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. 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 Process Action Matrix (found in MC 0305.)

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. ~~Although MC 0610* allows "no color findings,"~~ Current version eliminates no color findings. T~~t~~he EP SDP is structured such that any finding that enters the SDP will be at least green. The EP SDP is designed such that the significance of a finding reflects the impact on the level of emergency preparedness at the site.
During the development of EP Cornerstone, the most risk significant elements were identified as distinct from other

important program elements. These development efforts were performed by a group of EP subject matter experts, including industry stakeholders, with input from members of the public. The EP SDP methodology recognizes failures in the identified risk significant elements as more significant than failures in other program elements. 10 CFR Part 50 codifies a set of EP planning standards in 10 CFR 50.47(b) and supporting requirements in Appendix E to Part 50. The more risk significant elements of EP align with a subset of the planning standards and requirements. The SDP logic identifies the loss of program function required by planning standards as more significant than noncompliance with administrative regulatory requirements. Functional failure of the more risk significant planning standards results in greater significance than the loss of function of the other planning standards (e.g., a yellow finding as opposed to a white finding.) The stratification of EP requirements is as follows:

- the most risk significant planning standards (RSPS); 10 CFR 50.47(b)(4), (5), (9) and (10) and portions of Appendix E (as identified in the specific RSPS sections,)
- the remaining planning standards (PS); 10 CFR 50.47(b)(1), (2), (3), (6), (7), (8), (11), (12), (13), (14), (15), and (16) and portions of Appendix E (as identified in the specific PS sections,) and
- other EP related regulations~~,~~ (portions of Appendix E not referenced in the specific PS sections, 10 CFR 50.54(q), 50.54(t), Plan commitments and other regulatory commitments.)

While the EP SDP assigns risk significance to findings it should be understood that even a green finding (very low risk significance) does not mean that the performance associated with the finding is acceptable. The finding may represent a violation of 10 CFR. The green significance determination means that the safety significance of the finding is very low and correction of the item is considered to be within the “licensee response band.”

2.0 GENERAL GUIDANCE FOR SDP USE

Comment:
*The definitions of "degraded" and "loss of" should be in the same section (section 2). Currently "loss of" is in Section 5 and "degraded" is in Section 2.

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 portions of Appendix E as identified under each RSPS.

b. “PS” means the planning standards of 10 CFR 50.47(b), including the RSPS and portions of Appendix E to 10 CFR 50 as identified under each PS.

c. “Regulatory requirements” means any EP related requirement, including the PS and Appendix E, including the PS, e.g., failure to follow Plan commitments is non-compliance with 50.54(q).

d. “Failure to comply” means that a program is not in compliance with a regulatory requirement that is more than minor.

e. “Loss of PS function” or “PS functional failure” means that program elements are not adequate, in compliance or otherwise not functional to such an extent that the function of the PS is not met. This is a subset of a “failure to comply.” 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, but the result is that if the program element was implemented as designed, it PS would not meet its intended function.

f. Loss of PS function is non-compliance with the applicable regulation (10 CFR 50.47(b) and Appendix E.) However, the regulatory wording of the PS may not be exact and the determination of a loss of PS function may not be obvious. The determination may be informed by program compliance with the guidance of NUREG-0654, which provides guidance for licensees to use in developing a program to meet the PS. The Plan was assessed (for most plants in the early 1980s) 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. The guidance of NUREG-0654 is not regulation. The citation of this guidance is only intended to inform the process of determining adequacy of a program. The determination of loss of PS function will be based on the criteria provided in this SDP and informed judgement.

Judgement must also be applied to determine if a failure to comply rises to the level of a loss of PS function. There are many elements to a PS and a program may be in non-compliance with some and yet be able to meet the PS function. In this case, there may be a noncompliance with the Plan or an inappropriate change to the Plan may have occurred that removed commitments. The PS function remains, but a failure to comply exists that should result in a finding (probably green).

g. "Degradation of RSPS function" is used for the RSPS only. It means that program elements are not adequate or not in compliance but the function of the PS is still met but degraded. This is a subset of a "failure to comply." It may be that the Plan commitments are not met, that the Plan is less than adequate, that implementing procedures are not effective or that program design is not fully adequate, but the result is that if the program element was implemented as designed, it would meet the intended function of the RSPS, but with degradation. Degradation of RSPS function has been incorporated into the EP SDP to allow an intermediate level of significance, i.e., a white rather than a yellow finding, to be determined where appropriate. Examples of degradation of RSPS function are given for each RSPS.

h. "Failure to implement" means that a failure to comply with regulatory requirements occurred during an actual event.

i. Failure to implement means that there was a failure to comply in the implementation (only) of program elements. Generally, failure to implement is the result of personnel errors. The program element is adequate and if implemented as designed would support the associated PS and that PS would meet its function.

However, a failure to implement is not always a result of personnel error and may reveal that the program element itself is not adequate. Additional inspection is appropriate to determine if there is a loss of PS function. Resulting issues would be reviewed against the criteria for loss of PS function.

j. A performance problem during a drill or exercise is a problem that should be corrected, but is not a

"failure to implement" as the term is used in this SDP.

Comment:
Performance problems with risk significant planning standards are captured by the DEP PI.

k. A "drill or exercise critique problem" means that the critique did not identify participant performance problems (i.e., weaknesses~~,~~) that could have precluded effective implementation of the Plan in an actual emergency. Failure to implement is a subset of weaknesses, i.e., there could be weaknesses that are not a failure to implement, but not vice versa. The term "critique" includes all formal, documented aspects of drill assessment. A finding in this area means that there was a performance problem in the drill or exercise and assigned evaluators failed to identify the performance problem.

l. There are three branches of the EP SDP, "Actual Event Implementation Problem," "Drill or Exercise Critique Problem" and "Failure to Comply/PS 50.47(b)(14) Problem." 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 reveal a loss of PS function. If the loss of PS function is more significant, it would dictate the color of the finding.

m. Failure to correct weaknesses and deficiencies should be analyzed against PS 50.47(b)(14) and the Plan for compliance. A failure to correct weaknesses associated with RSPS functions may represent a loss of PS 50.47(b)(14) function. The guidance for PS 50.47(b)(14) as it pertains to the correction of weaknesses is provided in section 6.0 of this attachment.

n. 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 and guidance is provided, e.g., a failure to activate ERDS or staff the ENS line is a failure to comply with the requirements of 50.72 and

should be considered a failure to implement under the EP SDP.

o. The NRC Policy Statement on *Safety Goals for the Operations of Nuclear Power Plants*, states that EP is a defense in depth measure. EP and many other elements of reactor safety (e.g., remote siting and containment,) are implemented as a matter of prudence rather than in response to a quantitative analysis of accident probabilities. This being the case, the probability of a reactor accident requiring the use of EP should not be used to determine the significance of an EP problem. Rather, in determining the significance of an EP problem it should be assumed that the EP program is being implemented in response to an emergency and the impact of the problem assessed. This view should be used to answer the MC 610* "Threshold for Documentation Questions."

3.0 ACTUAL EVENT IMPLEMENTATION PROBLEM

Background

This branch of the SDP is used when a failure to comply with regulatory requirements occurred during an actual event. Weaknesses exhibited during an actual event should be noted as opportunities to improve. However, there is no regulatory issue unless there was a failure to comply.

Failure to implement means that there was a failure to comply in the implementation (only) of program elements. Generally, failure to implement is the result of personnel errors. The program element is adequate and if implemented as designed would support the associated PS and that PS would meet its function.

Comment:
The wording in paragraph 3 of this section is excellent and should be retained. The discussion of the timeliness of classification is very reasonable and provides appropriate flexibility for slight delays in classification resulting from competing priorities (performing safety-related activities). The case-by-case judgment on this issue is good.

However, a failure to implement is not always a result of personnel error and may reveal that the program element itself is not adequate. Additional inspection is appropriate to determine if there is a loss of PS function. Resulting issues would be reviewed against the criteria for loss of PS function.

The definitions of “timely” and “accurate” for the DEP PI are not universally appropriate for determining whether a RSPS was implemented during an actual event. Timeliness should be judged in context with the competing pressures placed on the staff to respond to the event and ensure public health and safety through mitigative actions. The performance expectation is 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 initiated 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 may be assessed as not implementing the RSPS. Each event response must be judged on a case-by-case basis.

Similarly, the definition of “accurate” in the DEP PI indicates the efficacy of program elements such as training, drills, procedure quality, corrective actions, etc. An error in the notification form may have no impact on off site agency efforts, but would have been considered a failure under the PI definition. The effect of errors should be judged against the RSPS function to determine if the failure rises to the level of a failure to implement a RSPS.

Failure to comply with requirements during a drill is a performance problem that should be corrected, but is not a “failure to implement” as the term is used in this SDP.

