

March 14, 2000

MEMORANDUM TO: Cynthia A. Carpenter, Chief
Generic Issues, Environmental, Financial
and Rulemaking Branch
Division of Regulatory Improvement Programs, NRR

FROM: Joseph L. Birmingham, Project Manager /RA/
Generic Issues, Environmental, Financial
and Rulemaking Branch
Division of Regulatory Improvement Programs, NRR

SUBJECT: SUMMARY OF FEBRUARY 11, 2000, PUBLIC MEETING WITH
NUCLEAR ENERGY INSTITUTE TO DISCUSS THE EMERGENCY
PREPAREDNESS SIGNIFICANCE DETERMINATION PROCESS

On February 11, 2000, representatives of various utilities, the State of New Jersey, and the Nuclear Energy Institute (NEI) met with representatives of the Nuclear Regulatory Commission (NRC) at NEI offices in Washington, DC. Attachment 1 provides a list of attendees.

The purpose of the meeting was to obtain stakeholder comments on the NRC logic diagram or Significance Determination Process (SDP) for assessing emergency preparedness inspection findings.

After introductions, the NRC distributed, *NRC Significance Determination Process for Emergency Preparedness Inspection Findings*, Attachment 2 and, *Emergency Preparedness Significance Determination Process Guidance*, Attachment 3. The NRC explained the documents to the group and requested comments. Both industry and state representatives commented and proposed changes to the documents. The proposed changes mainly involved folding the correction of program weaknesses into assessments of compliance with planning standard 50.47(b)(14). This proposal was acceptable to NRC and the NRC agreed to revise the documents.

The group also discussed whether the compliance guidance in Attachment 3 was appropriate for Manual Chapter 0609 that describes the use of the SDP. The group agreed that the compliance guidance was better suited for Manual Chapter 610* that provides guidance on inspection findings. NRC agreed to revise the applicable documents in accordance with these comments before the guidance is issued as final. After additional discussion of the program, the meeting was adjourned.

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(301)415-1123

Project No. 689
Attachments: As stated
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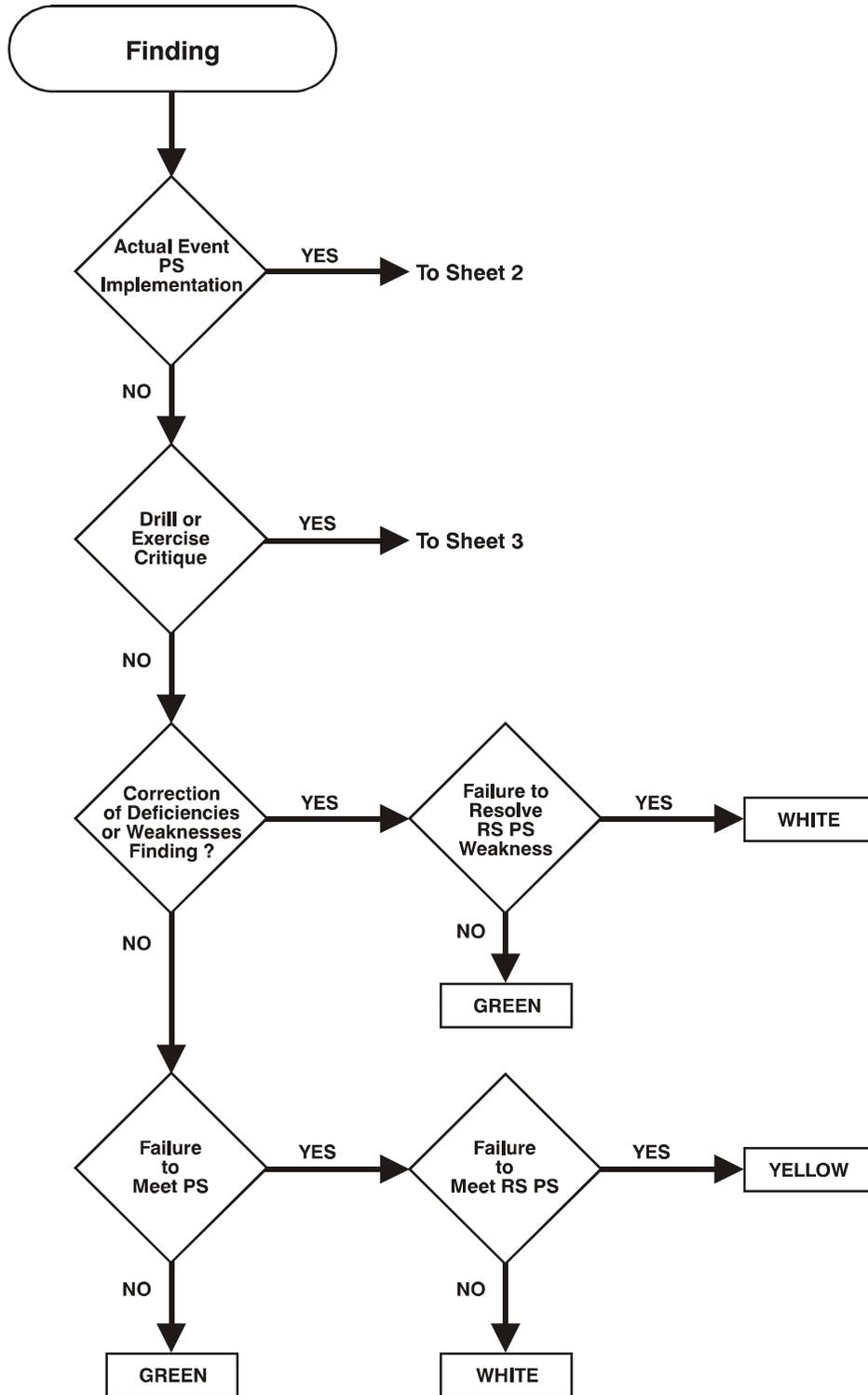
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**Emergency Preparedness PI Definition and Inspection Finding Significance Meeting
2/11/00**

