

Whitepaper for Drill and Exercise Performance Indicator Criteria Revision

Purpose

This whitepaper is being presented to discuss the basis of the NEI 99-02 emergency preparedness (EP) performance indicator (PI) guidance for Drill and Exercise Performance (DEP) and its relationship to EP 10 CFR 50 regulatory compliance in effort to address a discussion of the implementation of the final emergency preparedness rule and related guidance documents that occurred during a public meeting held from Tuesday, February 14 thru Thursday, February 16, 2012, in Arlington Texas.

Background

NSIR senior management and staff engaged in a discussion with industry and NEI representatives concerning the DEP PI. The discussion centered on what constituted a successful DEP PI notification opportunity and the 10 CFR 50.47(b)(5) and Appendix E section IV.D.3 requirements regarding capability to notify responsible offsite authorities within 15 minutes of declaring an emergency. An industry representative suggested that the current DEP PI criterion for notification be revised to one that aligns better with the regulatory requirement. The suggestion to revise the DEP PI definition was supported by senior NSIR office management.

The reactor oversight program (ROP) PI reporting was established, in part, to improve the efficiency of inspection resources by establishing a quantifiable performance reporting process that contained thresholds that equated to levels of licensee performance that indicated a need for greater NRC oversight. Commission paper SECY-99-007 described PI performance thresholds corresponding to levels of performance ranging from, requiring no additional regulatory oversight (the "Licensee Response Band" above the Green/White threshold) to, increased oversight (the "Increased Regulatory Response Band" below the Green/White threshold) to, specific NRC actions (the "Required Regulatory Response Band" below the White/Yellow threshold) to, unacceptable loss of safety margin (below the Yellow/Red threshold).

Objective performance evaluation thresholds are intended to be used to help determine the level of regulatory engagement appropriate to licensee performance in each cornerstone area. Furthermore, based on past experience it is expected that a limited number of risk-significant events will continue to occur with little or no indication of declining performance. Follow up inspections will be conducted to ensure that the cause of the event is well understood and licensee corrective actions are adequate to prevent recurrence.

MC 308 Attachment 1 "Technical Basis for Performance Indicators," describes the Green band as acceptable performance in which cornerstone objectives are fully met; nominal risk with nominal deviation from expected performance. Performance problems would not be of sufficient significance to escalate NRC engagement. Licensees would have maximum flexibility to "manage" corrective action initiatives. The threshold for this band is performance outside the normal range of industry historical performance and risk. Said slightly different, a licensee that is able to reach at least one ORO for the purpose of emergency notification within 15 minutes 90% of the time or better would likely not need additional NRC inspection oversight. This threshold is not intended to imply that any licensee that is successful in notifying at least one ORO within 15 minutes 90% of the time is in compliance with the 10 CFR 50.47(b)(5) and Appendix E section IV.D.3 as demonstrated by licensees having a DEP PI in the green band yet still receiving an inspection finding.

Discussion

A recent revision to the EP SDP significance examples for lost or degraded notification capability and to inspection procedure 71114.01 "Exercise Evaluation" to add additional inspection detail addressing offsite notification expectations has created questions and exposed a misunderstanding regarding the basis and intended use of EP DEP PIs and their relationship to regulatory compliance.

Regulatory Requirements

10 CFR 50.47(b)(5) and 10 CFR Part 50 Appendix E §IV.D.1 and D.3 address the regulatory requirements for making the offsite notification to State and local response organizations (offsite response organizations) of an emergency declaration. These regulations state:

§ 50.47(b)(5) Procedures have been established for notification, by the licensee, of State and local response organizations the content of initial and follow-up messages to response organizations and the public has been established . . .

§ IV.D.1. Administrative and physical means for notifying local, State, and Federal officials and agencies and agreements reached with these officials and agencies for the prompt notification of the public and for public evacuation or other protective measures, should they become necessary, shall be described. This description shall include identification of the appropriate officials, by title and agency, of the State and local government agencies within the EPZs.

2. * * * * *

3. A licensee shall have the capability to notify responsible State and local governmental agencies within 15 minutes after declaring an emergency. . . .

Guidance

Regulatory Guide 1.101 endorses the guidance in NUREG-0654 / FEMA REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," as an acceptable method of meeting the regulations in 10 CFR 50.47 and, to a lesser extent, the requirements of Appendix E. In the absence of an approved alternative, the NRC staff will use the guidance in NUREG-0654 to evaluate a licensee's compliance with the Commission's EP regulations.

NUREG-0654 section II Evaluation Criterion E.3 states:

The licensee in conjunction with the offsite response organization shall establish the content of the initial emergency messages to be sent from the plant. These measures shall contain information about the class of emergency, whether a release is taking place, potentially affected population and areas, and whether protective measures may be necessary. [emphasis added]

NEI 99-02 "Regulatory Assessment Performance Indicator Guideline," states:

"Compliance of EP programs with regulation is assessed through observation of response to simulated emergencies and through routine inspection of onsite programs. Demonstration exercises involving onsite and offsite programs, form the key observational tool used to support, on a continuing basis, the reasonable assurance finding that adequate protective measures can and will be taken in the event of a radiological emergency. This is especially true for the most risk significant facets of the EP program. This being the case, the PIs for onsite EP draw significantly from performance during simulated

emergencies and actual declared emergencies, but are supplemented by direct NRC inspection and inspection of licensee self assessment. NRC assessment of the adequacy of offsite EP will rely (as it does currently) on regular FEMA evaluations.” [emphasis added]

NEI 99-02 does not describe the PIs as a substitute or surrogate for meeting the regulatory requirements of 10 CFR 50.

The DEP PI monitors licensee timely and accurate performance in classification of emergencies, notification of offsite authorities and development of protective action recommendations (PARs). A successful notification opportunity is defined as one that offsite notification is initiated within 15 minutes of an emergency declaration; notification is considered to be initiated when contact is made with the first agency to transmit the initial notification information.

10 CFR 50 Appendix E § IV.D.1 requires the licensee to notify the State and local authorities within 15 minutes. The staff believes that until the content of the notification is relayed to all State and local officials, the licensee has not satisfied this requirement. Although the language of the rule does not explicitly state “all State and local authorities,” it does describe State and local authorities in the plural

On occasion, NRC inspectors have observed that licensee exercise controllers terminate their evaluation of the notification process at the point that initial contact is made with the first offsite authority and do not continue to observe the process to determine whether the notification demonstrated the licensee’s capability to make the notification as required by regulation.

Proposed Action

This white paper proposes the need to revise the DEP successful notification acceptance criteria to better align with regulation.