Criteria

a. Failure to comply with a requirement has occurred during an actual event. This is generally determined by reviewing compliance with a regulation or Plan commitment.

b. Failure to implement a PS function has occurred during an actual event. This is generally determined by

reviewing licensee performance against the PS function.

Considerations

Review the PS function. If the poor performance had little impact on function, it may not be appropriate to consider the performance as a failure to implement a PS or perhaps even a failure to comply.

4.0 DRILL OR EXERCISE CRITIQUE PROBLEM

Background

This branch of the SDP is used for inspector issues identified through the baseline program inspection of licensee drills and exercises. Inspection Procedure Nos. 71114.01 and 71114.06 instruct inspectors to observe exercises and drills and identify weaknesses (i.e., a demonstrated level of performance that could have precluded effective implementation of the emergency plan in an actual emergency.) Performance that would be a failure to implement had it occurred during an actual event is a subset of weaknesses and represents a more significant performance problem, i.e., there could be weaknesses that do not rise to the level of a failure to comply, but not vice versa.

The SDP stratifies critique failures at two levels; those involving the failure to identify RSPS weaknesses represent a loss of PS function and are potentially white and the failure to identify other weaknesses are potentially green.

10 CFR 50.47(b)(14) requires that *Periodic exercises are conducted to evaluate major portions of emergency response capabilities, periodic drills are conducted to develop and maintain key skills and 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.* Neither of these regulations speaks to the quality of the critique. However, the EP Cornerstone licensee response band is created by the PI system and the licensee's corrective action program. Data for the DEP and ERO PI values comes from drill and exercise critiques. If the critique program is not identifying performance problems, the EP licensee response band comes into

question. The white finding for a single failure to identify RSPS weaknesses is a high standard based on the NRC need to ensure the efficacy of the licensee critique program and hence the licensee response band.

There are additional considerations regarding the logic of this branch of the SDP. NRC inspectors evaluate only a small sample of critique activities. The small sample amplifies significance when problems are found. Additionally, a tenet of the reactor oversight process is that aggregation of issues does properly reflect risk significance. This being the case, the significance of a single critique problem must be determined. While the standard is high, such problems are expected to be rare. Baseline inspection significantly changed the interaction between NRC and licensees in the evaluated exercise. Inspection reports in the past addressed performance directly, offering judgements on numerous activities and weaknesses were documented. The baseline only judges the critique, not the performance directly, and offers ~~so~~ no judgement on performance. This change reduces unnecessary regulatory burden while maintaining safety. However, a high standard is expected of the critique process, and when problems are encountered, management attention should be focused on corrective actions and NRC follow up inspection is appropriate.

Findings under this branch of the SDP are not cited as violations. These findings are based on the need to ensure the efficacy of the licensee response band, rather than noncompliance with regulations. The colored finding is issued without noncompliance citation.

Licensees perform critiques in many different ways and the baseline inspection instructs inspectors ~~tp~~ to be flexible in accepting mechanisms for problem identification. 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 be assured that the weakness 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 the disposition is identified as a critique problem. However, disregard for well founded evaluator identified

weaknesses should be considered as a critique problem. In particular, if the weakness would be a failure to implement if the event had been actual, the NRC expectation is that it will be captured by the critique.

The Plan contains the approved commitments for NRC regulations. The implementing procedures are the licensee's methods of implementing those commitments 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 branch of the SDP for a failure to comply with regulatory requirements should be used to determine significance. Licensee mistakes and mis-steps that only detract from implementation should not be considered weaknesses. Mistakes are likely to happen in the course of an exercise and when these are corrected by the ERO it reveals an organizational strength rather than a weakness.

RSPS problems should be given the highest priority in the critique process. The baseline inspection program is based on the availability of accurate PI data to properly reflect licensee performance. The DEP PI is based on licensee determination of timely and accurate classification, notification and PAR development. 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. NEI 99-02 defines timely and accurate for classification, notification and PAR development. A critique that fails to identify problems within the definitions, should be considered as a failure to identify RSPS problems. A failure to identify some facet of these processes that is outside the definitions would not be considered as failure to identify RSPS problems. The expectation is for the critique to emphasize evaluation of performance in the RSPS areas.

The RSPS include 10 CFR 50.47(b)(9). This RSPS is covered by the DEP PI in an indirect manner (i.e., classification and PARs may be based on dose projections.) Judgement may be exercised in viewing the significance of performance problems concerning this RSPS, i,e., some mis-steps may not rise to the level of a weakness. However, the expectation is for the critique to emphasize evaluation in the RSPS areas and weaknesses should be identified and corrected.

Criteria

A licensee critique of a drill or exercise has failed to identify a weakness observed by NRC inspectors.

Considerations

The weakness that was missed by the critique must be a demonstrated level of performance that could have precluded effective implementation of the emergency plan in an actual emergency. Some mis-steps in performance may not rise to the level of a weakness and/or were corrected by the subsequent actions of the ERO.

Critique processes differ among licensees and a licensee should be given credit if the weakness would have been captured by these processes whether the weakness was verbalized at a critique meeting or not.

5.0 LOSS OF PS FUNCTION

“Loss of PS function” or “PS Functional Failure” means that program elements are not in compliance with the PS of 10 CFR 50.47(b) because the function of the PS is not available for emergency response. It may be that the Plan commitments are not met, that the Plan commitments are inadequate, that implementing procedures are inadequate, that program design is inadequate, that training is inadequate, etc., such that the program element can not be implemented or the personnel responsible for it are not capable of implementing it. The PS function is taken from 50.47(b) and Appendix E. Compliance with all NRC requirements is necessary. However, the PS function is identified for the purposes of determining the significance of a failure to comply. Examples of the loss of PS function are provided.

Loss of PS function is more significant than failure to comply with individual requirements associated with the PS. The PS often have several elements and Appendix E to 10 CFR 50 contains requirements that generally align with the PS. The Appendix E requirements are grouped with the PS and compliance with all regulations is required, However, PS functionality does not require compliance with every requirement. The failure of a program to implement one or a few of these guidance items does not necessarily mean a loss of PS function. Judgement must be rendered to determine if the PS function is met even with the noncompliance. If the function is met, there may still be failure to comply without the loss of PS function.

A review of the licensee program against the planning criteria of NUREG-0654 can inform the judgement of PS function. The review must consider any deviations from the guidance approved by NRC. However, the guidance of NUREG-0654 is not regulation. The citation of this guidance is only intended to inform the

process of determining adequacy of a program. The determination of loss of PS function will be based on the criteria provided in this SDP and informed judgement.

Loss of function of RSPS results in a yellow finding. There may be cases where the RSPS function is not lost, but is degraded. These cases warrant a finding, but do not rise to the level of a yellow finding. Examples are provided for the degraded RSPS contingency under each RSPS and these findings would be white. A failure to comply that does not rise to the level of a degraded RSPS, results in a green finding.

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

5.1 10 CFR 50.47(b)(1)

The PS functions are:

- Responsibility for emergency response is assigned.
- The response organization has the staff to respond on a continuing basis.

Requirements are found in Appendix E, §IV. A. 1., 2., 3., 4., 5., 6., 7., and 8.

Informing criteria are found in NUREG-0654 § II. A.

Examples of loss of PS function 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.

Examples of a green finding would include:

- Changes to the Plan have occurred that decrease the effectiveness, but do not cause a loss of PS function.

Comment:
This wording is the same as a violation under 54(q). It's also a Green. Concern is that some inspectors would take the opportunity to assign two Green findings.

Examples of a minor violation would include:

- None

5.2 10 CFR 50.47(b)(2)

The PS functions are:

- On-shift emergency response responsibilities are assigned,
- Adequate initial response staff is maintained.
- The capability for timely augmentation of initial response staff is maintained.

Requirements are found in Appendix E, §IV. A. 2. a., b., and c. and 3 and Appendix E, §IV. C.

Informing criteria are found in NUREG-0654 § II. B.

Examples of loss of PS function include:

- On-shift emergency response responsibilities are not assigned to the extent that the responsibilities for key decision makers (i.e., the Emergency Director) in the control room, TSC or EOF are not assigned.
- On-shift staffing routinely does not comply with Plan commitments (more than about 3% of off normal shifts over a six month period.)

Comment:
2nd example bullet 3% of normal shifts over a 6 month period. Where does this criteria come from. For 12 hour shifts, this would equate to 11 shifts in 6 months. This could also be interpreted as tracking the time by the hour. This could be a tracking concern, but our NCR trending should ID this (11 times in 6 months) prior to meeting the finding level. This would need to be tracked as an unintended consequence. Could also be an issue with instilling an approach that would be negative in that plants might limit their exposure by running only limited drill sets

- Staffing augmentation processes are not capable of ensuring augmentation of the initial response staff IAW facility activation commitments, i.e., for more than one required ERO function IAW Plan commitments to NUREG-0654 Table B-1.