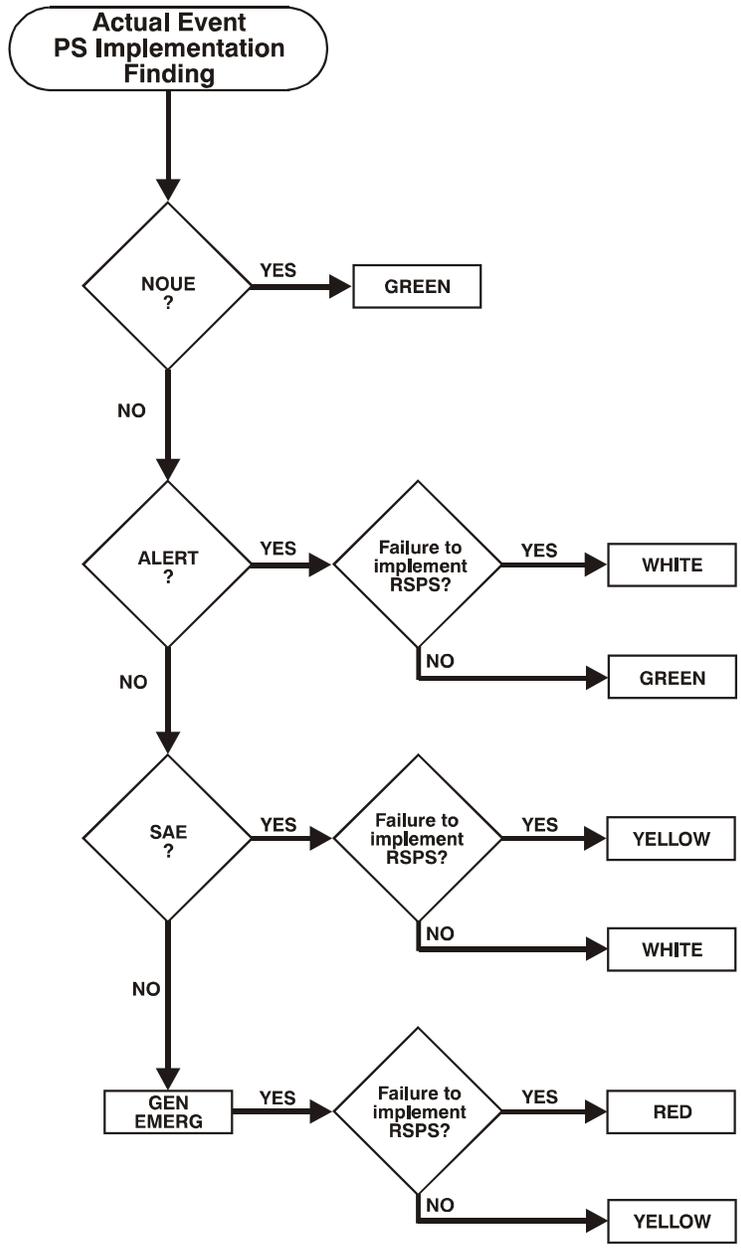
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A. Madison	NRC/NRR
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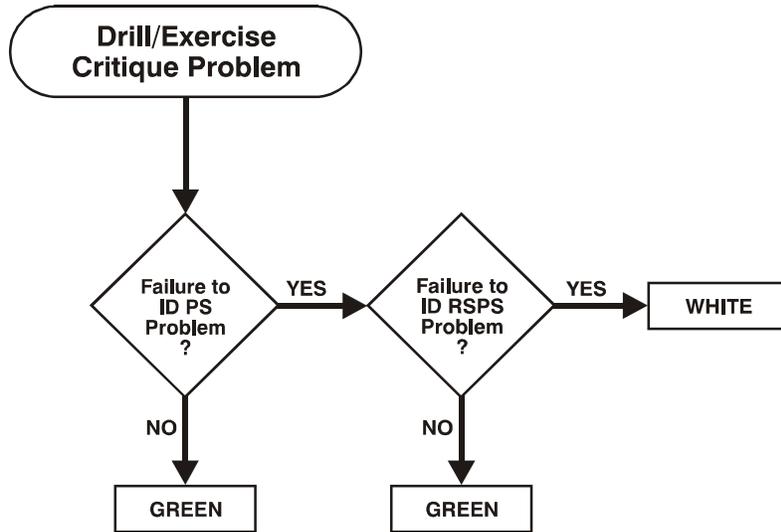
NRC Significance Determination Process for Emergency Preparedness Inspection Findings



NRC Significance Determination Process for Emergency Preparedness Inspection Findings



NRC Significance Determination Process for Emergency Preparedness Inspection Findings



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Emergency Preparedness
Significance Determination Process
Guidance

1.0 Introduction

The following guidance is provided to assist users of the Emergency Preparedness (EP) significance determination process (SDP) in the disposition of findings.

The objective of the Emergency Preparedness Cornerstone is to: *Ensure that the licensee is capable of implementing adequate measures to protect the public health and safety in the event of a radiological emergency.*

This objective is supported by a performance expectation: *Demonstrate that reasonable assurance exists that the licensee can effectively implement its emergency plan to adequately protect the public health and safety in the event of a radiological emergency.*

Licensee performance in this cornerstone is assessed by considering the relationship of performance indicators (Pis) with regard to thresholds and the significance of inspection findings. The SDP provides a method to place inspection observations in context for risk significance in a manner that allows them to be combined with PI results. This information is used to determine the level and quality of NRC oversight of the licensee.

The SDP consists of flow chart logic to disposition inspection findings into one of the following categories: "green - licensee response band," "white - increased regulatory response band," "yellow - required regulatory response band," or "red - unacceptable performance band."

