

## Appendix B

### Emergency Preparedness Significance Determination Process

#### 1.0 INTRODUCTION

The framework of the Emergency Preparedness (EP) Cornerstone is described in SECY-99-007 and SECY-99-007a. The Cornerstone Objective and Performance Expectation are the bases for the inspection program and performance indicators. The relationship of a non-compliance item with the Objective and/or Performance Expectation is often relevant. They are repeated here for convenience.

The Emergency Preparedness Cornerstone Objective 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."

The 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 significance determination process (SDP) provides a method to place inspection findings 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 of NRC engagement in accordance with (IAW) the Reactor Oversight and Assessment Process Action Matrix.

The EP 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."

Manual Chapter 0610\* contains criteria for determining which inspection issues should be placed in context through SDP. The EP SDP is structured such that any finding that enters the SDP will be at least green. This being the case, an inspection issue must be reviewed for compliance with EP related regulations before it is placed in context through EP SDP. This review will assist the inspector in determining the information necessary for the decision blocks of the EP SDP.

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 emphasizes the most risk significant areas of EP 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(1) and D(3),
- the other planning standards (PS); 10 CFR 50.47(b)(1), (2), (3), (6), (7), (8), (11), (12), (13), (14), (15), and (16) 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 low and correction of the item is considered to be within the “licensee response band.”

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 findings above green is expected. Input from the licensee regarding risk significance perspective will 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. However, it is expected that such cases will seldom occur 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.

- “RSPS” means 10 CFR 50.47(b)(4), (5), (9) and (10) and Appendix E, section IV B, C, D(1) and D(3).
- “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.
- “Regulatory requirements” means any EP related requirement, including the PS and Appendix E. 10 CFR 50.54(q) requires that licensees follow their Emergency Plans (Plan). A failure to follow Plan commitments is non-compliance with 50.54(q). The failure to follow other commitments may also violate regulations, but the connection to regulation must be established for the issue to be considered as a failure to meet regulatory requirements.
- NUREG-0654 provides guidance for licensees to use in developing a program to meet EP PS and other 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 PS. The Plan may have been approved with processes that differ from the guidance of NUREG-0654, but which appeared to meet the regulatory requirements.
- Failure to meet a regulatory requirements means that program elements are not in compliance with the EP related requirements of 10 CFR. It may be that the Plan

commitments are not met, that the Plan is inadequate, that implementing procedures are inadequate or that program design is inadequate, i.e., even if the program were implemented as designed, it would not meet the requirement. In the case of a PS, the measure of program compliance is the regulation, and its articulation in NUREG-0654, taking into consideration any deviations from NUREG-0654 (and the compensating program elements) that were approved by NRC. Detailed guidance is given below.

- f. Actual event implementation problem means that regulatory requirements were not fulfilled during an actual event. Failure to implement a PS means that Plan commitments that implement a PS were not fulfilled. 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. Detailed guidance is given below.
- g. A drill or exercise critique problem means that drill participant performance was such that appropriate Plan elements would not have been implemented had the event been an actual emergency and the critique did not identify the problem. Critique of drills and exercises is meant to include any aspect of 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. There are three paths through the EP SDP, Actual Event Implementation Problem, Drill or Exercise Critique Problem and Failure to Meet Regulatory Requirement. Findings should be assessed through all paths that are applicable and the most significant finding issued. Parallel findings may be noted in the inspection report, but only the most significant finding should be issued. For example, an implementation problem during an actual event may also involve a failure to meet a regulatory requirement. If the finding of a failure to meet a regulatory requirement is the more significant finding, it would dictate the color of the issued finding.
- i. Failure to correct weaknesses and deficiencies should be analyzed against compliance with 50.47(b)(14). If weakness involves a RSPS, it may represent a failure to meet the PS. Detailed guidance is given below. Additionally, findings in this area 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.
- j. The Enforcement Policy (NUREG-1600) indicates that a failure to make reports required by NRC regulations is an item of noncompliance that cannot be assessed through the SDP process. However, under the EP Cornerstone, the failure to classify and notify are integral to the EP SDP. Similarly, a failure to implement ERDS or staff the ENS line is a failure to meet the requirements of 50.72 and should be considered a failure to implement regulatory requirements.