Comment:

Need to discuss 3rd example bullet in regard to augmentation capabilities and manner in which this bullet would be evaluated.

- Changes (not approved by NRC) to the Plan have resulted in a staff that no longer meets applicable guidance (or is not consistent with previous NRC approval) for emergency response staffing, i.e., more than one Plan required ERO function IAW Plan commitments to NUREG-0654 Table B-1.

Examples of a green finding would include:

- On-shift emergency response responsibilities are not assigned to the extent that any NUREG-0654 Table B-1 function, as committed to in the approved Plan, is not assigned.
- On-shift staffing sometimes does not comply with Plan commitments.
- Staffing augmentation processes are not capable of ensuring augmentation of the initial response staff ~~IAW facility activation commitments~~ for any required ERO function IAW the Plan.

Comment:
This example is setup to be misinterpreted. A single failure of an augmentation drill could meet this criteria. In this case, we need to address continuing problems with augmentation drills not addressed through the CAP.

- Changes (not approved by NRC) to the Plan have resulted in a staff that no longer meets applicable guidance (or is not consistent with previous NRC approval) for emergency response staffing for any required ERO function.

Examples of minor issues that do not rise to the level of a finding would include:
~~Examples of a minor violation would include:~~

- On-shift staffing does not comply with Plan commitments for a short period while qualified personnel are being called in.
- A lapse in ERO augmentation capability occurs, perhaps due to equipment failure ~~of~~ or scheduling errors, for which compensating measures are rapidly pursued.

5.3 10 CFR 50.47(b)(3)

The PS functions are:

- Arrangements for requesting and using offsite assistance have been made.
- State and local staff can be accommodated at the EOF IAW the Plan.

Requirements are found in Appendix E § IV. A. 6. and 7.

Informing criteria are found in NUREG-0654 § II. C.

Examples of loss of PS function include:

- Plan elements have degraded to the point that Plan commitments for offsite assistance can no longer be met for medical, fire or law enforcement support.
- The EOF has been changed in such a manner that it can no longer accommodate offsite authorities, IAW the Plan.

Comment:
Note: Some plans make allowance for this accommodation through means other than the physical presence of offsite responders.

Examples of a green finding would include:

- Agreements with organizations committed in the Plan as supporting the response effort have ~~not~~ been allowed to lapse, but the agency remains willing to support the Plan.
- Plan elements have degraded to the point that Plan commitments for offsite assistance can no longer be met for support other than medical, fire or law enforcement support.

Examples of a minor violation would include:

- An MOU is under revision but has lapsed with agreement for continuing support.

5.4 10 CFR 50.47(b)(4)

The RSPS function is:

- A standard scheme of emergency classification and action levels ~~be~~ is in use.

Requirements are found in Appendix E § IV. B. and C.

Informing criteria are found in NUREG-0654 § D.

Standard Scheme - ~~It should be noted that~~ NRC has endorsed NUREG-0654 as a "standard scheme" and NESP/NUMARC-007 ~~which as~~provides an alternate "standard scheme of emergency classification." Additionally, NRC has allowed certain modifications to the classification scheme. ~~as outlined in EPPOS-1.~~

Example Matrix:

	GREEN	WHITE	YELLOW
NOUE	ANY	-	-
ALERT	1	2	3 or more
SITE AREA	-	1	2 or more
GENERAL	-	-	1 or more

Note: Matrix summarizes the number of EAL change findings that would result in a colored finding for each classification level

Examples of loss of RSPS function include:

- EAL changes (not approved by NRC) have downgraded the Emergency Class of an initiating condition (or conditions) such that more than two Alerts, more than one Site Area Emergency or any General Emergency that should be declared under approved guidance would not be declared under the changed scheme.

Examples of degradation of RSPS function include:

- EAL changes (not approved by NRC) have downgraded the Emergency Class of an initiating condition (or conditions) such that more than one Alert ~~and~~ or any Site Area Emergency that should be declared under approved guidance would not be declared under the changed scheme.

Examples of a green finding would include:

- EAL changes (not approved by NRC) have downgraded the Emergency Class of an initiating condition (or conditions) such that any Alert or Notification of Unusual Event that should be declared under approved guidance would not be declared under the changed scheme.

- Changes to the EAL scheme that deviate from approved guidance but do not rise to either of the above levels may be a decrease in effectiveness and in noncompliance with 10 CFR 50.54(q).

Examples of ~~a~~ minor issues that do not rise to the level of a finding would include:

- A typo or minor error in an EAL, not substantially affecting the declaration of the proper Emergency Class, is identified for correction.
- Editorial changes that do not change the intent of the EAL

5.5 10 CFR 50.47(b)(5)

The RSPS functions are:

- Procedures for notification of state and local officials are established, in use and capable of initiating notification within 15 minutes of declaration of an emergency (requirement from Appendix E that is a function of the RSPS.)
- The means for public alert and notification are established and available~~,~~. ~~(The ANS PI covers reliability and the SDP does not address findings for siren reliability problems. However, availability problems are not addressed by the PI, but can be addressed by the SDP.)~~
- ~~The public alert and notification system shall be capable of providing an alert signal throughout the 10 mile EPZ, within 15 minutes (FEMA-REP-10 and Case Law.) (However, the ANS PI addresses this function adequately.)~~The design objective of the prompt public notification system shall be to have the capability to essentially complete the initial notification of the public within the plume exposure pathway EPZ within about 15 minutes. The use of this notification capability will range from immediate notification of the public (within 15 minutes of the time that State and local officials are notified that a situation exists requiring urgent action) to the more likely events where there is substantial time available for the State and local governmental officials to make a judgment whether or not to activate the public notification system. (10CFR50 App. E)
- The public alert and notification system shall be capable of ensuring direct coverage of essentially 100% of the population within 5 miles of the site (REP-10 and Case Law.)
- Special arrangements will be made to ensure 100% of the public in the EPZ is notified within 45 minutes (REP-10 and Case Law.)

Requirements are found in Appendix E §IV. D. 1. and 3. Much of these requirements are integral to the RSPS function and have been incorporated above.

Informing criteria are found in NUREG-0654 § E and Appendix 3.

Criteria are found in FEMA-REP-10. Some of these criteria are integral to the RSPS function and have been incorporated above.

Case law includes: ASAB-935, Appeal of Seabrook ANS Issues; ASLBP No. 82-472-03, Shearon Harris ANS issues: ASAB-852, Appeal of Shearon Harris ANS issues. It may be noted that ASAB rulings are precedent setting nationally. ASLBP ruling are not, but the guidance therein can inform deliberations.

Example Matrix:

	GREEN	WHITE	YELLOW
Current Draft	> 98	98	≤ 95
Proposed	< 95	< 90	< 85

Note: Matrix summarizes the required population coverage for each finding color based on Case Law based on required coverage of the 5 mile EPZ. Note that based on Shearon Harris Case Law >95% of the population in the 5 mile area around the plant is equivalent to essentially 100% of the population.

Examples of loss of RSPS function include:

- ~~Procedures~~ Process will not enable personnel to initiate offsite notifications within 15 minutes of declaration of an emergency.
- ~~Communications systems will not enable personnel to initiate offsite notifications within 15 minutes of declaration of an emergency.~~

Comment:
By changing the first bullet to process, need for this bullet is eliminated.

- The public alert and notification system i.e., sirens and supporting primary notification methods are not designed or have degraded (e.g., due to poor maintenance practices) to the extent that the system will not immediately (within 15 minutes) and directly deliver at least the sound level approved in the Design Report for more than 15% of the population within 5 miles and:

~~(e.g., due to poor maintenance practices) or~~

~~the sound level coverage has degraded (e.g., due to poor maintenance practices) or~~

~~demographics have changed or~~

~~background noise levels have increased.~~

~~to the extent that the system will not immediately (within 15 minutes) and directly deliver at least the sound level approved in the Design Report for more than 5% of the public (or perhaps this should be 5% of the sirens?), (or more than 200 households,) within 5 miles and:~~

- This condition has been in existence for more than about 30 days, and
- Compensating measures have not been in place during the 30 day period.

Comment:
The 30 days specified in the above criteria is inconsistent with availability of population and sound profile data. These new requirements must be addressed through the Regulatory process.

These criteria, as related to siren systems, are intended to be used for design problems, maintenance problems or demographic changes and not to judge a known siren reliability problem. Such problems are covered by the ANS PI. It is assumed that if the problem is known, compensating measures would be put in place and repair efforts would proceed with high priority. If such measures are not in place, the problem, essentially, was not known.

