
INSPECTION PROCEDURE 71114 ATTACHMENT 02

ALERT AND NOTIFICATION SYSTEM EVALUATION

Effective Date: January 1, 2025

PROGRAM APPLICABILITY: 2515 A

71114.02-01 INSPECTION OBJECTIVE

To evaluate the licensee's compliance with the testing and maintenance requirements specified in the Federal Emergency Management Agency (FEMA)-approved Alert and Notification System (ANS) Design Report **assigned to them** and supporting letters for the primary and backup ANS. Implementation of this procedure will require an understanding of the FEMA-approved design report.

71114.02-02 INSPECTION REQUIREMENTS

02.01 Primary and Backup ANS Testing System Design Evaluation

- a. Review the FEMA-approved ANS Design Report for any approved changes (since the last inspection) for understanding. Review any changes to testing procedures and maintenance program for continued consistency with the requirements in the design report.
- b. Review the licensee's Emergency Plan (E-Plan) commitments, if any, concerning the primary and backup ANS testing and procedure(s) to determine licensee compliance with the design report and E-Plan.
- c. Evaluate the adequacy of primary and backup ANS testing, **if applicable, per the ANS Design Report.**

02.02 Program Review **for Siren-Based ANS Systems**

- a. Review any changes to the primary and backup ANS methods or systems for consistency with the FEMA design report.
- b. Review primary and backup ANS testing and maintenance program and procedures. If possible, interview individuals responsible for the maintenance of the system. If this is not a responsibility of the licensee, per the approved ANS Design Report, then this interview is not required.
- c. Observe, if possible, a primary and/or backup ANS test and evaluate procedure usage (e.g., determine the timeliness of data collection and effectiveness of interaction between licensee and responsible governmental staffs on apparent siren test malfunctions).

- d. Review a sample of corrective actions related to the primary and backup ANS.
- e. Determine whether corrective actions have been effective in correcting primary and backup ANS problems.

02.03 Requirements for Non-Siren ANS systems

- a. Review the **FEMA-approved ANS Design Report** for any changes (since the last inspection) for understanding.
- b. **Review the ANS Design Report for any assigned licensee responsibilities and review to ensure compliance.**
- c. Evaluate testing, corrective actions, and maintenance **as approved in the ANS Design Report if assigned to the licensee.**

02.04 Requirements for Backup ANS Capability

- a. Identify the licensee's backup means for the ANS.
- b. Perform the backup system inspection requirements if the backup ANS utilizes a hardware system (e.g., sirens, tone alert radios, etc.) under the licensee's control and for which the licensee performs testing and maintenance activities in accordance with the FEMA-approved ANS Design Report.
- c. Review the licensee's confirmation that the capability exists and determine that any FEMA-identified deficiencies or areas requiring corrective action have been corrected if the backup ANS is not under the licensee's control (e.g., off-site response organization (ORO) route alerting, reverse phone dialing systems maintained by the OROs).

71114.02-03 INSPECTION GUIDANCE

Evaluation of the primary and backup ANS testing program design need only be performed once. Subsequent inspections shall assess any changes implemented since the initial evaluation.

03.01 Siren Testing System Design Evaluation

- a. Review for understanding the FEMA-approved primary and backup ANS **Design Report** documents for the siren system. System documentation is available in system evaluation reports or may be available from licensee system descriptions. **The ANS Design Report is also available from FEMA.**
- b. Review siren system testing procedures and determine compliance with commitments **specified in the ANS Design Report.**
- c. Verify siren procedures, as performed, test the components of the system necessary for the system to perform its design function as described in the FEMA-approved **Design Report**. For example:
 - 1. The test verifies that the siren received the activation signal.

2. The test verifies that the siren processed the activation signal.
3. The test verifies that all functions expected for the test responded to the activation signal.
4. The test is designed to verify the ability of the siren to process activation signals and perform its design function.
5. The test verifies the ability to activate the sirens from all control locations specified in the FEMA-design report.
6. The test credits any devices or components that may not be operable for the FEMA approved configuration (e.g., components requiring AC power in an AC power-independent design).
7. The pass/fail criteria are clearly understood.

Note: Actions performed in advance of a scheduled test **may** mask the actual as-found condition of the siren system when the scheduled test is performed (i.e., preconditioning). Pre-testing the siren equipment and correcting identified deficiencies prior to a regularly scheduled test is incompatible with the ANS **Design Report** as a uniform and valid indicator of the siren system reliability to perform its safety function. Unplanned corrective maintenance needed to restore siren system operability, and the post-maintenance testing associated with that maintenance, prior to a regularly scheduled siren test, is acceptable.