### 3.0 ACTUAL EVENT IMPLEMENTATION PROBLEM

#### Background

This term is used to mean that during an actual event, elements of the Plan or other EP related regulatory requirements 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. Staff expectations for performance are that classifications will be made as soon as possible after conditions/data are available to allow classification. This will usually be within 15 minutes. Similarly, notifications are expected to be made within 15 minutes of classification. 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 classifications 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 regulatory requirement as committed in the Plan or stated in Regulations during an actual event.

#### Considerations

Review the impact on the EP Cornerstone Objective. If the error had little impact on meeting this 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 DRILL OR EXERCISE CRITIQUE PROBLEM

#### Background

This branch of the SDP flow chart 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 critique problem. However, repetitive, arbitrary or groundless disregard for well founded evaluator observations/suggestions should not be allowed to pass as acceptable where a program weakness exists. 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 finding should be placed in context through SDP as a Critique Problem. The SDP stratifies critique failures at two levels; those involving RSPS and others.

Failure to identify a problem would be the failure to identify a weakness that prevented the effective, timely and/or accurate implementation of a regulatory requirement or PS. The inspector should not consider mistakes that only detracted from implementation. The Plan and procedures contain the approved commitments for implementation of NRC regulations and may be used to judge effective, timely and accurate implementation. If the Plan or procedures themselves are inadequate, it is not a drill/exercise critique issue and the section on failure to meet a regulatory requirement may be helpful.

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. However, a failure to identify this kind of problem may be a failure to identify a regulatory requirement problem (e.g., Plan commitment.) This would result in a green 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.

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 regulatory requirements. The baseline inspection program is predicated on the availability of PI data that reflects licensee performance. The Drill and Exercise Performance PI (DEP) 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 detract from 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 10 CFR 50.47(b)(9) which is not directly covered by the DEP PI. A critique failure in this area would not generally affect the PI. However, this area is a RSPS. Judgement may be exercised in viewing the significance of implementation problems in a manner similar to that used for PS implementation problems, i.e., failure of one or a few Plan elements associated with the RSPS may occur and yet the licensee effort still comply with the RSPS. A failure to identify this kind of problem may not be a failure to identify a RSPS problem and could be judged as a green finding rather than a white finding.

## Criteria

The licensee has failed to identify in a critique of a drill or exercise weaknesses that would have resulted in the failure to implement a PS or regulatory requirement in an effective, timely and/or accurate manner if the event had been an actual emergency.

## Considerations

The problem (that was missed by the critique) must be a failure to implement a PS or regulatory requirement as committed in the Plan or stated in 10 CFR.

### 5.0 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. The guidance provided below is meant to assist in determining the existence of a failure to meet a PS.

The failure to correct weaknesses and deficiencies may be a failure to meet PS 50.47(b)(14). The guidance for this failure is extensive and is placed in Section 6.0 rather than with the guidance for 50.47(b)(14).

#### 5.1 10 CFR 50.47(b)(1)

The PS generally requires that responsibilities for emergency response be assigned and that the response organization has the staff to respond. Examples of a failure to meet this PS include:

- The organization assigned responsibilities in the Plan no longer has the authority, staff or resources to respond and to augment initial response on a continuous basis.

#### 5.2 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. 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, i.e., one or more Plan required ERO functions (as defined by NUREG-0654 Table B-1.)
- Changes to the Plan have resulted in a staff that no longer meets applicable guidance for emergency response staffing.

#### 5.3 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. 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.

#### 5.4 10 CFR 50.47(b)(4)

The PS requires that a standard scheme of emergency classification and action levels be in use. Examples of a failure to meet this PS include:

- The EAL scheme has been changed so that it is no longer a standard scheme, i.e., EAL changes have downgraded the Emergency Class of an initiating condition (or conditions) such that more than one Alert, a Site Area Emergency or a General Emergency that should be declared under approved guidance would not be declared under the changed scheme.

Changes to the scheme that do not rise to the level of a failure to meet the PS may be a decrease in effectiveness and in noncompliance with 10 CFR 50.54(q). Such a noncompliance would be considered a failure to meet regulatory requirements, but not necessarily a failure to meet the PS.

#### 5.5 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. Examples of a failure to meet this PS include:

- Procedures are not designed to enable personnel to perform 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 not designed to notify the public of an emergency.