- The public alert and notification system i.e., sirens and supporting primary notification methods and other special arrangements are not designed or have degraded (e.g., due to poor maintenance practices) to the extent that the system will not ensure that greater than 85% of the public in the EPZ is notified within 45 minutes and

- ~~Public alert and notification systems i.e., sirens, supporting primary notification methods and other special arrangements:~~

~~are not designed or~~

- ~~have degraded (e.g., due to poor maintenance practices) or~~
- ~~the siren sound coverage has degraded (e.g., due to poor maintenance practices) or~~
- ~~demographics have changed or~~

- ~~background noise levels have increased.~~

~~to the extent that the system will not ensure that greater than 95% of the public in the EPZ is notified within 45 minutes (or perhaps this should be 95% of the EPZ?), (and more than 400 households?) and~~

- This condition has been in existence for more than about 30 days, and
- Compensating measures have not been in place during the 30 day period.

Comment:
The 30 days specified in the above criteria is inconsistent with availability of population and sound profile data. These new requirements must be addressed through the Regulatory process.

The "system" referred to here is likely more than just the siren system and may include route alerting, tone alert radios and other special arrangements. The above criteria are intended to be used for the public alert and notification system design problems, maintenance problems, demographic changes or other degradations and not to judge a known siren reliability problem. Siren reliability problems are covered by the ANS PI. It is assumed that if the problem is known, compensating measures would be put in place and repair efforts would proceed with high priority. If such measures are not in place, essentially the problem was not known.

Examples of degradation of RSPS function include:

- The public alert and notification system i.e., sirens and supporting primary notification methods are not designed or have degraded (e.g., due to poor maintenance practices) to the extent that the system will not immediately (within 15 minutes) and directly deliver at least the sound level approved in the Design Report for more than 10% of the population within 5 miles and:

~~• The public alert and notification system i.e., sirens and supporting primary notification methods:~~

~~▪ are not designed or~~
~~▪ have degraded (e.g., due to poor maintenance practices) or~~
~~▪ the sound level coverage has degraded (e.g., due to poor maintenance practices) or~~
~~▪ demographics have changed or~~
~~▪ background noise levels have increased.~~

~~to the extent that the system will not immediately (within 15 minutes) and directly deliver at least the sound level approved in the Design Report for more than 2% of the public (or perhaps this should be 2% of the sirens?), (or more than 200 households,~~

- This condition has been in existence for more than about 30 days. and
- Compensating measures have not been in place during the 30 day period.

Comment:
The 30 days specified in the above criteria is inconsistent with availability of population and sound profile data. These new requirements must be addressed through the Regulatory process.

These criteria, as related to siren systems, are intended to be used for design problems, maintenance problems or demographic changes and not to judge a known siren reliability problem. Such problems are covered by the ANS PI. It is assumed that if the problem is known, compensating measures would be put in place and repair efforts would proceed with high priority. If such measures are not in place the problem, essentially was not known.

• The public alert and notification system i.e., sirens and supporting primary notification methods and other special arrangements are not designed or have degraded (e.g., due to poor maintenance practices) to the extent that the system will not ensure that greater than 90% of the public in the EPZ is notified within 45 minutes and

•

~~Public alert and notification systems i.e., sirens, supporting primary notification methods and other special arrangements:~~

~~▪ are not designed or~~
~~▪ have degraded (e.g., due to poor maintenance practices) or~~
~~▪ the siren sound coverage has degraded (e.g., due to poor maintenance practices) or~~
~~▪ demographics have changed or~~
~~▪ background noise levels have increased.~~

~~to the extent that the system will not ensure that greater than 98% of the public in the EPZ is notified within 45 minutes (or perhaps this should be 98% of the EPZ?), (and more than 400 households?) and~~

- This condition has been in existence for more than about 30 days. and
- Compensating measures have not been in place during the 30 day period.

Comment:
The 30 days specified in the above criteria is inconsistent with availability of population and sound profile data. These new requirements must be addressed through the Regulatory process.

The "system" referred to here is likely more than just the siren system and may include route alerting, tone alert radios and other special arrangements. The above criteria are intended to be used for the public alert and notification system design problems, maintenance problems, demographic changes or other degradations and not to judge a known siren reliability problem. Siren reliability problems are covered by the ANS PI. It is assumed that if the problem is known, compensating measures would be put in place and repair efforts would proceed with high priority. If such measures are not in place, essentially the problem was not known.

Examples of a green finding would include:

- The public alert and notification system i.e., sirens and supporting primary notification methods are not designed or have degraded (e.g., due to poor maintenance practices) to the extent that the system will not immediately (within 15

minutes) and directly deliver at least the sound level approved in the Design Report for more than 5% of the population within 5 miles and:

- ~~The public alert and notification system i.e., sirens and supporting primary notification methods:~~

  ~~▪ are not designed or~~
  ~~▪ have degraded (e.g., due to poor maintenance practices) or~~
  ~~▪ the sound level coverage has degraded (e.g., due to poor maintenance practices) or~~
  ~~▪ demographics have changed or~~
  ~~▪ background noise levels have increased.~~

  ~~to the extent that the system will not immediately (within 15 minutes) and directly deliver at least the sound level approved in the Design Report in(for more than 2% of the public (or perhaps this should be 2% of the sirens?), (or more than 200 households, % changes but households didn't Was the previous bullet suppose to be 400) n all areas within 5 miles and:~~

  - This condition has been in existence for more than about 30 days. and
  - Compensating measures have not been in place during the 30 day period.

Comment:
The 30 days specified in the above criteria is inconsistent with availability of population and sound profile data. These new requirements must be addressed through the Regulatory process.

These criteria, as related to siren systems, are intended to be used for design problems, maintenance problems or demographic changes and not to judge a known siren reliability problem. Such problems are covered by the ANS PI. It is assumed that if the problem is known, compensating measures would be put in place and repair efforts would proceed with high priority. If such measures are not in place the problem, essentially was not known.

- The public alert and notification system i.e., sirens and supporting primary notification methods and other special arrangements are not

designed or have degraded (e.g., due to poor maintenance practices) to the extent that the system will not ensure that greater than 95% of the public in the EPZ is notified within 45 minutes and

- ~~Public alert and notification systems i.e., sirens, supporting primary notification methods and other special arrangements:~~

  - ~~are not designed or~~
  - ~~have degraded (e.g., due to poor maintenance practices) or~~
  - ~~the siren sound coverage has degraded (e.g., due to poor maintenance practices) or~~
  - ~~demographics have changed or~~
  - ~~background noise levels have increased.~~

  ~~to the extent that the system will not ensure that 100% of the public in the EPZ is notified within 45 minutes and~~

  - This condition has been in existence for more than about 30 days, and
  - Compensating measures have not been in place during the 30 day period.

Comment:
The 30 days specified in the above criteria is inconsistent with availability of population and sound profile data. These new requirements must be addressed through the Regulatory process.

The “system” referred to here is likely more than just the siren system and may include route alerting, tone alert radios and other special arrangements. The above criteria are intended to be used for the public alert and notification system design problems, maintenance problems, demographic changes or other degradations and not to judge a known siren reliability problem. Siren reliability problems are covered by the ANS PI. It is assumed that if the problem is known, compensating measures would be put in place and repair efforts would proceed with high priority. If such measures are not in place, essentially the problem was not known.

Examples of minor issues that do not rise to the level of a finding would include:

~~Examples of a minor violation would include~~

- ~~TBD~~Minor notification procedure errors that do not affect the notification process.

5.6 10 CFR 50.47(b)(6)

The PS functions are:

- Systems are established for prompt communications among Principal emergency response organizations.
- Backup power supplies exist and are operational for at least one onsite and one offsite communication system (from Appendix E.)
- Systems are established for prompt communications to emergency response personnel.

Requirements are found in Appendix E § IV E. 9.

Informing criteria are found in NUREG-0654 § II. F.

Examples of loss of PS function include:

Comment:
Under "Examples of loss of PS include:" The first bullet should more clearly acknowledge alternate equipment. I'm sure the intent is not to declare a loss solely on the failure of the primary equipment only, if there is suitable alternative equipment available to perform the function (i.e. most have 3-4 alternates for State & local notification). The same comment would apply to the 3rd bullet for communication with monitoring teams. It should clearly state that the function itself is lost, including alternative equipment. It does mention compensating measures are acceptable but it is applied to while repair activities are occurring.

- Communications equipment is significantly degraded (e.g., many phones and more than two circuits) in the TSC, EOF, or Control Room, such that implementation of the Plan would be impacted, for longer than about a day. In the event of major disruptive events (e.g., hurricane, fire, explosion, loss of power, etc.,) or planned outages, compensating measures are acceptable while repair activities proceed with high priority.
- Backup power supplies for at least one onsite and one offsite communication systems, as required by Appendix E, are not functional for more than 30 days, in the absence of compensating measures.
- Communications equipment is significantly degraded (e.g., many phones and more than two

circuits) such that communications with field monitoring teams, emergency news facility, the OSC or damage control teams would be impacted, for longer than about a week. In the event of major disruptive events (e.g., hurricane, fire, explosion, loss of power, etc.,) or planned outages, compensating measures are acceptable while repair activities proceed with high priority.

