

EMERGENCY RESPONSE ORGANIZATION STAFFING AND AUGMENTATION SYSTEM

Effective Date: 10/01/2016

PROGRAM APPLICABILITY: 2515 A

71114.03-01 INSPECTION OBJECTIVE

To evaluate the adequacy of the emergency response organization (ERO) on-shift and augmentation staffing levels and verify that the **augmentation activation system** is adequate to allow meeting ERO augmentation **staffing** and facility activation **time** commitments. **IMC 2515 emphasizes performance-based inspections should observe activities and the results of licensee programs over reviewing procedures or records. If no changes have been made to a given inspection requirement area since the last performance of this attachment, observation of the inspection area requirement task should be given consideration.**

71114.03-02 INSPECTION REQUIREMENTS

02.01 Review ERO On-shift and Augmentation Staffing.

- a. Determine licensee E-plan commitments for ERO on-shift and augmentation staffing levels including alternative emergency response facilities, and the ERO activation process.
- b. Review the licensee's ERO on-shift and augmentation staffing described in the licensee's E-plan to verify the licensee's compliance with its commitments and the conclusions of the detailed on-shift staffing analysis (**OSA**) required by Appendix E §IV.A.9.
- c. **Verify** the processes for maintaining required on-shift and augmentation staffing levels meets E-Plan commitments.
- d. Review the effectiveness of corrective actions related to ERO **on-shift and augmentation** staffing levels.

02.02 Review of ERO Augmentation **Activation** System.

- a. Review any changes to the ERO **augmentation activation system** and process. Initial procedure implementation verified the adequacy of **the ERO augmentation activation system** design.

- b. Review the results of ERO augmentation drills and/or tests.
- c. Review a sample of ERO **augmentation activation system** program aspects.
- d. Review a sample of corrective actions related to **the ERO augmentation activation system and process** and assess their effectiveness.

71114.03-03 INSPECTION GUIDANCE

ERO augmentation tests that require personnel to report to their emergency response duty locations are not mandatory. They do however provide a high level of assurance that activation goals can be met. Many sites recognize the value of such “report-in” tests and have committed to perform them periodically. However, other combinations of testing and verification, if properly implemented, can provide a reasonable level of assurance. Commitments on this subject are contained in the licensee E-Plan and may vary between sites.

After initial inspection of the ERO on-shift and augmentation staffing and the **augmentation activation system** design, subsequent inspections need not repeat the review, but should focus on changes to the ERO on-shift and augmentation staffing, the **augmentation activation system** design, conduct of system drills and tests, and the effectiveness of corrective actions.

The following inspection guidance section provides methods and examples of how the inspection requirements of this procedure could be completed. Use of the following guidance is at the discretion of the inspector.

03.01 Review ERO On-shift Staffing and Augmentation.

- a. Review the site E-Plan to determine the licensee’s commitments for ERO on-shift and augmentation staffing levels, ERO activation timeliness, and associated facility activation goals.
 - 1. Identify any changes to the ERO on-shift and augmentation staffing made by the licensee without prior NRC approval under 10 CFR 50.54(q)(4) and evaluate under 03.01.b.
 - 2. Determine the licensee’s commitments with regard to how the emergency response activation timeliness is assessed (e.g., when the “clock starts” and the “clock stops”). In the absence of an approved alternative, the NRC expects that the clock starts with the declaration of an Alert or higher emergency classification level and ends when the facility is ready to assume its assigned functions under the E-Plan and relieve the **ERO on-shift** staff of those functions.
- b. Review the licensee’s ERO on-shift and augmentation staffing described in the licensee’s E-plan to verify the licensee’s compliance with commitments, and to verify that the **ERO on-shift** staffing is supported by the conclusions of the staffing analysis.
 - 1. NUREG-0654/FEMA-REP-1 Rev 1 “Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of

Nuclear Power Plants," Table B-1 should be used to assess ERO on-shift and augmentation staffing levels unless an NRC-approved/acceptable alternative is contained within the licensee's E-Plan.

2. Review the licensee's ERO on-shift staffing commitments against the licensee's ERO on-shift staffing analysis to verify that the ERO on-shift staffing is supported by the conclusions of the staffing analysis.
3. Review changes to the staffing analysis. A complete review of the analysis is not expected. Changes that appear to support a reduction in on-shift staffing should be evaluated.

Note: Changes made to the emergency plan on-shift staffing requires a 10 CFR 50.54(q) evaluation of the change to the emergency plan (i.e. number of individuals or function assignments) as well as 10 CFR 50.54(q) of the corresponding change to the OSA. The 10 CFR 50.54(q) evaluation of the new OSA is to be performed against the emergency plan's OSA being changed or replaced.