#### 5.6 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. Examples of a failure to meet this PS include:

- Equipment is so degraded as to preclude a level communications among some ERFs or offsite agencies necessary to implement the Plan for longer than a day. In the event of major external disruptive events (e.g., hurricane, explosion, loss of power, etc.,) consider the extent of compensating measures.
- Backup communications systems required by Appendix E are not functional for an extended period of time in the absence of adequate compensating measures (e.g., while replacement equipment is on order or being installed,)

- Backup power supplies required by Appendix E are not functional for an extended period of time in the absence of adequate compensating measures (e.g., while replacement equipment is on order or being installed.)

5.7 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. 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.
- The news facility is not functional for a period of longer than a week. In the case of major external disruptive events, consider compensating measures.
- Processes for dissemination of information during emergencies can not reasonably be implemented IAW plan commitments, e.g., staff necessary to operate the emergency news center is not qualified, staff necessary to operate the emergency news center is not trained, augmentation (call out) methods will not ensure staff necessary to operate the emergency news center activates IAW goals, methods for information approval will not ensure timely and accurate information releases and/or methods for coordination of information with local/State agencies will not ensure timely and accurate notifications and information releases.

5.8 10 CFR 50.47(b)(8)

The PS generally requires that ERFs be established to support emergency response. 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.
- Equipment committed to in the Plan is not available or not functional to an extent that would prevent implementation of the Plan, e.g., lack of communications with field monitoring teams, lack of ability to assess radioactive releases, unable to deploy of damage control teams, unable to deploy radiation monitoring teams, etc.

5.9 10 CFR 50.47(b)(9)

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

5.10 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. Examples of a failure to meet the RSPS include:

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

Examples of a failure to meet the PS include:

- Processes are not developed or adequate for the protection of workers.
- Processes to account for workers will not ensure that accountability can be accomplished IAW Plan timeliness commitments and can be maintained during an emergency.
- Equipment necessary to protect personnel is not available or not maintained.
- Knowledgeable personnel are not available to implement protective actions for workers.

#### 5.11 10 CFR 50.47(b)(11)

The PS generally requires that means for controlling radiological exposures for emergency workers be established. Examples of a failure to meet this PS include:

- Knowledgeable personnel are not available to control worker 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 during emergencies.
- Processes for controlling exposures during emergencies will not ensure that exposures are maintained IAW Plan commitments.

#### 5.12 10 CFR 50.47(b)(12)

The PS generally requires that arrangements be made for medical services for contaminated injured individuals. 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 care of contaminated injured personnel.

#### 5.13 10 CFR 50.47(b)(13)

The PS generally requires that recovery plans be developed. Examples of a failure to meet this PS include:

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

#### 5.14 10 CFR 50.47(b)(14)

The PS generally requires that a drill and exercise program be established and that identified deficiencies are corrected. Examples of a failure to meet this PS include:

- More than two drills or exercises during the inspection cycle 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.

Appendix E adds requirements important to this PS in section IV, F, g. These requirements relate to the correction of weaknesses and deficiencies. The correction of weaknesses and deficiencies is of fundamental importance to the Cornerstone Objective. Guidance on the Determination of a failure to meet this PS as it relates to correction of weaknesses and deficiencies is provided below in Section 6.0.

5.15 10 CFR 50.47(b)(15)

The PS generally requires that training be provided to emergency responders. Appendix E provides supporting requirements. 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 Plan required ERO functions (as defined by NUREG-0654 Table B-1.)

5.16 10 CFR 50.47(b)(16)

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

6.0 CORRECTION OF WEAKNESSES AND DEFICIENCIES

6.1 INTRODUCTION

The baseline inspection program must verify the efficacy of the licensee efforts to correct weaknesses to ensure the EP Cornerstone Objective is met. (Weaknesses are defined in MC 610.) The EP baseline inspection program and the licensee response band are based on the premise that the licensee will identify and correct EP problems. 10 CFR 50.47(b)(14) and Appendix E require that identified weaknesses be corrected. The Cornerstone is designed to foster 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 is a positive and vital aspect of the program. Resolution of weaknesses 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.

The regulations require that weaknesses identified during training and drills be corrected. Weaknesses may be identified through processes that are not drill or training related, such as assessment of performance during actual events, reviews required by 50.54(t), audits, etc. It is the NRC expectation that weaknesses identified through these processes will also be corrected.

## 6.2 TIMELINESS

### Background

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 in the context of the problem, but the guidance provided may be used as a limit for inspector involvement in timeliness aspects, e.g., if the weakness is corrected in a shorter time than that suggested in the guidance, the inspector probably does not need to review the basis for timeliness of corrective actions.