During the development of EP Pis, the most risk significant areas were identified as distinct from other important program elements. These development efforts were performed by a group of EP subject matter experts with input from members of the public. The SDP methodology recognizes failures in the identified risk significant areas as more significant than findings in other program areas.

Emergency Preparedness regulations codify a set of emergency planning standards in 10 CFR 50.47(b) and requirements in Appendix E to Part 50. The more risk significant areas of EP align with a subset of the planning standards and requirements. The SDP logic uses failure to meet or implement risk significant planning standards, planning standards and other regulatory requirements as criteria for decisions. Failure to meet or implement the more risk significant planning standards results in greater significance (e.g., a white finding as opposed to a green finding.) Inspection Procedure 71114, Reactor Safety - Emergency Preparedness, provides guidance for the prioritization of inspector effort. That guidance and the SDP is based on stratification of EP requirements to emphasize the most risk significant areas of EP. The stratification is as follows:

- the most risk significant planning standards (RSPS); 10 CFR 50.47(b)(4), (5), (9) and (10) and Appendix E, section IV B, C, D(I) and D(2),

- the other planning standards (PS); 10 CFR 50.47(b)(1), (2), (3), (6), (7), (8), (11), (12), (13), (14), (15), and (116) and the parts of Appendix E not associated with the RSPS, and
- other EP related regulations, applicable orders and the commitments of the Emergency Plan (Plan).

A finding that is assessed as green does not mean that the performance associated with the finding is acceptable. The finding may represent a violation of 10 CFR. However, the safety significance of the finding is not great enough to warrant further NRC intervention and it is considered to be within the "licensee response band." Licensees are still required to return to compliance with the regulations and their commitments. However, the licensees are given the latitude to correct these findings because they are of low safety significance.

Finally, it must be noted that the design of the EP SDP ensures no false negative results, but can result in false positive results, i.e., a finding placed in context through SDP can result in a risk significance level (color) that exceeds the actual impact on public health and safety. This being the case, the use of an SDP panel to examine all findings above green is expected. Input from the licensee regarding risk significance perspective may be solicited. Risk significance perspective information may assist NRC in placing licensee performance in context with respect to the structure of EP program elements that protect the public health and safety. Additional information may support downgrading findings that do not impact the licensee's ability to meet the EP Cornerstone Performance Expectation. This final check recognizes that the EP SDP may, in some cases, characterize the risk-significance of findings in an overly conservative manner. It would be inappropriate to issue a risk significant finding due to a non-compliance that appears to meet criteria but has little impact on the Cornerstone Performance Expectation or public health and safety. However, it is expected that such cases will be rare and that in general the guidance provided herein will be implemented as written.

2.0 General Guidance for SDP Use

The following general guidance is provided to assist in using the EP SDP.

- A. RSPS means 10 CFR 50.47(b)(4), (5), (9) and (10) and Appendix E, section IV B, C, D(1) and D(2).
- B. PS means the planning standards of 10 CFR 50.47(b) and the associated requirements of Appendix E to 10 CFR 50, including the RSPS.
- C. NUREG-0654 provided guidance for licensees to use in developing a program to meet EP related regulations. NUREG-0654 is organized by PS. The Plan was assessed for adequacy against NUREG-0654 and other guidance, orders and regulations and approved by NRC. The Plan is the licensee's commitment for meeting the regulations. The Plan may have been approved with processes that differ from the guidance of NUREG-0654, but which appeared to meet the regulatory requirements.
- D. Failure to implement a PS means that Plan commitments that implement a PS were not fulfilled during an actual event. Failure to implement such commitments during a drill is a performance problem that should be corrected,

but is not a failure to *implement a PS* as the term is used in this SDP. Generally, failure to implement a PS is the result of personnel errors. The associated program elements are adequate and would have met the Plan commitments if they had been implemented. Further guidance is given in section 3.0.

- E. Failure to meet a PS means that program elements are not in compliance with the PS of 10 CFR 50.47(b) and/or the supporting requirements of Appendix E. It may be that the Plan commitments are not met, that the Plan is inadequate, that implementing procedures are inadequate, that program design is inadequate, etc. However, the measure of program compliance is the PS and its articulation in NUREG-0654, taking into consideration any deviations from NUREG-0654 (and the compensating program elements) that were approved by NRC. Further guidance is given in the section, 4.0.
- F. A regulatory requirement, as it is used in this SDP, is any EP related requirement of 10 CFR (other than the PS and the supporting requirements of Appendix E), orders applicable to the plant and commitments in the Plan.
- G. Critique of drills and exercises is meant to include any aspect of the licensee processes that contribute to the formal critique process mandated by Appendix E. This may include Quality Assurance organization reports, self assessment reports, drill and exercise critiques, etc.
- H. A violation of requirements may also involve a failure to correct weaknesses and deficiencies and/or a critique problem. The violation, the failure to correct and the critique problem should all be placed in context through SDP. The determination that results in the most significant finding should be the overall determination and should be assessed against licensee performance.
- I. Findings that are a failure to correct weaknesses and deficiencies may represent an underlying problem in the PI&R program. Such findings should be provided to the inspection team responsible for the conduct of Inspection Procedure 71152, *identification and Resolution of Problems*, for review during the next inspection.

3.0 Failure to Implement a PS

Background

This term is used to mean that during an actual event, elements of the Plan were not implemented when they should have been. Complete implementation of a PS means that all the elements of the Plan necessary to implement the PS as appropriate for the event, were implemented in a timely manner. Implementation that is less than complete may represent a failure to implement the PS if the actions of the licensee did not comply with the PS as written in 10 CFR 50.47(b). Failure of one or a few Plan elements associated with a given PS may occur and yet the licensee effort still comply with the PS. An isolated mistake in implementing the PS may not negate licensee actions that

implement the PS. Generally, failure to implement a PS is the result of personnel error(s). The associated program elements are adequate and would have met the Plan commitments if they had been implemented.