Examples of a green finding would include:

- Communications equipment is significantly degraded (e.g., many phones and more than two circuits) in the TSC, EOF, or Control Room, such that implementation of the Plan would be impacted, for longer than a few hours. In the event of major disruptive events (e.g., hurricane, fire, explosion, loss of power, etc.,) or planned outages, compensating measures are acceptable while repair activities proceed with high priority.

Comment:
Degraded and implementation of the Plan impacted are highly subjective terminology. In accordance with risk signficant PS, propose that communications systems were not capable of performing risk significant functions. That is communication of class/PAR.

- Backup power supplies for at least one onsite and one offsite communication systems, as required by Appendix E, are not functional for more than a few days, in the absence of compensating measures.
- Communications equipment is significantly degraded (e.g., many phones and more than two circuits) such that communications with field monitoring teams, emergency news facility, the OSC or damage control teams would be impacted, for longer than about a day. In the event of major disruptive events (e.g., hurricane, fire, explosion, loss of power, etc.,) or planned outages, compensating measures are acceptable while repair activities proceed with high priority.

Examples of a minor violation would include:

Comment:
What is a few phones?

- A few phones are out of service in any emergency center for longer than a week from recognition.
- Communications equipment is significantly degraded (e.g., many phones and more than two circuits) in any emergency center, such that implementation of the Plan would be impacted, for a short time before repair or compensating measures are implemented.

5.7 10 CFR 50.47(b)(7)

The PS functions are:

- EP information is made available to the public on a periodic basis within the EPZ.
- Procedures for coordinated dissemination of public information during emergencies are established.

Requirements are found in Appendix E. §IV. D. 2.

Informing criteria are found in NUREG-0654 § II. G.

Examples of loss of PS function include:

- EP related public information has not been disseminated for a period 50% longer than that committed to in the Plan or in the absence of Plan commitment, federal guidance.
- EP related public information documents do not contain the required information, i.e., how the public will notified, what their actions should be, and the principal points of contact for information during an emergency.
- Processes for dissemination of information during emergencies can not be effectively implemented, e.g., staff necessary to operate the emergency news center is not knowledgeable enough to operate the center, procedures for dissemination of information are not established, augmentation (call out) processes will not ensure activation of center staff in a timely manner (activation goals plus 100%,24/7) and/or methods for information approval will not allow timely and accurate information releases.

Examples of a green finding would include:

- The dissemination of EP related public information is not complete in that transient

areas, EPZ segments or other groups are not sent the information.

- Procedures for dissemination of information to the public are not maintained such that significant elements of the public information process are degraded (e.g., contact lists are not effective, approval process can not be implemented due to organization changes, etc.)

Examples of a minor violation would include:

- The news center (if required) misses activation timeliness goals (if required by the plan) during an actual event by 30 minutes.
- EP related public information documents are disseminated more than three ~~a~~ months late, or a few transient areas (e.g., hotels) do not receive ~~(or remember receiving)~~ the documents.

5.8 10 CFR 50.47(b)(8)

The PS functions are:

- adequate facilities are maintained to support emergency response and
- adequate equipment is maintained to support emergency response.

Requirements are found in Appendix E. §IV. E. 1, 2, 3, 4, 8, and G.

Informing criteria are found in NUREG-0654 § II. H.

Informing criteria are found in NUREG-0696

Examples of loss of PS function include:

- The TSC or EOF is not functional and an alternate facility is not available, for a period of longer than about a day. In the event of major disruptive events (e.g., hurricane, fire, explosion, loss of power, etc.,) or planned outages, compensating measures are acceptable while repair activities proceed with high priority.

Note:
Under the 2nd bullet, The loss of the TSC or EOF should be considered a loss only when there is not an established alternate facility available. We have taken credit for our alternate facility a few times for a great period of time during TSC remodeling and when we had ventilation system problems. The

other issue with this bullet is that the unavailability factor of 0.01 implies that there should be a performance indicator established to track unavailability. Is that the intent, if not, what sort of documentation would need to be kept for inspection purposes. The loss of a facility should be based on the timeliness of the repair based on the circumstances and whether there is an adequate alternative facility available.

- The TSC or EOF is not functional to the extent that unavailability exceeds .01 (as defined by NUREG-0696, with the exception that cold shut down time should be included in the calculation) over a four quarter rolling average. In the event of major disruptive events (e.g., hurricane, fire, explosion, loss of power, etc.,) or planned outages compensating measures are acceptable while repair activities proceed with high priority.

Note:
If a backup facility is available then loss of the primary facility should not constitute a loss of PS. What constitutes facility availability?

- The backup or alternate EOF (if required) is not functional for a period of longer than about 30 days. In the event of major disruptive events (e.g., hurricane, fire, explosion, loss of power, etc.,) or planned outages, compensating measures are acceptable while repair activities proceed with high priority.

- Equipment necessary to implement the Plan (what does this mean? This has been used to include a variety of equipment when no other finding seemed to fit.) is not available or not functional to an extent that would severely hamper implementation of the Plan for longer than about a week~~.~~, e.g., lack of field monitoring team instrumentation, lack of damage control equipment, etc. The availability of additional equipment, on site, in a reasonably timely manner is considered as compensating for the PS function.

Examples of a green finding would include:

- Equipment committed to in the Plan is not available to such an extent that implementation would be hampered. What does hampered mean?
- Changes have been made to the TSC or EOF that do not comply with the Plan, but the facilities remain functional.

Examples of a minor violation would include:

- A few equipment or instrumentation items committed to in the Plan are missing or out of calibration and replacement equipment or instrumentation is available on site.

5.9 10 CFR 50.47(b)(9)

The RSPS function is:

- Methods, systems and equipment for assessment of radioactive releases are in use.

Requirements are found in Appendix E. §IV. B. and E. 2.

Informing criteria are found in NUREG-0654 § II. I.

	GREEN	WHITE	YELLOW
Current draft dose assessment capability	Loss of primary method > 1 day	Loss of all > 1 day	Loss of all > 3 days
Proposed dose assessment capability	Loss of all > 1 day	Loss of all > 2 day	Loss of all > 3 days

Note: The proposed matrix row above describes the time frame and resulting color finding that would result from exceeding the indicated time to restore dose assessment capability once loss is discovered. Development of a surveillance program to measure 100% availability would be an unintended consequence of this SDP revision if the requirement is not timed from “when discovered”.

Examples of loss of RSPS function include:

- ~~More than 50% of on-shift and augmentation personnel responsible for dose assessment, can not effectively implement methods to estimate source term or project offsite doses in timely manner as determined through NRC observed performance drills IAW IP 82001.~~
- Methods are inadequate to estimate source term and/or project offsite dose due to a radioactive release as indicated by: ~~(i.e., do not conform to regulatory guidance or are not otherwise technically justifiable,)~~ ~~to estimate source term~~

~~and/or project offsite dose due to a radioactive release.~~

- Methods do not conform to regulatory guidance
- Methods are not technically justifiable
- More than 50% of on-shift and augmentation personnel responsible for dose assessment, can not effectively implement methods to estimate source term or project offsite doses in a timely manner as determined through NRC observed performance drills IAW IP 82001.

- Equipment for dose projection is not functional for longer than about ~~a~~ three days, to the extent that no ~~on-site c~~(if provisions have been made to provide the capability it doesn't matter where that capability is located.) capability exists for immediate dose projection.
- Changes have been made to dose projection systems (e.g., software) that result in loss of all on site assessment capability through failure of software, significant systematic errors (i.e., not due to normal uncertainty in the process) or loss of input parameter capability, and the condition exists for more than about three days without compensating measures.

Examples of a degradation of the RSPS function include:

- Methods are degraded to estimate source term and/or project offsite dose due to a radioactive release as indicated by more than 25% of on-shift and augmentation personnel responsible for dose assessment, can not effectively implement methods to estimate source term or project offsite doses in a timely manner as determined through NRC observed performance drills IAW IP 82001.

~~More than 25% of on-shift and augmentation personnel responsible for dose assessment, can not effectively implement methods to estimate source term and/or project offsite doses in timely manner as determined through NRC observed performance drills IAW IP 82001.Concern: Many licensees are in four shift rotation. This can be read by the zealous inspector as a failure of one of those four crews.~~

- The field monitoring function is unavailable for more than about 3 days. In the event of major disruptive events (e.g., hurricane, fire, explosion, loss of power, etc.,) or planned outage, compensating measures are acceptable

while repair activities proceed with high priority.

Comment: What has to be unavailable to have the field monitoring function unavailable?

~~• More than 25% of personnel responsible for dose assessment can not recognize erroneous results beyond physical possibility as determined through NRC observed performance drills IAW IP 82001.~~

- Equipment or systems for dose projection are not functional for longer than 2 days, to the extent that no capability exists for immediate dose projection in emergency response centers as committed in the Plan.