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 below, but there are times when a licensee should take more time. When the time is longer, the inspector should review the scheduling rationale for reasonableness and potential to impact the public health and safety. Should a corrective action item be scheduled in a manner that is not reasonable or potentially impacts the public health and safety (in that the Plan can not be implemented) a finding may be appropriate against PS 50.47(b)(14).

- Resolution of a failure to meet or implement a RSPS is reasonable within 60 days of identification.
- Resolution of a failure to meet or implement a PS is reasonable within 90 days of identification.
- Resolution of a failure to meet or implement a regulatory requirement is reasonable within 180 days of identification.

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. There is no timeliness expectation for resolution of such enhancement suggestions.

### Criteria

The timeliness of the resolution of a weakness is not appropriate for the risk significance of the weakness. If the weakness involves a RSPS problem the failure to resolve should be considered a failure to meet PS 50.47(b)(14) [i.e., a white finding], otherwise it should be considered a failure to resolve a problem with regulatory requirements [i.e., a green finding].

### Considerations

The weakness must be a failure to implement a PS or regulatory requirement as committed in the Plan or stated in 10 CFR.

### 6.3 FAILURE TO CORRECT WEAKNESSES

Determination of a failure to correct 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 an inspection cycle (biennial exercise to biennial exercise, nominally two years,) 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.

#### 6.3.1 Failure to correct equipment, facility or procedure weaknesses

##### Background

A premise of the EP Cornerstone 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 in the green band 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. The Cornerstone assumption is that ERO members will identify problems they experience and the EP program will correct them.

The Baseline Inspection program focuses on the correction of weaknesses, rather than on the identification of weaknesses during infrequent inspections. Nuclear plant EP programs are mature and have successfully (generally) completed 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 actions may reveal repetitive problems, trends or the lack of resolution.

##### Criteria

Equipment, facility or procedure problems exist, have been previously identified and are not corrected to such an extent that the program elements they support can not be implemented. If the weakness involves a RSPS the failure to correct may be considered a failure to meet PS 50.47(b)(14) and assessed as a white finding. Others findings under this criteria should be assessed as green.

However, if loss of function is great it may bring into question whether the program continues to meet the associated PS.

##### 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 lack of correction would prevent implementation of the Plan.

### 6.3.2 Failure to resolve drill and exercise performance problems

#### Background

10 CFR 50.47(b)(14) 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. The Baseline Inspection Procedure is designed to review the correction of weaknesses and the ability to critique drills and exercises. A failure to identify weaknesses in drill performance is treated elsewhere (Drill or Exercise Critique Problem), but a failure to resolve performance weaknesses could bring into question licensee ability to meet the Cornerstone Objective.

The PI system collects performance data from a broad cross section of 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)(14) 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 Objective. It is within the purview of the licensee to correct drill/exercise weaknesses when results of PIs and inspections findings are within the licensee's response band.

The DEP PI allows a 10% failure rate threshold for the licensee response band in the most risk significant areas of the Cornerstone. If the PI were to cross the threshold the licensee would be asked to provide planned actions to address the performance problem and a white input would be issued. There would be no finding of failure to correct weaknesses and deficiencies issued.

In an attempt to resolve the conflicting tensions discussed above, it is thought that a 20% failure rate for drill/exercises performance would approximate the bounds of a licensee response band. Examination of licensee correction of performance weaknesses would not be necessary unless performance problems rise to a level approximating a failure rate exceeding 20% over an inspection cycle. 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 NRC review through the baseline inspection program would be appropriate. Data from drill critiques may be used to develop these statistics and the absence of a finding in an area could be construed to indicate success. Where performance in an area exhibits this level of failure, actual corrective actions should be inspected to determine adequacy, completeness and any reasons for the apparent ineffectiveness. If corrective actions are not adequate and the weakness involves a RSPS, the program should be considered to not meet PS 50.47(b)(14) and a white finding issued. Others findings should be green.

If corrective actions are aggressive, appear to be complete but are still not effective, a judgement could be made to allow more time for performance improvement. In this case, the issuance of a finding could 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 corrective actions for performance problems are not effective as determined by problems that recur at a rate worse than about 20%. The performance problem must be a failure to implement a regulatory requirement or PS during drills, exercises and, if applicable, actual events.

Failure to correct weaknesses that affect a RSPS should be assessed as a failure to meet PS 50.47(b)(14), i.e., a white finding. Other failures to correct weaknesses should be assessed as green.

Enhancement or improvement items are not intended for consideration under the EP SDP.