The criteria used for the collection of data for the Drill and Exercise Performance PI are not universally appropriate for determining whether a RSPS was implemented. Licensee actions must be placed in context with the event and competing pressures placed on the staff to ensure public health and safety. Timeliness should be judged in context with licensee actions in response to the event. EPPOS No. 2 provides the staff expectations for performance, but the regulations are not specific on this issue. In general, classifications and notifications that are performed within 15 minutes are adequate. Those that take longer should be examined and a judgement as to adequacy rendered. There may be good reason for the delay and it may have minimal impact on the Cornerstone Objective. It is not the intent to issue findings for classification or notifications that are a few minutes late when licensee was performing safety related activities meant to protect the public health and safety. However, errors in recognition, delays not based on competing safety related activities or delays that deny offsite authorities the opportunity to protect the public health and safety should be reviewed for compliance with the RSPS. This will require that the event and subsequent response be judged on a case by case basis.

Failure to implement a PS during a drill is a performance problem that should be corrected, but is not a *failure to implement a PS* as the term is used in this SDP.

Criteria

Failure to implement a PS as committed in the Plan during an actual event.

Considerations

Review the impact on the EP Cornerstone Performance Expectation and the Objective. If the error had little impact on meeting these it may be appropriate to consider issuing a lower level of finding (e.g., green instead of white), or no finding at all.

4.0 Failure to meet a PS

Failure to meet a PS means that program elements are not in compliance with the PS of 10 CFR 50.47(b). It may be that the Plan commitments are not met, that the Plan is inadequate, that implementing procedures are inadequate, that program design is inadequate, etc. However, the measure of program compliance is the PS and its articulation in NUREG-0654, taking into consideration any deviations from NUREG-0654 (and the compensating program elements) that were approved by NRC. Guidance is given below indicates compliance with the PS. This is meant to assist in determining the existence of a *failure to meet a PS*.

- 1) 10 CFR 50.47(b)(1)

The PS generally requires that responsibilities of EP program be assigned. Tests for compliance include:

- An organization meets commitments in the Plan as to the assignment of responsibility for EP, staffing and qualifications.
- The EP program is being maintained in such a manner as to meet the Cornerstone Performance Expectation.
- An organization has the authority and resources to identify and correct program deficiencies.
- An organization has the staff to respond to emergencies.

Examples of a failure to meet this PS include:

- The organization assigned in the Plan no longer has the authority or resources to maintain the program.
- Staffing changes have resulted in an organization that can no longer maintain the Plan.

2) 10 CFR 50.47(b)(2)

The PS generally requires that response responsibilities be assigned, adequate initial response staff be available, augmentation of response be available and interfaces be specified. Tests for compliance include:

- An organization that meets commitments in the Plan exists, is qualified and knowledgeable of its responsibilities.
- The types and numbers of committed staff are available and qualified to perform EP duties.
- The augmentation system can implement its design function (this is specifically verified through the baseline inspection program.)
- The staff committed in the Plan is available and qualified for augmentation.

Examples of a failure to meet this PS include:

- Staffing changes have resulted in an organization that can not respond to emergencies IAW the commitments of the Plan.
- Staffing augmentation processes are not capable of ensuring augmentation of the initial response staff IAW facility activation commitments.
- Changes to the Plan have resulted in a staff that no longer meets applicable guidance for emergency response staffing.

3) 10 CFR 50.47(b)(3)

The PS generally requires that arrangements for requesting and using offsite assistance have been made, that State and local staff can be accommodated at

the EOF and that organizations that can support a response have been identified. Tests for compliance include:

- EP program elements exist and are maintained that implement Plan commitments for offsite assistance.
- State and local authorities are satisfied with EOF accommodations and/or the accommodations are IAW the Plan.
- EP program elements exist and are maintained that list organizations that may be of assistance during emergencies.

Examples of a failure to meet this PS include:

- Plan elements have- degraded to the point that commitments for offsite assistance can no longer be met or lists of possible support organizations are no longer maintained or available.
- The EOF has been changed in such a manner that it can no longer accommodate offsite authorities, IAW the Plan.

4) 10 CFR 50.47(b)(4)

The PS requires that a standard scheme of emergency classification and action levels be in use. Tests for compliance include:

- EP program elements exist and are maintained that implement NRC approved guidance for EALs.

Examples of a failure to meet this PS include:

- The EAL scheme has been changed so extensively that it no longer meets NRC approved guidance as follows: The EALs for 2 General Emergencies, 4 Site Area Emergencies or 6 Alerts no longer meet approved guidance.

5) 10 CFR 50.47(b)(5)

The PS generally requires that procedures for notification be established. The applicable Appendix E requirements include the capability for notifying within 15 minutes. The means for public alert and notification are also addressed in this PS. Tests for compliance include:

- Procedures and systems exist that can be used to notify offsite authorities within 15 of the declaration of an emergency.
- Personnel are able to use the systems to implement the procedures for timely offsite notification.
- The means are in place to notify the public in the event of an emergency.

Examples of a failure to meet this PS include:

- Procedures are not designed to enable personnel to implement offsite notifications within 15 minutes.
- Communications systems are not designed to enable personnel to implement offsite notifications within 15 minutes.
- Personnel are not capable of implementing procedures or using systems for the notification offsite authorities.
- Public notification procedures or systems are not in place or designed to notify the public of an emergency.

6) 10 CFR 50.47(b)(6)

The PS generally requires that systems be established for prompt communications among emergency response organizations, emergency response personnel and the public. Appendix E provides additional requirements. Tests for compliance include:

- Equipment is in place for communications among ERFs.
- Equipment is in place for communications with offsite agencies.
- Equipment is in place for communications with response personnel.