Examples of a green finding would include:

- Equipment for dose projection is not functional for longer than one day, to the extent that no (if provisions have been made to provide the capability it doesn't matter where that capability is located.) capability exists for immediate dose projection.

- ~~Dose projection equipment and systems are not available (or not operational) as committed in the Plan, but redundant or back up systems are available, for longer than about a day.~~

Examples of minor issues that do not rise to the level of a finding would include:

~~Examples of a minor violation would include:~~

- Dose projection equipment and systems are not available (or not operational) as committed in the Plan, but redundant or back up systems are available.
- ~~Dose projection equipment and systems are not available (or not operational) as committed in the Plan, but redundant or back up systems are available for some period less than a day.~~

5.10 10 CFR 50.47(b)(10)

This PS has two aspects that are of differing risk significance. The establishment and implementation of PARs is integral to protection of public health and safety and 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. The worker protection portion is considered to be a PS.

The RSPS function is:

- A range of public protective action recommendations (PARs) is available for implementation during emergencies.

There are no requirements in Appendix E.

Informing criteria are found in NUREG-0654 § II. J. 1., 2., 3., 4., 7., 8., 10 and Supplement 3.

	GREEN	WHITE	YELLOW
Current draft Population impacted by PAR exclusion	None	≤ 1%	> 1%
Rev 1 - Proposed Population impacted by PAR exclusion	< 1%	≤ 5%	> 5%
Rev 1 - Proposed OCA Population impacted by PAD exclusion	< 1%	≤ 5%	> 5%

Note: The proposed matrix row above describes the affected population based on Shearon Harris case law. Provides uniformity for recommended actions and decisions for the public in the OCA.

Examples of loss of RSPS function include:

- ~~50% of of on-shift and augmentation personnel responsible for the development of PARs are not able to implement the guidance as determined through NRC observed performance drills IAW IP 82001.~~

- ~~Procedures~~ Process does ~~do~~ not provide PARs that:
  - ~~-~~are in accordance with Plan commitments ~~or federal guidance~~ to the extent that in a General Emergency PARs would not be issued to cover affected populated areas greater than ~~about~~ 5~~1~~% of total EPZ area are in accordance with federal guidance for ~~or~~ areas beyond the EPZ when conditions ~~warrent~~warrant
  - 50% of on-shift and augmentation personnel responsible for the development of PARs are not able to implement the guidance as determined through NRC observed performance drills IAW IP 82001.
  - Process does not provide OCA protective actions that are in accordance with Plan commitments to the extent that protective actions would not be issued to cover greater than 5% of the affected OCA populated areas.

~~Licensee procedures do not provide a full range of PARs~~of PARs in that the owner controlled area ~~is not adequately addressed (e.g., IAW IN 2002-14.)~~

Examples of a degradation of the RSPS function include:

- Procedures do not provide PARs that are in accordance with Plan commitments or federal guidance to the extent that in a General Emergency PARs would not be issued to cover affected populated areas less than or equal to 5% of total EPZ area~~to cover affected populated areas the EPZ.~~
- Process does not provide OCA protective actions that are in accordance with Plan commitments to the extent that protective actions would not be issued to cover less than or equal to 5% of the affected OCA populated areas.

- ~~Licensee procedures do not provide a full range of PARs~~of PARs in that the owner controlled area ~~is not effectively addressed (e.g., IAW IN 2002-14.)~~

Note:
What is the difference for OCA between loss and degradation?~~.~~
The difference between adequately addressed and effectively addressed needs to be defined.

Examples of a green finding would include:

- Procedures do not provide PARs that are in accordance with Plan commitments or federal guidance to the extent that in a General Emergency PARs would not be issued to cover affected populated areas less than 1% of total EPZ area

~~TBD~~

- Process does not provide OCA protective actions that are in accordance with Plan commitments to the extent that protective actions would not be issued to cover less than 1% of the affected OCA populated areas.

Examples of minor issues that do not rise to the level of a finding would include:
~~Examples of a minor violation would include:~~

- TBD

The PS function is:

- A range of ~~public~~ protective actions is available for emergency workers during emergencies.

There are no requirements in Appendix E.

Informing criteria are found in NUREG-0654 § II. J. 2., 3., 4., 5. and 6.

Examples of loss of PS function include:

- the accountability processes is flawed (as determined by a review) to the extent that it can not ensure that on site accountability is accomplished and maintained during an emergency (Note: missing a timeliness goal or poor performance during a drill may indicate a problem for review, but in itself is not sufficient to establish a loss of PS function.)
- Knowledgeable personnel are not available to implement protective actions for workers. What does this do for us. Who decides knowledgeable.
- Plant page systems are out of service in occupied areas (> 25% of coverage) that may become high radiation areas during reactor accidents for greater than about a week without compensating measures.
- Plant page systems are out of service in general plant and on site areas (> 25% coverage) that should be evacuated during an emergency for more ~~that~~ than about ~~3o~~ 30 days. Previous two bullets provide arbitrary and new standards for plant page system. Likely to require significant realignment of PM program.

- Respiratory protective equipment on-site is degraded to the extent that the minimum complement of control room operators could not be protected for at least 4 hours, if needed, for a period of more than about a day.
- The site evacuation ~~the~~ process~~es~~ is flawed (as determined by a review) to the extent that it can not be accomplished during an emergency (Note: missing a timeliness goal or poor performance during a drill may indicate a problem for review,

but in itself is not sufficient to establish a loss of PS function.)

Examples of a green finding would include:

- Plant page systems are out of service in occupied areas (> 25% of coverage) that may become high radiation areas during reactor accidents for greater than about a day without compensating measures. ~~Same comment as above for first two bullets.~~

- Plant page systems are out of service in general plant and on site areas (> 25% coverage) that should be evacuated during an emergency for more that about a week.
- Respiratory protective equipment on-site is not maintained IAW regulations or plan commitments.

Examples of a minor violation would include:

- Plant page systems are out of service in a few occupied (undefined term)areas

5.11 10 CFR 50.47(b)(11)

The PS function is:

- The means for controlling radiological exposures for emergency workers are established.

Requirements are found in Appendix E. §IV. E.. 1.

Informing criteria are found in NUREG-0654 § II. K.

Examples of loss of PS function include:

- Radiological control equipment or instrumentation, necessary to control emergency worker exposures is not available (or out of service/calibration) to such an extent that emergency work in high radiation areas could not be conducted IAW regulatory requirements during emergencies, the availability of additional equipment, on site, in a reasonably timely manner is considered as compensating for the PS function.
- Processes for controlling exposures during emergencies will not ensure that exposures are maintained IAW Plan commitments.

Examples of a green finding would include:

- Equipment or instrumentation necessary for controlling necessary to control emergency worker exposures as committed in the Plan is not available to such an extent that emergency work in high radiation areas could not be conducted IAW regulatory requirements during emergencies. (You can't get to this bullet without reaching the loss.)

Examples of a minor violation would include:

- Equipment or instrumentation items committed to in the Plan are missing or out of calibration and replacement equipment or instrumentation is available at the storage location or on site with reasonable ~~accessability~~accessibility.

5.12 10 CFR 50.47(b)(12)

The PS function is:

- Arrangements are made for medical services for contaminated injured individuals.

Requirements are found in Appendix E. §IV. E. 5., 6. and 7.

Informing criteria are found in NUREG-0654 § II. L.

Examples of loss of PS function include:
Comment:
Under the "loss of PS" examples, the bullet should state "no agreement currently exists with any hospital to care for contaminated injured personnel". Those with multiple hospital contracts should not be penalized if one contract is not in effect for some period of time. The wording implies that alternate hospitals are addressed when it mentions "compensating measures" but it should clearly acknowledge that as long as an agreement is in place, the standard has not been lost.

- The support hospital(s) is no longer available or qualified or equipped for the care of contaminated injured personnel or support arrangements are no longer in place for the care of contaminated injured personnel, in the absence of compensating measures and a high priority effort for obtaining replacement support arrangements.

Examples of a green finding would include:

- MOUs for medical support are not current, but the capability remains.

Examples of minor issues that do not rise to the level of a finding would include:
~~Examples of a minor violation would include:~~

- None

5.13 10 CFR 50.47(b)(13)

Due to the non-emergency nature of recovery efforts, there is no PS functional failure that would be assigned for failures in this area, i.e., any failure to comply would not exceed a green finding.

There are no requirements in Appendix E.

Informing criteria are found in NUREG-0654 § II. M.

Examples of loss of PS function include:

- None.

Examples of a green finding would include:

- Recovery efforts are not preplanned.