4. Verify that backup processes and/or procedures can be implemented in the event the normal ERO augmentation activation system is not available.
- c. Review any changes to the ERO staffing augmentation processes against commitments in the licensee's E-Plan. Process details may be found in the emergency plan implementation procedures.
1. An effective ERO staffing augmentation processes should include the following elements, sufficient to provide reasonable assurance, that ERO activation, augmentation, and associated facility activation goals can be met.
 - a. Current ERO duty roster that lists only qualified personnel to fill positions required by the E-Plan. Qualification should include:
 - 1) ERO position specific training.
 - 2) Respirator qualifications and respirator spectacles where appropriate.
 - 3) Training for: the proper response to ERO activations for events such as, a radiological event, a hostile action event, as well as the use of alternative facilities; onsite protective measures for staff safety, clear reporting instructions in the event the plant is inaccessible.
 - b. A process to ensure augmentation staffing levels are met and a sufficient number of individuals are available to staff their assigned positions on a continuous basis (e.g., ERO on-shift staffing processes ensure minimum staffing levels are maintained, sufficient depth of qualified individuals, formal rotational assignment schedule).

- c. A process capable of ensuring timely augmentation of ERO on-shift staffing in accordance with E-Plan commitments and facility activation goals. The augmentation staff roster may be divided into ERO teams or the licensee may employ an “all-call” approach. The all-call approach may involve all responders, reporting to the site with the first to arrive assuming the ERO positions.
 - d. An ERO augmentation staff roster review process that ensures staff in positions with E-Plan commitments and facility activation goals continue to be capable of meeting the committed time.
2. Review the implementation of the ERO staffing augmentation process(es) as follows:
 - a. If available, the performance of an actual event or drill where personnel reported to their duty locations and were timed, OR
 - b. If available, the performance of drills (e.g., unannounced off-hour report-in drills, unannounced off-hour “call-in” drills, pager/communications tests, etc.) where personnel response was timed. OR
 - c. The performance of verifying sufficient numbers of ERO members live within the appropriate travel time from their duty locations.
 3. Review a sample of training records of ERO duty roster members to verify that qualifications are current.
 4. Review a sample of ERO on-shift staff rosters for normal business, after hours, recent weekends and holidays. Focus on positions which are not part of the normal operations on-shift crew such as health physics technicians, chemistry technicians, and maintenance technicians. Verify that all positions are staffed on a 24-hour basis in accordance with E-Plan commitments.
- d. Review a sample of CAP items related to ERO staffing inadequacies and verify the licensee has implemented adequate corrective actions. Corrective actions arising from the OSA are expected to have interim compensatory measures to address staffing shortfalls within 30 days and long-term corrective actions implemented within 24 months.

03.02 Review of ERO Augmentation System.

- a. Review changes made to the ERO augmentation activation system hardware, software or procedures since the previous inspection and determine the impact on the effectiveness of the process.
 1. Determine whether the system is still capable of ensuring timely augmentation of ERO on-shift staffing in accordance with E-Plan activation goals for primary and alternate facilities. Hardware systems, (e.g., pagers, cell phones, automated

2. telephone systems) may be vendor-owned and operated. Changes to these systems may not be apparent, but the licensee is expected to ensure the systems are maintained **by conducting** system tests or surveillance activities.
 3. Review the licensee's process for keeping the **ERO** augmentation system (or call out roster) current with ERO member names and **contact information**. Determine whether system operation is periodically verified by the licensee.
- b. Review **all results of actual E-Plan event activations and** a sample of ERO primary and backup **augmentation activation system** drills (e.g., call-in, report-in) results since the last inspection.
1. Determine whether the results have been evaluated accurately and whether the conclusions reached are valid.
 2. Determine whether tests of the system adequately verify ERO augmentation times (e.g., call-in drills are supplemented with travel time verification and/or report-in drills are conducted periodically).
 3. **Verify system testing frequencies meet E-Plan commitments.**
 4. If no tests, drills or implementations of the backup ERO staffing **augmentation activation system** have been performed **interview** a sample of ERO members to determine if they know how to implement and respond to the backup system.
- c. Review a sample of program aspects such as:
1. Verify that equipment to notify individual ERO members is available and functional (e.g., pagers, cell phones, automated telephone systems).
 2. Review a sample of training records to verify that ERO members are trained in the proper response to the **ERO augmentation** notification system.
 3. Review the procedures for ERO augmentation notification system activation to ensure the capability of timely augmentation of **ERO on-shift** staffing and facility activation goals.
 4. Review a sample of training records to verify that personnel expected to operate the ERO call out **primary and back-up systems have been** trained.
- d. Verify that weaknesses identified during ERO augmentation drills, or failures in system tests, were entered into the licensee's **CAP** and that the licensee has initiated corrective actions to ensure a functional augmentation process.
1. Review a sample of the weaknesses identified during ERO augmentation drills, or failures in system tests, performed since the last inspection, to identify any trends or repeat failures and assess the effectiveness of corrective actions.