03.02 Program Review

- a. Determine if a significant change has occurred to the primary and/or backup ANS. If such changes have been implemented, verify that FEMA approval was obtained. Examples of what constitutes a significant change to the primary or backup ANS include:

1. **addition, upgrading, or deletion/re-location of alerting devices**
2. a change to maintenance methods that is not addressed in the design report
3. a change to testing methods that is not addressed in the design report
4. a change to administrative control of special alerting devices

If a question arises as to whether a change is significant such that it requires prior FEMA approval, or that a change has altered the original primary and/or backup ANS design such that it no longer appears to meet commitments, contact **the Office Nuclear Security and Incident Response (NSIR), the EP program office**.

- b. Review primary and backup ANS program and procedures to demonstrate the licensee's compliance with commitments in the FEMA-approved **Design Report** and emergency plan. The review should:
 1. Verify required tests and maintenance adequately addresses commitments made.
 2. Verify maintenance and testing records are maintained in accordance with site procedures.

3. Verify post maintenance testing required by site procedures is performed.
 4. Verify a protocol exists for reporting of primary and/or backup ANS equipment failures found during normal operation or testing and are reported in a timely manner to the licensee.
 5. Evaluate the primary and backup ANS test program(s), maintenance program, or procedures for flaws or deficiencies that could result in an unintended loss of the offsite officials' capability to activate the primary and/or backup ANS.
- c. If possible, observe a primary and/or backup ANS test. Verify it is conducted in accordance with the approved procedure and, as conducted, it supports the previous determination that the design of testing is adequate.
1. Review the method used for collection of test data and determine if it is timely such that an ANS failure would be recognized immediately. Some testing processes rely on a visit to the siren to determine test success and siren status. This may delay collection of data for a period. While this is not desirable, it is acceptable.
 2. Verify that data is consistently collected in a reasonable (not absolute) time frame, at least before the next test, but preferably within a couple of days. Verify that data collection actually gathers information on primary and backup ANS status rather than just the conduct of the test.
 3. As applicable, observe the effectiveness of the interaction between the licensee and ORO staffs during the tests and actions taken on test failures.
- d. Review the system test and maintenance records since the last inspection to identify problems that should have been entered into the corrective action program for resolution by the licensee. In addition:
1. Review any response to significant events that may have impacted the operability of the siren system (e.g., high winds, ice storms, lightning strikes, floods, etc.). Determine the timeliness of problem resolution efforts made to recover from such events.
 2. Determine whether problems are recurrent in certain sirens, or siren areas, and review subsequent licensee corrective actions. Review records of any spurious siren activations and associated corrective actions.
 3. Determine if siren repairs were unnecessarily delayed due to inadequate and/or delayed corrective actions (e.g., inappropriate priority assigned to repair efforts, multiple instances of apparent lack of spare parts).
- e. Determine whether the licensee' corrective actions have been effective in resolving primary and backup ANS problems.

03.03 Requirements for Non-Siren ANS Systems

Note: This inspection element should be implemented only when non-siren ANS systems are used as the primary notification method in an area of the emergency planning zone (EPZ).

- a. Review applicable design documents for understanding of features important to testing non-siren primary and backup ANS.
 1. System documentation is available in the FEMA-approved ANS **Design Report** or may be available from licensee system descriptions. For example, the primary alerting system may consist of tone-alert radios (TARs) distributed to individual homes. The non-siren ANS may include reverse telephone calling systems, **the Integrated Public Alert and Warning System (IPAWS)**, or route alerting as approved by FEMA.
 2. The FEMA-approved primary and backup ANS design report should be reviewed to understand what systems constitute the non-siren ANS, as well as the back-up means of alerting (e.g., route alerting as a back-up means of notifications for TARs).
- b. The testing and maintenance activities for non-siren systems will vary in scope and nature depending on the system structure and the feasibility of testing.
 1. Corrective actions may differ from siren systems. The non-siren portions of the ANS or backup system may be beyond the licensee's control. For example, TARs in private homes cannot be inspected. Accordingly, FEMA typically includes requirements in the ANS Design Report for certain actions intended to provide a modicum of assurance of availability and reliability, in lieu of direct testing and maintenance. The inspector should review the FEMA-approved Design Report and assess the adequacy of the licensee's performance of these test and maintenance activities in accordance with the FEMA-approved primary and backup ANS Design Report. The FEMA-approved ANS Design Report will contain the commitments that should be used for criteria, but ineffective maintenance should be noted in any case. Typical requirements may include one or more of the following:
 - New residences within the EPZ are offered the opportunity to obtain a TAR. There are many ways to accomplish this (e.g., monitoring new public utility service connections and community "welcome wagon" initiatives). It is expected that licensees will have a method to be informed of new housing and businesses in the regions covered by non-siren ANS.
 - Residences assigned a TAR are contacted annually to determine whether the equipment is operable. This may be done through a letter offering new batteries or other methods.
 - Telephone-based systems are updated periodically and tested periodically as per the approved **FEMA-approved ANS Design Report**.
 - **Licensees may be required, per the FEMA-approved ANS Design Report, to evaluate IPAWS performance over a designated frequency. This review typically consists of evaluating performance issues and the resolution of them by FEMA or other offsite response organizations.**
 2. The back-up means of notification for a non-siren ANS system (e.g., route alerting or telephone systems) shall be evaluated to verify that populations in the EPZ are capable of being notified during an emergency.

