

NRC INSPECTION MANUAL

FCSS

ATTACHMENT 88135.22

RESIDENT INSPECTION PROGRAM
SURVEILLANCE TESTING

88135.22-01 INSPECTION OBJECTIVES

The objectives of this procedure are to provide requirements and guidance for evaluating and ensuring that items relied on for safety (IROFS) are available and reliable to perform their function when needed, to comply with the performance requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) 70.61 and 10 CFR 70.62. This inspection will focus on surveillance testing of risk-significant systems to ensure that IROFS are capable of performing their intended safety functions.

88135.22-02 INSPECTION REQUIREMENTS AND INSPECTION GUIDANCE

02.01 Quarterly Post-Maintenance Testing.

- a. Inspection Requirement. Verify that the surveillance program ensures that IROFS are available and reliable to perform their function when needed to comply with the performance requirements of 10 CFR 70.61 and 10 CFR 70.62.
- b. Inspection Guidance. Observe surveillance activities to verify that they are being conducted safely and in accordance with regulatory requirements.

Select surveillance activities to observe based on the risk significance of the equipment involved.

1. Verify that surveillance tests and/or test data for the selected IROFS meet the requirements of the Integrated Safety Analysis (ISA) and/or other license requirements.
2. Verify that the surveillance test, if identified as a management measure, adequately demonstrates that the IROFS is capable of performing its intended safety function under conditions as close as possible to those described in the ISA.
3. Verify that the surveillance test attributes include the following:
 - (a) Preconditioning;
 - (b) The effects of testing on the plant have been adequately addressed;
 - (c) Acceptance criteria is clear and demonstrates operational readiness, and is consistent with the supporting design calculations and other licensing documents;
 - (d) The test equipment is calibrated, and is within its current calibration cycle;
 - (e) The test equipment used is within its required range and accuracy;

- (f)
- (g) The applicable prerequisites described in the test procedure are satisfied;
- (h) The affected systems or components are removed from service in accordance with approved procedures;
- (i) The test is performed in accordance with the test procedure and other applicable procedures;
- (j) Any reference setting data has been accurately incorporated into the test procedure;
- (k) Jumpers installed and/or leads lifted during testing are controlled and restored;
- (l) Electrical connections are secure and maintain their intended design function;
- (m) The test data/results are accurate, complete, and valid;
- (n) Annunciator and other alarms are demonstrated to be functional and setpoints are consistent with design documents;
- (o) Alarm response procedure entry points and actions are consistent with plant design/licensing documents;
- (p) The test equipment is removed after testing;
- (q) The test frequency was adequate to demonstrate operability and reliability;
- (r) After completion of testing, equipment is returned to the positions/status required to maintain the system operable in accordance with approved procedures; and
- (s) Any problems noted during testing are appropriately documented;

Attend a sample of pre-job briefings, witness the test when it is performed, and attend any post-test critiques, as applicable.

If it is not possible to observe the test as it is performed, as a minimum, perform a review of the completed test procedure and the recorded data. Determine if the documentation contains any anomalies or unexpected data.

Based on the availability of time, the inspector may also verify testing is being conducted in accordance with vendor manuals for selected components.

02.02.1 Identification and Resolution of Problems.

- a. Inspection Requirement. Verify that the licensee is identifying surveillance-testing problems at an appropriate threshold and entering them in the corrective action program.

For a sample of significant surveillance testing problems documented in the corrective action program, verify that the licensee has identified and implemented appropriate corrective actions.

- b. Inspection Guidance. Evaluate the condition reports for test results that did not meet the acceptance criteria, results of engineering evaluation, root cause analyses, and bases for returning to operable status.

The inspector should use the guidance in Attachment 02, "Plant Status," Section 02.05, "Identification and Resolution of Problems," when verifying the effectiveness of corrective actions.

88135.22-03 RESOURCE ESTIMATE

This inspection is estimated to take 64 hours annually for sites with two resident inspectors and 24 hours for sites with only one resident inspector. Time spent conducting activities associated with this procedure should be charged to Inspection **Procedure** (IP) 88135. Completion of surveillance testing inspection activities should be documented in the quarterly inspection report for the quarter in which they were performed.

88135.22-04 REFERENCES

- 04.01 10 CFR 70.61, "Domestic Licensing of Special Nuclear Material," Subpart H, "Performance Requirements"
- 04.02 10 CFR 70.62, "Safety Program and Integrated Safety Analysis"
- 04.03 NUREG-1513, "Integrated Safety Analysis Guidance," June 2004

88135.22-05 PROCEDURE COMPLETION

Inspection of the minimum sample size will constitute completion of this procedure. The minimum sample size is recommended to consist of at least 1 sample per quarter with a total of 6 samples per year for a facility with one resident inspector and at least 3 samples per quarter with a total of 16 per year for a facility with 2 resident inspectors

END

Attachment: Revision History for IP 88135.22

Attachment 1 - Revision History for IP 88135.22

| Commitment Tracking Number | Accession Number Issue Date Change Notice | Description of Change | Description of Training Required and Completion Date | Comment and Feedback Resolution Accession Number |
|----------------------------|---|---|--|---|
| N/A | ML13233A177 01/31/14 CN 14-004 | IP 88135 revised in its entirety. ¹ Attachment 88135.22 is new. | N/A | ML13354B914 |

¹ Specific changes include:

1. Breakout of inspection requirements into attachments.
2. Incorporated specific language requiring that inspection planning be risk-informed.
3. Incorporated specific language requiring inspectors to address corrective action program effectiveness when performing inspections.
4. Where it was determined that to maintain specific program elements within the 88135 base procedure (such as elements related to fire protection) would make the procedure too cumbersome, these elements were broken out separately using attachments.
5. Incorporated program weaknesses identified in the Burgess Report recommending inspection procedures focus less on the observation of maintenance procedures and more on post-maintenance testing and surveillance testing.
6. Revised format to comply with the requirements of IMC 0040.