Examples of minor issues that do not rise to the level of a finding would include:
~~Examples of a minor violation would include:~~

- None

5.14 10 CFR 50.47(b)(14)

The PS functions are:

- A drill and exercise program is established.
- Drills and exercises are assessed via a formal critique process.
- Identified weaknesses and deficiencies are corrected.

Requirements are found in Appendix E. §IV. F. 1. And 2.

Informing criteria are found in NUREG-0654 § II. N.

Examples of loss of PS function include:

- More than two drills/exercises (e.g. radiological plume phase, medical, HP, etc..) during the inspection cycle (i.e., the period over which all attachments of IP 71114 are conducted, usually about two years~~,~~) have not been conducted IAW the Plan commitments and the requirements of Appendix E.
- The drill and exercise critique process does not identify RSPS performance problems (determined through the "Drill/Exercise Critique Problem" branch of SDP.)

Comment:
~~(~~The only way to get ~~here~~to the above bullet is to already be at White based on NRC observation in the Drill/Exercise SDP chain. Would this be a second white. Looks to be designed for repeat White findings and should be appropriately addressed in ineffective corrective actions.~~)~~

- Formal critiques are not conducted for more than two scheduled drills/exercises during the inspection cycle.

Appendix E, Section IV, F, g. requires that weaknesses and deficiencies be corrected. The correction of weaknesses and deficiencies is of fundamental importance to the Cornerstone Objective. Guidance for this element of the PS is provided in Section 6.0.

Examples of a green finding would include:

- A drill/exercise (e.g. radiological plume phase, medical, HP, etc..) during the inspection cycle (i.e., the period over which all attachments of IP 71114 are conducted, usually about two years) has not been conducted IAW the Plan commitments and the requirements of Appendix E.
- ~~A drill (or required element of the drill program) during the inspection cycle (i.e., the period over which all attachments of IP 71114 are conducted, usually about two years,) has not been conducted IAW the Plan.~~

Examples of minor issues that do not rise to the level of a finding would include:~~Examples of a minor violation would include:~~

- ~~None~~A drill(s)/exercise(s) has not been conducted in accordance with the plan due to extenuating circumstances which has been self identified and appropriately rescheduled.

5.15 10 CFR 50.47(b)(15)

The PS function is:

- Training is provided to emergency responders.

Requirements are found in Appendix E. §IV. F. 1.

Informing criteria are found in NUREG-0654 § II. O.

Examples of loss of PS function include:

- Personnel have not received required EP training to such an extent that coverage by emergency response personnel is not available (due to lack of personnel with current training qualifications) for any key ERO function (as defined by NEI 99-02.) Note that if personnel have been removed from EP duty, their training qualifications are not a regulatory concern.

Examples of a green finding would include:

- Personnel have not received required EP training to such an extent that coverage by emergency response personnel is not available (due to lack of personnel with current training qualifications) for any Table B-1 function (as defined by the Plan.) Note that if personnel have been removed from EP duty, their training qualifications are not a regulatory concern.

Examples of minor issues that do not rise to the level of a finding would include:~~Examples of a minor violation would include:~~

- Personnel have not received required EP training but there are qualified personnel available to staff the affected positions.

5.16 10 CFR 50.47(b)(16)

Due to the non-emergency nature of Plan development efforts, there is no PS functional failure that would be

assigned for failures in this area, i.e., any failure to comply would not exceed a green finding.
There are no requirements in Appendix E.

Informing criteria are found in NUREG-0654 § II. P.

Examples of loss of PS function include:

- None.

Examples of a green finding would include:

- Responsibilities for Plan development are not established.

Examples of minor issues that do not rise to the level of a finding would include:
~~Examples of a minor violation would include:~~

- None

6.0 CORRECTIVE ACTIONS

General Comment:
This has been in and out of the SDP many times. Licensing committee initially concluded that EP corrective actions should be treated like rest of program. NRC concluded that the unique nature of PS 14 requires them to treat it separately.

Contention can be made that PS 14 applies to Drill and Exercise only and all other EP programmatic issues should not be included in this process.

6.1 INTRODUCTION

NRC Reactor Oversight Process EP Cornerstone is based on the licensee response band created by the PI program and the licensee problem identification and resolution (PI&R) program. As related to EP, PI&R encompasses the drill and exercise critique program, critique of actual events and other assessment activities such as QA audits and reviews performed IAW 50.54(t), as well as the corrective action program. The EP Baseline Inspection Program provides oversight of licensee efforts to critique drills and exercises and correct weaknesses. 10 CFR 50.47(b)(14) and Appendix E § IV. F. 2. g. require drills and exercises be formally assessed and that identified weaknesses be corrected.

The EP Cornerstone is designed to foster drill and exercise programs that develop and maintain emergency response organization skills. It is the nature of a drill program that performance errors will occur and that equipment, facility and procedure problems will surface. The identification and correction of these weaknesses is a positive and vital aspect of the program. The Drill and Exercise Performance PI provides a 90% success threshold for the licensee response band. This infers that a level of performance error (in drills/exercises) is acceptable and that correction of errors and problems is within the licensee response band.

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, surveillance activities, etc. It is the NRC expectation that weaknesses identified through these processes will also be corrected, even if failure to

do so is not in noncompliance with NRC requirements. In this case, a colored finding may be issued without an item of noncompliance. The SDP reflects this expectation.

6.2 TIMELINESS

Background

Guidance is provided on the timeliness aspect of correction of weaknesses. The timeliness guidance should not be interpreted as a requirement. Rather, the guidance delineates when it is appropriate for an inspector to review corrective action efforts for timeliness.

The licensee determines the safety significance of weaknesses and sets priorities IAW commitments and approved corrective action programs. The appropriateness of those priorities are judged in the context of the problem, but the timeliness guidance 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 review the basis for timeliness of corrective actions.

Root cause analyses, common cause analyses and the like may take 60 days, or longer in some cases, 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 effectively) a finding may be appropriate for failure to comply with PS 50.47(b)(14).

- Resolution of a loss of RSPS function or a failure to implement a RSPS during an actual event is typical within 60 days of identification.

- Resolution of a loss of PS function, a failure to implement a PS during an actual event or RSPS related drill/exercise performance weaknesses (i.e., this performance would be a failure to implement a RSPS if it had occurred during an actual event) is typical within 90 days of identification.

- Resolution of a failure to comply with a regulatory requirement, failure to implement a regulatory requirement during an actual event or PS related drill/exercise performance weaknesses (i.e., this performance would be a failure to implement a PS if it had occurred during an actual event) is typical within 180 days of identification.

- Resolution of other drill/exercise performance weaknesses (i.e., this performance would be a failure to implement a regulatory requirement if it had occurred during an actual event) is expected, but no timeliness guidance is offered due to the lower risk significance of these efforts and expected lower priority of such efforts.

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 NRC timeliness expectation for resolution of enhancement suggestions.

Criteria

The timeliness of the resolution of a problem is not appropriate for its risk significance. If the problem is RSPS related (i.e., loss of RSPS function, a failure to implement a RSPS during an actual event or RSPS related drill/exercise performance weaknesses) the failure to correct should be considered a loss of PS function for 50.47(b)(14) [i.e., a white finding], otherwise it should be considered a failure to comply with regulatory requirements [i.e., a green finding]. If the problem did not result from a drill, exercise or training evolution, the finding may be issued without a noncompliance citation.

Considerations

It is not appropriate to consider the timeliness of enhancement items. The lack of timeliness in corrective actions should be well in excess of the suggested guidance and judged as inappropriate in view of the significance of the problem.

6.3 FAILURE TO CORRECT

Determination of a failure to correct requires a detailed review of the problem and the corrective actions. It is not intended that a single repeat of a problem, e.g., in a drill, automatically be judged as a failure of the corrective action system. Conversely, success in a drill/exercise, e.g., by one well drilled team, should not be considered as success. When an apparent failure to resolve a problem is observed, a review of specific corrective actions should be conducted. 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 premise is:

- The DEP PI would not be in the green band without operating equipment, functional centers, and effective procedures and
- when the ERO PI is in the green band a substantial portion of the emergency response organization will have recently used equipment, facilities and procedures, will identify any problems that occur and

- that the corrective action program will resolve these problems.

IAW with this premise, the EP Baseline Inspection focuses on licensee programs to correct problems, rather than on problem identification. Where inadequate problem resolution is found, a basis of the EP Cornerstone comes into question. If an uncorrected problem was found through mechanisms other than the drill/exercise program, the finding should be issued without an item of noncompliance.

Criteria

Equipment, facility or procedure problems exist, have been previously identified and are not corrected. Problems are of such a magnitude that if an actual event occurred, the problem would result in a failure to implement a PR or RSPS. If the problem involves a RSPS problem, the failure to correct may be considered a failure to meet PS 50.47(b)(14) (i.e., a white finding.) Other findings under this criteria would be assessed as green.

Considerations

A certain level of equipment failure is to be expected. Phones fail, equipment malfunctions and procedures are misfiled. An 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 in an actual event.