#### 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 may be delayed in the interests of collecting more performance data.

### 6.3.3 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 that the program may not meet PS 50.47(b)(14) 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 performed. 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 failure to 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 ratio, 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 (e.g. 8 notification failures vs. an expectation of 5) and that same area 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 8, 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 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 action includes root cause analysis. Less complete corrective actions, such as lessons learned briefings by subject matter experts and practice in drills are often implemented and may be appropriate. Weaker solutions include required reading, procedural changes and generic classroom training, and in the case of repetitive problems in actual events 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. 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 meet 50.47(b)(14) should be issued.

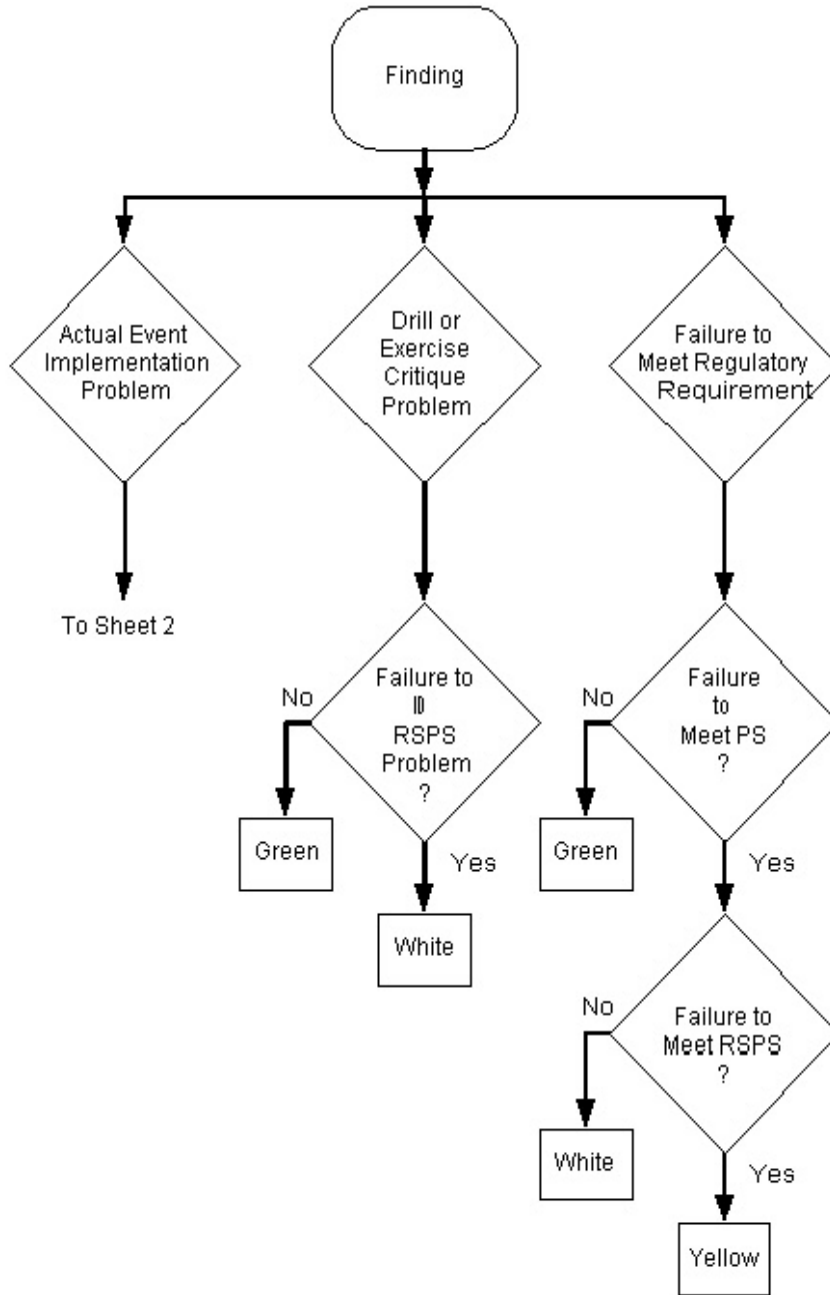
#### Criteria

A weakness entered into the corrective action program was not resolved as evidenced by the weakness remaining in effect or repeating during an actual event. If the weakness involves a RSPS, the failure to correct should be considered as a failure to meet PS 50.47(b)(14) and a white finding issued. Other failures to correct should be issued as green findings.