Examples of a failure to meet this PS include:

- Equipment is so degraded as to preclude a minimum level communications among some ERFs or offsite agencies for longer than a day, in the absence of major external disruptive events (e.g., hurricane, explosion, loss of power, etc.)
- Backup communications systems required by Appendix E are not functional for longer than a week.
- Backup power supplies required by Appendix E are not functional for longer than a week.

7) 10 CFR 50.47(b)(7)

The PS generally requires that information be given to the public within the EPZ and that arrangements be made for dissemination of public information during emergencies. Tests for compliance include:

- Public information is disseminated IAW the Plan.
- Facilities and procedures for the dissemination of public information are established IAW the Plan and personnel are capable of using the facilities to implement the procedures.

Examples of a failure to meet this PS include:

- Public information has not been disseminated for a period 25% longer than that committed to in the Plan or 15 months whichever is longer.
- The news facility is not functional for a period of longer than a week, in the absence of major external disruptive events.

8) 10 CFR 50.47(b)(8)

The PS generally requires that ERFs be established to support emergency response. Tests for compliance include:

- Facilities are established IAW the Plan.
- Equipment is deployed IAW the Plan.

Examples of a failure to meet this PS include:

- The OSC, TSC or EOF is no longer functional as defined by the Plan (or applicable regulatory guidance in the absence of Plan specifics,) for a period of longer than a week, in the absence of major external disruptive events.
- Equipment committed to in the Plan is not available or not functional to an extent that would prevent the performance of emergency response actions such as: communications with field monitoring teams, assessment of radioactive releases, deployment of damage control teams, etc.

9) 10 CFR 50.47(b)(9)

The PS generally requires the establishment of methods, systems and equipment for assessment of radioactive releases. Tests for compliance include:

- Dose projection methods, including source term determination, are established and verified.
- Equipment for dose projection is available and functional.
- Personnel can implement the methods and equipment for dose projection.

Examples of a failure to meet this PS include:

- Personnel can not implement methods, or methods are inadequate to estimate source term and/or project offsite dose due to a radioactive release.
- Equipment for dose projection is not functional to the extent that no capability exists for immediate dose projection IAW the Plan or in the absence of specifics, approved guidance.

10) 10 CFR 50.47(b)(10)

The PS generally requires that a range of protective action recommendations (PARs) be developed for implementation during emergencies. Where the PARs address public health and safety, this is considered to be a RSPS. However, the PS also addresses emergency workers. While the protection of emergency workers is very important it is not as important as the protection of public health and safety. In the inspection procedures for the EP Cornerstone, the protection

of workers is prioritized as one of the highest priorities after the RSPS. A failure to meet this PS as it applies to worker protection should be assessed as a failure to meet a PS and not a failure to meet a RSPS. Tests for compliance with the RSPS include:

- PAR guidance is developed and available for use.
- Knowledgeable personnel are available who can use the guidance to provide PARs to local authorities during an emergency.

Examples of a failure to meet the RSPS include:

- Personnel responsible for PARs are not able to implement the guidance.
- The guidance does not provide PARs that are in accordance with Plan commitments or approved guidance.

Tests for compliance with the PS include:

- Plan elements (e.g., procedures) are developed to warn, account for, and evacuate, monitor and decontaminate workers and others who may be on the site.
- Respiratory protective equipment, contamination control equipment and thyroid protective drugs are available (and properly maintained) for personnel who must remain on site during emergencies.
- Knowledgeable personnel are available for implementing these plan elements.

Examples of a failure to meet the PS include:

- Plan elements are not developed or adequate for the protection of workers.
- Equipment is not available or not maintained to protect personnel.
- Personnel are not available to implement protective actions or not knowledgeable.

11) 10 CFR 50.47(b)(11)

The PS generally requires that means for controlling radiological exposures for emergency workers be established. Tests for compliance include:

- Plan elements and supporting equipment and instrumentation are established and available to control radiological exposures.
- Personnel knowledgeable in the methods for control of radiological exposures are available during emergencies.

Examples of a failure to meet this PS include:

- The organization can no longer provide personnel with the expertise necessary to control exposures during an emergency.
- Radiological control equipment or instrumentation, necessary to control exposures is not available to such an extent that emergency work in high radiation areas could not be conducted IAW regulatory requirements.

12) 10 CFR 50.47(b)(12)

The PS generally requires that arrangements be made for medical services for contaminated injured individuals. Tests for compliance include:

- Arrangements with a local hospital are in place to accept and treat contaminated injured personnel.
- Plan elements are in place to provide for the transport of contaminated injured personnel to the accepting hospital.

Examples of a failure to meet this PS include:

- The local hospital is no longer qualified to receive contaminated injured personnel.
- The local hospital no longer has the appropriate equipment for the contaminated injured personnel.

13) 10 CFR 50.47(b)(13)

The PS generally requires that recovery plans be developed. Tests for compliance include:

- Plan elements contain provisions for reentry and recovery.

Examples of a failure to meet this PS include:

- The Plan has been revised and the recovery elements removed.

14) 10 CFR 50.47(b)(14)

The PS generally requires that a drill and exercise program be established and that identified deficiencies are corrected. Tests for compliance include:

- The drill and exercise program is conducted IAW the Plan.
- Drill and exercise performance is critiqued and weaknesses and deficiencies identified for correction.
- Weaknesses and deficiencies are corrected.

Examples of a failure to meet this PS include:

- Drills or exercises have not been conducted IAW the Plan.
- The drill and exercise critique process does not identify significant performance problems, such as the failure to implement a PS.

Please note: Failures in this PS are also assessed as a *critique problem* through the SDP.

