analysis, safety committees, and self assessment in the area of surveillance.
- b. Determine whether there are strengths or weaknesses in the licensee's controls for the identification and resolution of the reviewed issues that could enhance or degrade plant operations or safety.

02.04 Use of risk insights

Consider risk significance as one input in the selection of a sample of inspection items.

03.01 This inspection requirement is designed to provide a comprehensive examination of all aspects of a single surveillance activity. Vary systems selected for witnessing; candidates include:

- Reactivity Control and Reactor Core
- Reactor Protective System
- Reactor Coolant System
- Emergency Core Cooling Systems
- Power Distribution Systems
- Containment Systems
- Fire Prevention Systems

Instrument calibration procedures can also be considered as candidates for surveillance witnessing.

- Conduct a detailed technical review of the procedure. As part of the review, the inspector should include in the evaluation (1) the adequacy of the surveillance test to demonstrate, to the extent practicable, that the system components will function under design basis conditions and (2) the acceptability of preconditioning, if any, of equipment in preparation for performance of the surveillance test. If detailed evaluation is needed, consult regional management on the need for additional followup inspection. Additional guidance can be found in the following documents. Inspection Procedure 93801, "Safety System Functional Inspection," provides inspection requirements and associated guidance for verifying that surveillance testing demonstrates system function under design basis conditions (Sections 02.04.d. 3&4 and 03.07). Inspection Manual Part 9900: Technical Guidance, "Operable/Operability: Ensuring the Functional Capability of a System or Component" discusses testing in safety and normal operational configurations (Section 6.5, "Surveillance and Operability Testing in Safety Configuration").

Examples of preconditioning include trial runs of a test before running the test for record, valve/pump/breaker exercising prior to test, and draining condensate from auxiliary feedwater steam lines immediately prior to pump testing. The acceptability of performing maintenance prior to surveillance testing is discussed in NRR's response to TIA 96-007 (Memorandum from F. Hebdon to J. Johnson, dated 7/2/96; Microfiche address 89019/203). In the TIA response, the staff stated that the effect of such maintenance needs to be evaluated to ensure that the ability to assess operational readiness of the valve and to trend degradation in valve performance are not adversely affected. In addition, the staff concluded that a licensee activity to lubricate a valve prior to stroke-time testing for the principal purpose of satisfying the test criteria at that specific time would not be considered to be within the intent of NRC regulations under 10 CFR 50.55a. It should be noted that this is not equivalent to a requirement to perform as-found testing. Requirements and commitments relating to as-found testing need to be evaluated on a component-specific basis for the particular licensee. See Section 3.5, "Testing in the As-Found Condition," of NUREG-1482 (April 1995), "Guidelines for Inservice Testing at Nuclear Power Plants," and Information Notice 96-24, "Preconditioning of Molded-Case Circuit Breakers Before Surveillance Testing," for further discussion.

- Perform an independent calculation of test results when it is within the technical capability of the inspector.

Observing surveillance activities in different functional areas on successive surveillance observations is desirable. These areas include mechanical, electrical, instrumentation, operations, reactor engineering, and quality assurance.

Any of the following inspection procedures, if completed during the inspection period, satisfy the requirements of this procedure:

- 61701 Complex Surveillance
- 61702 Surveillance of Core Power Distribution Limits
- 61705 Incore/Excore Detector Calibration
- 61706 Core Thermal Power Evaluation
- 61707 Determination of Reactor Shutdown Margin
- 61708 Isothermal Temperature Coefficient of Reactivity Measurement (PWR)
- 61709 Power Coefficient of Reactivity (PWR)
- 61710 Control Rod Worth Measurement (PWR)
- 61720 Surveillance - Containment Leak Rate Testing - Type B and C Tests
- 61728 Independent Measurement of RCS Leak Rates for a PWR
- 70313 Containment Integrated Leak Rate Test Surveillance

- a. No inspection guidance provided.
- b. Verify that the surveillance activity is being conducted in accordance with the licensee's administrative controls and that the equipment clearance was properly prepared. Verify that control room operators are aware of the effect of the surveillance activity on system operability and plant safety.
- c. No inspection guidance provided.
- d-f Depending on the type of surveillance and the pace of licensee activities, it may not be possible to directly observe all portions of a particular surveillance activity. Witness a portion of each of these items.

Examine a portion of each of these three items.

- g. No inspection guidance provided.
- h. In cases where the system fails to perform properly on the initial test, the inspector should determine whether repetitive testing was inappropriately used to achieve acceptable test results without identifying the root cause or correction of any problem in a previous test.
- I. No inspection guidance provided.
- j. Verification of qualification can be done by observation and questioning of the individuals conducting or participating in the test. Training records for these individuals can be reviewed if observation and questioning identify problems.
- k. No inspection guidance provided.

03.02 The intent of this requirement is to obtain a bimonthly "sampling" of portions of various surveillance activities; these activities are not to be inspected to the depth required by item 02.01. Surveillance test activities inspected can include candidates from functional areas such as the following, to provide the opportunity to observe plant personnel in different technical disciplines:

- Core physics
- Mechanical systems
- Electrical systems
- Instrumentation
- Plant chemistry
- Pump and valve in-service inspection tests

If time allows observation of additional surveillance tests, select tests equally between units at multi-unit sites unless a particular unit warrants increased attention. When electrical systems are being inspected, occasionally include the surveillance of GE HFA type latching relays in accordance with Bulletin 88-03.

In addition to surveillance testing required by technical specifications, occasionally observe testing associated with the Anticipated Transient Without Scram (ATWS) Rule, the Station Blackout (SBO) Rule, the Safety Parameter Display System (SPDS), or Regulatory Guide 1.97 instruments. The extent and frequency of surveillance testing on these systems is controlled by licensee's commitments and procedures.

- a. No specific guidance provided.
- b. See inspection guidance provided in Section 03.01.b of this inspection procedure.
- c-f No specific guidance provided.
- g. Refer to IP 37828 for guidance concerning the installation of jumpers and the lifting of leads.
- h. See inspection guidance provided in Section 03.01.h of this inspection procedure.
- i. No specific guidance provided.

### 03.03 Effectiveness of Licensee Controls

- a. When safety issues, events, or problems are reviewed, the adequacy of the results of licensee controls may be assessed by determining how effective the licensee was in performing the following:
  - 1. Initial identification of the problem.
  - 2. Elevation of problems to the proper level of management for resolution (internal communications and procedures).
  - 3. Root cause analysis.
  - 4. Disposition of any operability issues.

5. Implementation of corrective actions.
  6. Expansion of the scope of corrective actions to include applicable related systems, equipment, procedures, and personnel actions.
- b. The determination of whether there are strengths or weaknesses in the licensee's controls will be limited to those issues, events, or problems reviewed in detail. The evaluation will not draw sweeping conclusions about the licensee's overall control programs but will be very specific in identifying any licensee strengths or weaknesses encountered with the individual items reviewed.

Note: For additional guidance on licensee controls, please refer to IP 40500, "Effectiveness of Licensee Controls in Identifying, Resolving, and Preventing Problems."

#### 03.04 Use of risk insights

The inspector should refer to IMC 2515 Appendix C for guidance on the use of PRA insights to help in the selection and prioritization of items to inspect. If necessary, contact NRC PRA specialists (e.g., Senior Reactor Analysts or the NRR Probabilistic Safety Assessment Branch) for assistance.

#### 61726-04 INSPECTION RESOURCES

On the average, about 20 hours of direct inspection are required for the execution of this procedure at both single and multi-unit sites.

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