#### Considerations

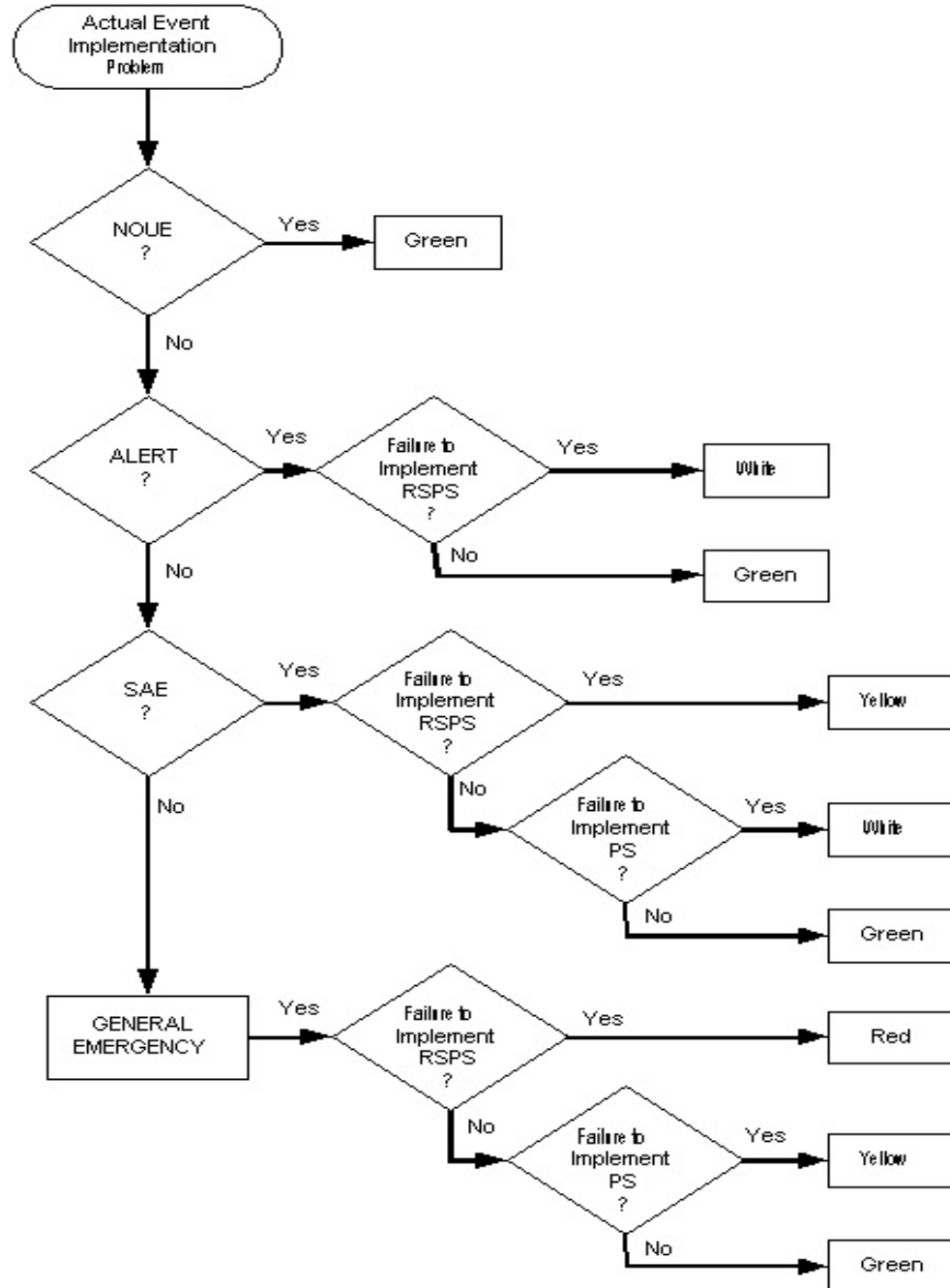
A failure rate of 10% for performance in drills and exercises is assumed in the green band threshold of the DEP PI. However, this performance rate is not acceptable for the response to actual events and the licensee will be issued a finding for failures during actual events. The determination of a failure to correct weaknesses IAW 50.54(b)(14) 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.

Emergency Preparedness Significance Determination Process





# Emergency Preparedness Significance Determination Process



Sheet 2

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