15) 10 CFR 50.47(b)(15)

The PS generally requires that training be provided to emergency responders. Appendix E provides supporting requirements. Tests for compliance include:

- Response personnel are trained in the duties they would be expected to perform during an emergency.
- Training is conducted IAW Plan commitments.

Examples of a failure to meet this PS include:

- Personnel lack committed training to such an extent that coverage by emergency response personnel is not available for one or more key ERO functions (as defined by NEI 99-02.)

16) 10 CFR 50.47(b)(16)

The PS generally requires that responsibility for Plan development be established and that planners are properly trained. Tests for compliance include:

- The Plan specifies responsibility for maintenance and the specified organization has the resources to do so.
- Planners responsible for Plan development are qualified by virtue of experience and/or properly trained in Emergency Preparedness.

Examples of a failure to meet this PS include:

- The organization assigned Plan maintenance does not have the expertise or resources to maintain the Plan.
- Planners responsible for the Plan are not qualified or trained in Emergency Preparedness.

5.0 Correction of Weaknesses and Deficiencies

A *weakness* should be viewed as a fault that would prevent Plan commitments from being implemented. The significance of that fault is judged by SDP IAW the stratification of EP requirements. A *deficiency* is used widely in 10 CFR in many contexts. As used here it is meant to be some fault that is less serious than a weakness, but should be corrected to improve ERO performance or function of the supporting infrastructure in Plan commitments. Given these usages, a deficiency is

likely to be within the licensee response band, where as the significance of a weakness may be greater. For example, the failure of a phone or redundant piece of equipment would not rise to the level of a weakness unless the problem was so extensive as to prevent Plan implementation. Additionally, enhancement items should not be considered by NRC if the enhancement is an improvement and not the correction of a weakness or deficiency.

Guidance is provided on the timeliness aspect of correction of weaknesses. The following guidance can not be judged as absolute. The licensee should be left to determine the safety significance of the weakness and set priorities IAW commitments and approved corrective action programs. The appropriateness of those priorities will have to be judged by the inspector and management in the context of the problem, but the guidance provided may be used as a limit for inspector involvement, e.g., if the

weakness is corrected in a shorter time than that suggested in the guidance, the inspector probably does not need to inspect the basis for the priority.

- Adequate resolution of a failure to meet or implement a RSPS is 60 days.
- Adequate resolution of a failure to meet or implement a PS is 120 days.
- Adequate resolution of a failure to meet or implement a regulatory requirement is 240 days.

Root cause analyses, common cause analyses and the like may take 30-60 days to complete. While immediate corrective actions, such as briefings or lessons learned summaries may be implemented rapidly, they may not represent actual correction of the weakness. The expectation is that the licensee will resolve problems in a manner appropriate to the risk significance. That will often be in less time than suggested above, but there are times when a licensee should take more time. The inspector may review the rationale for such scheduling for reasonableness and potential to impact the public health and safety.

EP related corrective action systems may track enhancement suggestions that result from the drill program. These suggestions often add value to the program, but are not required nor do they address *weaknesses and deficiencies* as used in this SDP. There is no timeliness expectation for resolution of such enhancement suggestions.

The baseline inspection program must verify the efficacy of the licensee efforts to correct weaknesses and deficiencies to ensure the EP Cornerstone Objective is met. The EP baseline inspection program is based on the premise that the licensee will identify and correct problems with EP related equipment and performance. 10 CFR 50.47(b)(1-4) requires that drills be conducted to maintain key skills and that identified deficiencies are corrected. The Cornerstone design is intended to foster the design or drill and exercise programs that provide opportunities for emergency response organization members to develop and maintain skills through critique of performance. It is the nature of a drill program that performance errors will be made and equipment, facility and procedure problems will surface. The identification (and correction) of these weaknesses and deficiencies is a positive and vital aspect of the program. Resolution

of such weaknesses and deficiencies is within the licensee response band. Indeed, the Drill and Exercise Performance PI, which measures licensee proficiency in the most risk significant EP activities, provides a 90% success threshold for the licensee response band. This infers that a certain level of error in (drill and exercise) performance is recognized as acceptable.

Determination of a failure to resolve a weakness requires a detailed review of the issue. It is not intended that a single repeat of a problem automatically be judged as a failure to resolve. Conversely, success in an evaluated exercise, perhaps by a team given many recent drill opportunities, should not be considered as resolving a weakness. When an apparent failure to resolve a weakness is observed, characterization should include a review of specific and related corrective actions. Similar occurrences in response to actual events, drills, exercises and training evolutions should be reviewed. The status of relevant PIs should be considered. Corrective action, self assessment and inspection records should be reviewed for a two year period, with emphasis on similar problems.

Completion of corrective actions should be verified, in detail. Assessment of the effectiveness of the corrective actions should be based on the full record.

1) Failure to resolve equipment, facility and procedure weaknesses

A premise of the EP oversight program is that site Pis in the licensee response band indicate a program that is identifying equipment, facility and procedure problems and resolving them at an acceptable rate. The basis for this is that:

- DEP could not be successful without a reasonable level of operating equipment, functional centers and effective procedures and
- the ERO PI ensures a substantial portion of the emergency response organization will use equipment, facilities and procedures and assumes that they will identify problems they experience.

The inspection program focuses on the correction of weaknesses, rather than on the identification of such problems during infrequent inspections. Nuclear plant EP programs are mature and have experienced numerous inspection cycles. This being the case, equipment, facilities and procedures are prioritized below many other aspects of the program (in inspection procedure 71114, for example.) However, inspection of corrective action may reveal repetitive problems, trends or the lack of resolution.

Criteria

Equipment, facility or procedure problems that have been entered in the corrective action system were closed out but not resolved as evidenced by several (more than 3) related problems remaining in effect or frequently repeating (more than 3 times in the past inspection cycle.)