2. Review corrective actions taken for repeat failures and assess the adequacy of corrective actions.
 - a. Consider the disposition of personnel performance problems as well as equipment failures.
 - b. A repeat item does not necessarily indicate a failure of the corrective actions. However, a trend of repeat failures would bring into question the licensee's ability to augment the ERO and activate facilities within the **E-plan** committed goals and may require additional effort to determine the adequacy of the corrective action process.
 - c. This effort may require interviews with management or other individuals and further review of licensee corrective action program.
3. Review all licensee self-assessments of ERO augmentation **activation** drills and system testing since the last inspection.
 - a. Determine the coverage and depth of the assessments, knowledge level of the reviewers, and whether the disposition of problems was appropriate.
 - b. Determine whether identified problems were placed in the corrective action program and resolved.

71114.03-04 RESOURCE ESTIMATE

Direct inspection effort for this attachment is estimated to be, on average, between 6 hours and 10 hours biennially, regardless of the number of reactor units at a site.

71114.03-05 PROCEDURE COMPLETION

This procedure is considered complete when all the inspection requirements listed in the procedure have been satisfied. **Routine reviews of problem identification and resolution activities performed in this attachment should equate to approximately 10 to 15 percent of the resource estimate range described above.** 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.

71114.03-06 REFERENCES

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

NEI 10-05, "Assessment of On-Shift Emergency Response Organization Staffing and Capabilities"

END

Attachment 1 - Revision History For IP 71114.03

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 (Pre-Decisional, Non-Public Information)
N/A	10/25/06	Completed four-year historical CN search	N/A	N/A
CN 06-029	ML061790107 10/25/06	Partial re-write of document structure to add objective for explicit review of ERO staffing levels for adequacy using NUREG-0654, Table B-1 as the standard. Added one Inspection Requirement (.02.02.c) sub-section to make one-to-one correlation with Inspection Guidance. Added clarification on the review of ERO responder training and qualifications.	No	
CN 07-026	ML072250458 08/24/07	Clarification in guidance section, for inspector verification of timeliness, on ERO staff augmentation	No	
N/A	ML12095A279 05/29/12 CN 12-008	Revised to reflect the final EP rulemaking with regard to alternative facilities and on-shift multiple responsibilities (staffing analysis). Added guidance on augmentation timing start and stop. Editorial changes to §03.01.c and §03.02.c to relocate some guidance to be in the proper section. Editorial changes to clarify use of "weakness" in §03.02.d (weaknesses are observed only in drills and exercises). Added new §03.06. Other editorial changes for clarity. Removed "Inspection Bases" in accordance with IMC 0040 "Preparing, Revising and Issuing Documents for the NRC Inspection Manual" formatting expectations.	Provided at 2011 annual EP counterpart meeting.	ML12095A296

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 (Pre-Decisional, Non-Public Information)
N/A	ML15253A855 07/21/16 CN 16-017	<p>03.02.a.1 – Added “for primary and alternate facilities” to description of facility activation</p> <p>Deleted 03.03 step 3 “Determine whether the licensee has completed the detailed on-shift staffing analysis required by 10 CFR 50 Appendix E §IV.A.9 by the required implementation date of December 24, 2012.” And deleted 10 CFR 50.54(q)(4) or (q)(5) from subsequent “Note” both based on due date past.</p> <p>Removed Note concerning NSIR’s review responsibility for initial detailed ERO on-shift staffing analysis</p> <p>Added note to step 03.01.b.3 describing a 10 CFR 50.54(q) is required for a change to the emergency plan’s OSA.</p> <p>Incorporated numerous Branch Chief editorial comments.</p> <p>Editorial change – Align procedure with standard section numbering format of completion section under 711XX.XX-05 and the references under 711XX.XX-06 (see ROP Feedback Form 71114-1925)</p>	None	<p>Comment Resolution - ML15253A738</p> <p>Feedback Form – 71114.03-1925 ML15253A731</p>

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 (Pre-Decisional, Non-Public Information)
		<p>Added to section 71114.03-05 "Procedure Completion" the IP 71152 "Problem Identification and Resolution" expectation for routine PI&R activity reviews to be approximately 10 to 15 percent of the baseline cornerstone inspection procedure resources estimates. The 10 to 15 percent approximation is based on the overall expected inspection effort and is a general estimate only.</p>		