03.04 Requirements for Backup ANS Capability

- a. Appendix E, § IV.D.3 of 10 CFR Part 50 requires that the ANS capability include administrative and physical means for a backup method of public alerting and notification. Refer to NSIR-DPR-ISG-01, "Emergency Planning for Nuclear Power Plants," § IV.J, "Backup Means for Alert and Notification Systems," for additional information on an acceptable method of complying with this requirement.

ANS inspections should focus on changes made to the FEMA-approved ANS Design Report, relevant E-Plan commitments, supporting testing and maintenance procedures; and the licensee's performance on meeting the backup ANS commitments.

The inspector should review the licensee's progress on complying with the backup ANS requirement until full compliance is reached.

The backup ANS capability is not required to meet the performance requirements of the primary alerting method. A backup ANS that does not meet the design objective established in § IV.D.3 of Appendix E for the primary ANS cannot serve as a compensatory action for a planned outage of the primary ANS capability.

71114.02-04 RESOURCE ESTIMATE

Direct inspection effort for this attachment is estimated to be, on average, **4 hours biennially for siren-based ANS, and 2 hours biennially for non-siren-based ANS**, regardless of the number of reactor units at a site.

71114.02-05 PROCEDURE COMPLETION

This procedure is considered complete when all the inspection requirements listed in the procedure have been satisfied. For the purpose of reporting completion in the Reactor Program System (RPS), the sample size is defined as 1. A sample size of 1 will be reported in RPS when the procedure is completed in its entirety.

71114.02-06 REFERENCES

NSIR/DPR-ISG-01, "Emergency Planning for Nuclear Power Plants" (ML1130105230)

SRM SECY-23-0010, "Recommendation for Approval to Retire The Reactor Oversight Process Performance Indicator For Licensee Alert And Notification System Availability and to Develop a Performance Indicator for Emergency Response Facility and Equipment Readiness Availability," (ML23244A282)

END

Attachments:

Attachment 1 Revision History for IP 71114.02

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Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession No. (Pre-Decisional, Non-Public Information)
N/A	06/29/06	Completed 4-year historical CN search	None	N/A
N/A	ML061660121 06/29/06 CN 06-016	Rewrite to include evaluation of siren maintenance program in addition to the testing program, clarify what constitutes a significant system change, and align the procedure with the EP SDP. Also, change agency reference from FEMA to DHS.	Provided training at last national EP counterpart meeting. January, 2006	ML061480344
	ML092470548 12/07/09 CN 09-031	Changes in inspection requirements and guidance, pertaining to FEMA-approved siren system design report and evaluation of back-up means of notifications for non-siren ANS systems. Also revised number of hours allowed for inspection, per ROP Re-alignment review, 2009. Also, change agency reference from DHS to FEMA.	None	ML092990272
N/A	ML12095A256 05/29/12 CN 12-008	Added: Inspection Requirement 02.04 and guidance section 03.04 to address the new EP rule requirements for backup ANS capability Section 71114.02-05 "References" Removed "Inspection Bases" in accordance with IMC 0040 "Preparing, Revising and Issuing Documents for the NRC Inspection Manual" formatting expectations.	Provided at EP Face-to-Face counterpart meeting 09/09/2011	ML12095A266

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession No. (Pre-Decisional, Non-Public Information)
N/A	ML15253A596 07/21/16 CN 16-017	<p>Editorial changes: Align procedure with standard section numbering format of completion section under 711xx.xx-05 and the references under 711xx.xx-06 (see ROP FBF 71114-1925)</p> <p>Various branch chief editorial changes such as changing inspection guidance step 03.01.c from questions to statements.</p> <p>Removed past one-time requirements to:</p> <p>For sites with an existing FEMA approved backup method verify it is implement in its E-plan by December 24th 2012</p> <p>For sites without an existing FEMA approved backup method, verify the licensee submitted a revised ANS Design Report to FEMA no later than June 24, 2013 and install/implement the approved backup ANS capability with 365 days of FEMA's approval of the updated ANS Design Report, or no later than June 22, 2015, whichever occurs first.</p> <p>Technical change – removed detail discussing expected FEMA actions.</p> <p>Added to section 71114.02-05 “Procedure Completion” the IP 71152 “Problem Identification and Resolution” expectation for routine PI&R activity reviews to be approximately 10 to 15% of the baseline cornerstone inspection procedure resources estimates. The 10 to 15% approximation is based on the overall expected inspection effort and is a general estimate only.</p>	None	ML15253A603 71114.02-1925 ML15253A606

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession No. (Pre-Decisional, Non-Public Information)
N/A	ML24113A265 12/12/24 CN 24-042	Removed reference to the ANS-PI (see SRM SECY-23-001, ML23244A282). Added guidance for non-siren based ANS methods.	None	ML24124A027