Considerations

A certain level of equipment failure is to be expected. Phones fail, equipment malfunctions and procedures are misfiled. A licensee EP program operating in the

licensee response band should be allowed to correct these kinds of problems. Findings should only be issued in this area when the weakness would prevent implementation of the Plan and the licensee corrective action program has not been responsive.

2) Failure to resolve drill and exercise performance problems

Background

10 CFR 50.47(b)(1 4) requires that ... *deficiencies identified as a result of exercises and drills are (will be) corrected.* Appendix E, section IV, F, g, states *All training, including exercises, shall provide for formal critiques in order to identify weak or deficient areas that need correction. Any weaknesses or deficiencies that are identified shall be corrected.*

An important basis of the oversight program is that the licensee will identify and correct weaknesses identified through the drill and exercise program. Inspection procedures are designed to review the correction of weaknesses and deficiencies and the ability to critique drills and exercises. A failure to identify deficiencies in performance is treated elsewhere, but a failure to resolve performance weaknesses could threaten the licensee ability to meet the Cornerstone Performance Objective.

The PI system collects performance data from a broad cross section drills. Licensee performance data from these drills was not collected in the past and generally the conduct of drills was not inspected. 10 CFR 50.47(b)(1 4) requires that *drills are conducted to develop and maintain key skills*. There is no intention to limit the licensee's ability to conduct drills (and exercises) in which ERO members may fail in the process of developing and maintaining key skills. Any such limitation would detract from licensee ability to meet the Cornerstone Performance Expectation. Correction of drill and exercise performance weaknesses is in the licensee response band for a program with PIs and inspection findings in the green zone. There is no intention to infringe on that licensee responsibility for a program that exhibits the ability to meet the Cornerstone Performance Expectation. Such infringement would be counterproductive to the conduct of meaningful drills that develop key skills and the reporting of performance data broadly across the ERO.

The DEP PI allows a 10% failure rate threshold for the licensee response band. If the PI were to cross the threshold the licensee would be asked to provide planned actions to address the performance problem, rather than a finding of *failure to correct weaknesses and deficiencies* being issued. However, this would result in a white input to the assessment process and if the corrective actions were not successful, further NRC engagement would result.

In an attempt to resolve the conflicting tensions discussed above, it is thought that a 10% failure rate for other areas of EP performance in drills and exercises should also be acceptable as long as corrective actions are being taken IAW the regulations. The examination of licensee correction of weaknesses should be performed when the trend of poor performance rises to a level commensurate with a failure rate exceeding

approximately 10%. This data may not be readily available since it is not collected in the formal manner that PI data is, but the measure indicates the level of performance problems for which increased NRC involvement would be appropriate. At that point, the actual corrective actions should be reviewed to determine adequacy, completeness and any reasons for the apparent ineffectiveness. If corrective actions are not adequate, a finding of a *failure to correct weaknesses* would be appropriate. If corrective actions are aggressive, complete but still not effective, a judgement could allow more time for performance improvement. In this case, the issuance of a finding would be delayed in the interests of gathering more performance data in the expectation that performance improvement will negate the need for the finding.

Criteria

Licensee performance in areas not covered by the Pis indicates a repeat failure rate exceeding approximately 10% over the past two inspection cycles (the past three biennial exercises.) The repeat failures are based on similar performance problems that are clearly related. Such performance need not be limited to a single ERF or activity, but must have a common basis to be considered as a *failure to correct weaknesses*. The performance problem must be a failure to implement a regulatory requirement or PS during drills, exercises and, if applicable, actual events. Enhancements or improvements that are not successful are not intended for consideration under the EP SDP.

For areas covered by the Pis, classification, notification and PAR development, performance below a 10% failure rate will result in a white PI. A finding in this area would be redundant to the PI and is not appropriate.

Considerations

If aggressive corrective actions have been taken and appear to be complete but not yet effective, it may be appropriate to allow more time for licensee corrective actions. In this case, the finding should be delayed in the interests of collecting more performance data.

3) Failure to resolve actual response problems

Background

It is expected that significant problems with actual event response will result in findings IAW sheet 2 of the SDP. An observation of a *failure to correct weaknesses* should be placed in context if the same (or similar) problems were evident from previous drill performance issues or previous events. The finding would replace the implementation finding only if it was more significant, e.g. white versus green.

If the problem involves implementation of the RSPS (and to a lesser extent the implementation of other personnel performance related PS,) the status of the PI is important. A green DEP PI indicates that program is proficient in classification, notification and PAR development and that correction of performance problems is

generally effective. Never-the-less a review of specific corrective actions, drill/exercise and training evolution critiques and associated corrective actions and the response to any relevant off normal conditions should be examined. Further, it may be appropriate to review DEP failure trends to determine if the failure rate, albeit acceptable, holds information important to this determination. If the failures are skewed toward the problem exhibited in the actual event response, it is an indication of a correct weaknesses. To determine if the data is skewed requires an analysis of the number and types of opportunities and the failure rates. If the ratio of failures to opportunities for classification, notification or PAR development, (taken individually,) is -33% higher than the average, it may represent skewed data. For example, 100 opportunities with 10 failures may contain 40 opportunities for classification, 50 for notification and 10 for PAR development. One might expect that the failures would also be about 40% classification, 50% notification, etc. Should one area be significantly higher (70% vice 50%) and that same area, e.g.,

notification, be the problem exhibited in the actual event, it may indicate a failure to correct weaknesses. However, the statistical usefulness of such a small sample is limited. In the case noted above, the failure rate expected would be 5 and the actual is 7, out of 100 opportunities. While this data is useful, it must be placed in context with the larger corrective action effort, rather than used as an absolute measure in itself.

The similarity of the of the weakness occurrences should be reviewed critically. Differences in circumstances may negate the initial appearance of similarity.

The completeness of corrective actions should be viewed critically. The most effective corrective actions would be a complete root cause analysis of the problem and the determine of the actual cause(s). Less complete corrective actions, such as lessons learned briefings by subject matter experts and practice in drills practice are often implement and may be appropriate. Weaker solutions include required reading, procedural changes and generic classroom training, but these may still be appropriate. However, in the case of repetitive problems in actual events such corrective actions may be considered suspect.

Finally, the licensee should be held to high standards for the correction of actual event performance problems, with the most important areas being classification, notification, PAR development and assessment. The repeat of an avoidable problems during actual events, should be assumed to be a failure to correct weaknesses. Alternately, the circumstances may ameliorate that assumption if there has been appropriate corrective actions, event complications or the problem presents minimal impact on the licensee's ability to meet the Cornerstone Objective. However, if there is evidence that licensee corrective actions were not complete or effective and that the continuation of an existing weakness led to the subsequent error, a finding of a failure to correct *weaknesses* should be issued.

Criteria

A weakness entered into the corrective action program was closed out but not resolved as evidenced by the weakness remaining in effect or repeating during an actual event.

Considerations

A failure rate of 10% for performance in drills and exercises is assumed in the green band threshold of the DEP PI. However, this performance rate is not acceptable for the response to actual events and the licensee will be issued a finding for failures during actual events. The determination of a *failure to correct weaknesses* assumes a repeat of the failure in an actual event and must be based on examination of the previous corrective actions taken for effectiveness and completeness. The similarity of repeat problems, the impact on the EP Cornerstone Objective and the history of PI performance may be considered in determining whether a finding is warranted.

6.0 Critique of Drills and Exercises

Background

This branch of the SDP flow chart is documented on sheet 3. It is used for inspector observations collected under baseline program inspection of licensee conducted drills and exercises. The baseline inspection procedure No. 71114 instructs inspectors to observe drills and evaluated exercises and identify deficiencies and weaknesses (i.e., areas of performance that do not adequately implement elements of the Plan.) Such areas of poor performance not captured by the licensee critique should be placed in context through this branch of the SDP. Licensees critique drills and exercises in many different ways and inspectors should be flexible in accepting appropriate mechanisms for problem identification. These may vary from formal written critiques to verbal summaries. The critical feature of any critique is that weaknesses are captured and entered into a corrective action system with appropriate priority. If the inspector can assure her/him self that the item will be entered into a corrective action system, the critique should be considered successful.

The disposition of critique findings varies between sites. The licensee must evaluate numerous evaluator observations and prioritize resources for correction. Indeed, some evaluator suggestions may be counter productive in the judgement of responsible EP management. Care should be taken to understand the logic for suggestion disposition before consideration of the event as a *failure to weaknesses*. However, repetitive, arbitrary or groundless disregard for well founded evaluator observations/suggestions should not be allowed to pass as acceptable where the program weaknesses exist. If an item is missed by the licensee critique and there is not assurance that the critique process would have identified the item, e.g., by subsequent detailed review of evaluator input, then the observed weakness should be placed in context through SDP as a *Critique Problem*.

The intent of this decision step in the SDP flow chart is to stratify critique failures according to the risk significance of the problem area. Failure to identify a PS problem would be the failure to identify (as described above) a weakness that prevented the timely and accurate implementation of the PS and not just a mistake that detracted from the effectiveness of PS implementation. The licensee procedures and Plan contain the approved commitments for implementation of NRC regulations. Judgement of timely

and accurate implementation is made against the Plan and procedures. If the Plan or procedures are inadequate, it is not a drill/exercise critique issue and may be dealt with elsewhere. The sections on failure to implement and failure to meet a PS provide guidance that may be helpful in making this determination. However, it should be noted that this branch of the SDP only considers licensee failure to identify a problem during a drill or exercise and not an actual failure to implement the PS during a real event, nor the failure of the licensee program to meet the PS.

Complete implementation of a PS means that all the elements of the Plan necessary to implement the PS as appropriate for the observed scenario were demonstrated. Implementation that is less than complete may represent a failure to implement the PS if the

actions of the licensee would not have complied with the PS as written in 10 CFR 50.47(b) if the event had been actual. Failure of one or a few Plan elements associated with a given PS may occur and yet the licensee effort still comply with the PS. A failure to identify this problem may not be a failure to identify a PS problem, but a failure to identify a regulatory requirement problem (e.g., Plan commitment.) This would result in a green finding rather than a white finding.

Another consideration is that a problem that the critique missed may have had no impact on the EP Cornerstone Performance Expectation. In this case, judgement may be exercised in considering a less significant finding, e.g., green versus a white, or no finding, even if the weakness represents a PS problem.

It is expected that the complete failure to implement a PS and the failure of the licensee critique to identify it would be rare. However, RSPS problems are treated in a different manner than problems with other PS. The baseline inspection program is predicated on the availability of PI data that reflects licensee performance. Drill and Exercise Performance PI (DEP) data is based on licensee determination of timely and accurate classification, notification and PAR development (as defined in NEI 99-02.) If the licensee critique fails to identify an inaccurate or untimely classification, notification or PAR development effort, it should be judged as a failure to identify a RSPS problem. In addition to potentially skewing PI data, mistakes in these areas may affect the public health and safety (if the event had been actual) in that inaccurate or untimely information may form the basis of State and local public protection efforts. Judgement may be exercised if the critique failure is minor and would not have affected offsite protection efforts, but the expectation is for the licensee critique to emphasize evaluation of performance in the RSPS areas.

The RSPS include performance areas other than classification, notification and PAR development. Performance in these areas are not covered by the DEP PI and should be judged in a manner similar to the other PS.

Criteria

The licensee has failed to identify a drill or exercise a weaknesses that would have resulted in the failure to implement a PS if the event had been an actual emergency.

Considerations

The PS problem must be a failure to a implement a PS as committed in the Plan.