6.3.2 Failure to resolve drill and exercise weaknesses

Background

10 CFR 50.47(b)(14) requires that *Periodic exercises are conducted to evaluate major portions of emergency response capabilities, periodic drills are conducted to develop and maintain key skills and 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.*

Although the PI system collects performance data from a broad cross section of drills, the licensee response band allows for ERO members to fail in the process of developing and maintaining key skills. The correction of drill/exercise weaknesses is within the licensee response band. If NRC oversight unduly penalizes failures in drill performance, it would detract from the development and maintenance of key skills.

Comment:
The 5th paragraph of this section discusses a 20% failure rate concerning non-DEP PI areas. While the number seems appropriate, calculating that number is open to a great deal of interpretation and/or would possible require a sub-tier PI for performance failure rate not associated with the DEP PI. This will be very difficult to track and document and will be difficult for the Inspectors to determine as well.

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 crossed the threshold the licensee would plan actions to correct the performance problem and a white input would documented. However, no finding against corrective actions would be necessary, even though the failure to correct weaknesses may be part of the root cause of crossing the PI threshold.

In performance areas not covered by the DEP PI, there is no PI threshold across which regulatory oversight is increased. The SDP must address the failure to correct weaknesses in these areas. If the threshold for performance in the most risk significant areas of EP is 10%, it would appear that an appropriate regulatory threshold for the correction of weaknesses in other areas of EP would be a 20% failure rate in drill/exercises performance. This is means that detailed inspection of correction of drill/exercise weaknesses is not necessary unless performance problems are above a 20% failure rate over an inspection cycle.

Note: This establishes an EP failure rate of 20% indirectly. We can probably live with that but it establishes a new arbitrary number.

The performance failure rate in non-RSPS areas is not compiled. However, data from drill critiques may be used to develop these statistics. The number of

opportunities and failures may be determined through a review of drill/exercise critiques, if it is assumed that the absence of identified weaknesses indicates success.

Where performance in an area exhibits greater than a 20% failure, rate, the inspector should review the corrective actions to determine adequacy. If corrective actions are not adequate and the weakness involves a RSPS area not covered by the DEP PI [e.g., 50.47(b)(9)] a loss of PS function should be assessed (i.e., a white finding.) A white finding is only appropriate for performance problems that would result in a "failure to comply" if implemented during an actual event. Any other findings would be green.

Criteria

The licensee has failed to correct weaknesses in drill/exercise performance, in areas not covered by the DEP PI, as indicated by failure rate worse than about 20%.

Failure to correct weaknesses that affect a RSPS (i.e., that would result in a "failure to comply" if implemented during an actual event) should be assessed as a functional failure of PS 50.47(b)(14), i.e., a white finding. Other failures to correct weaknesses would be no greater than green.

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

Considerations

If corrective actions are aggressive, appear to be complete but are still not effective, a judgement may be made to allow more time for performance improvement. In this case, future drills are expected to show performance improvement.

6.3.3 Failure to resolve actual response problems

Background

"Failure to implement" problems (occurring during actual events) may result in findings IAW sheet 2 of the SDP. However, if the same (or similar) problems were previously identified in drills or actual events,

a finding against corrective actions may be appropriate.

If the failure to implement problem involved areas covered by the DEP PI, a review of PI data may be useful. If the failures are skewed toward the failure to implement problem, it may indicate a failure to correct weaknesses. Data is skewed if the ratio of failures to opportunities for classification, notification or PAR development, (taken individually,) is 3σ higher than the PI value. For example, the PI value is a percentage, and in non-rigorous mathematical terms, σ is the square root of that value. So if the DEP PI is at 94%, σ is 9.7 and 3σ is about 29%. If the success rate for notifications taken alone is lower than about 94% - 29%, or 65% there may be a problem with correction of weaknesses. 3σ is thought to be appropriate (as opposed to 1 or 2σ) due to the relatively small number of opportunities.

If DEP data is skewed and that same area is the actual event failure to implement problem, it may indicate a failure to correct weaknesses. The 3σ analysis is not a regulatory criteria. It does however, indicate an area worthy of additional inspector review. Where this criteria is met, the inspector should review the corrective actions in detail and determine its adequacy.

The similarity of the ~~of the~~ occurrences should be reviewed critically. Differences in circumstances may negate the initial appearance of similarity. If the failure to implement is truly not similar to past occurrences, it may be inappropriate to pursue a finding in corrective actions.

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 and practice in drills, are often implemented and may be appropriate for some problems. Weaker solutions include required reading, procedural changes and generic classroom training. In the case of repetitive problems and failure to implement during actual events, these later actions are suspect.

Finally, the licensee should be held to high standards for the correction of actual event performance

problems, especially WRT the RSPS areas of classification, notification, PAR development and assessment. Repetition of avoidable problems during actual ~~events,~~events should be reviewed for a failure to correct weaknesses. If it appears that licensee corrective actions were not complete and effective or that an existing weakness led to the subsequent error, a finding of a loss of PS function should be issued.

Criteria

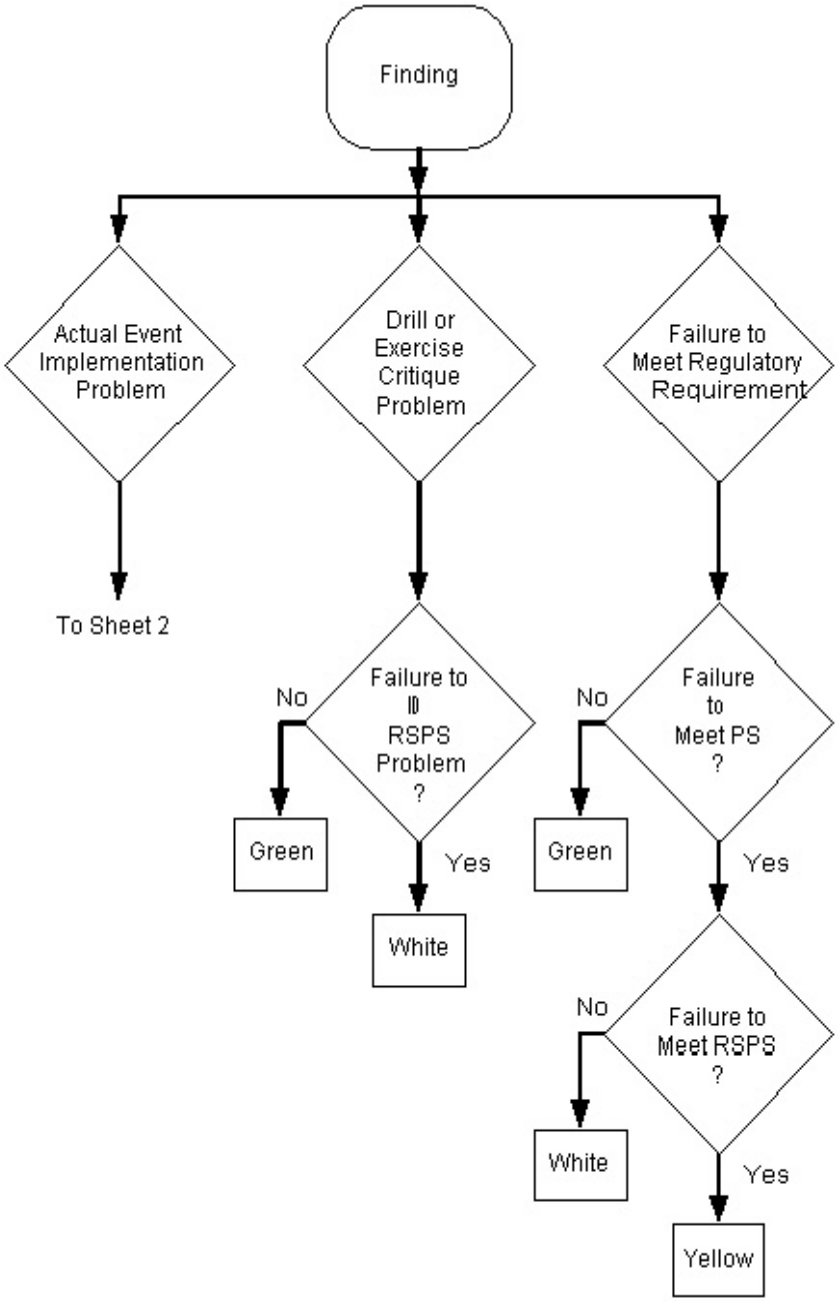
An identified weakness was not resolved, was repeated during an actual event (i.e., resulted in a failure to implement finding) and review of associated corrective actions shows them to be inadequate.

If the weakness involves a RSPS, the failure to correct is assessed as a PS functional failure (i.e., a white finding.) Other failures to correct are assessed as no greater than green.

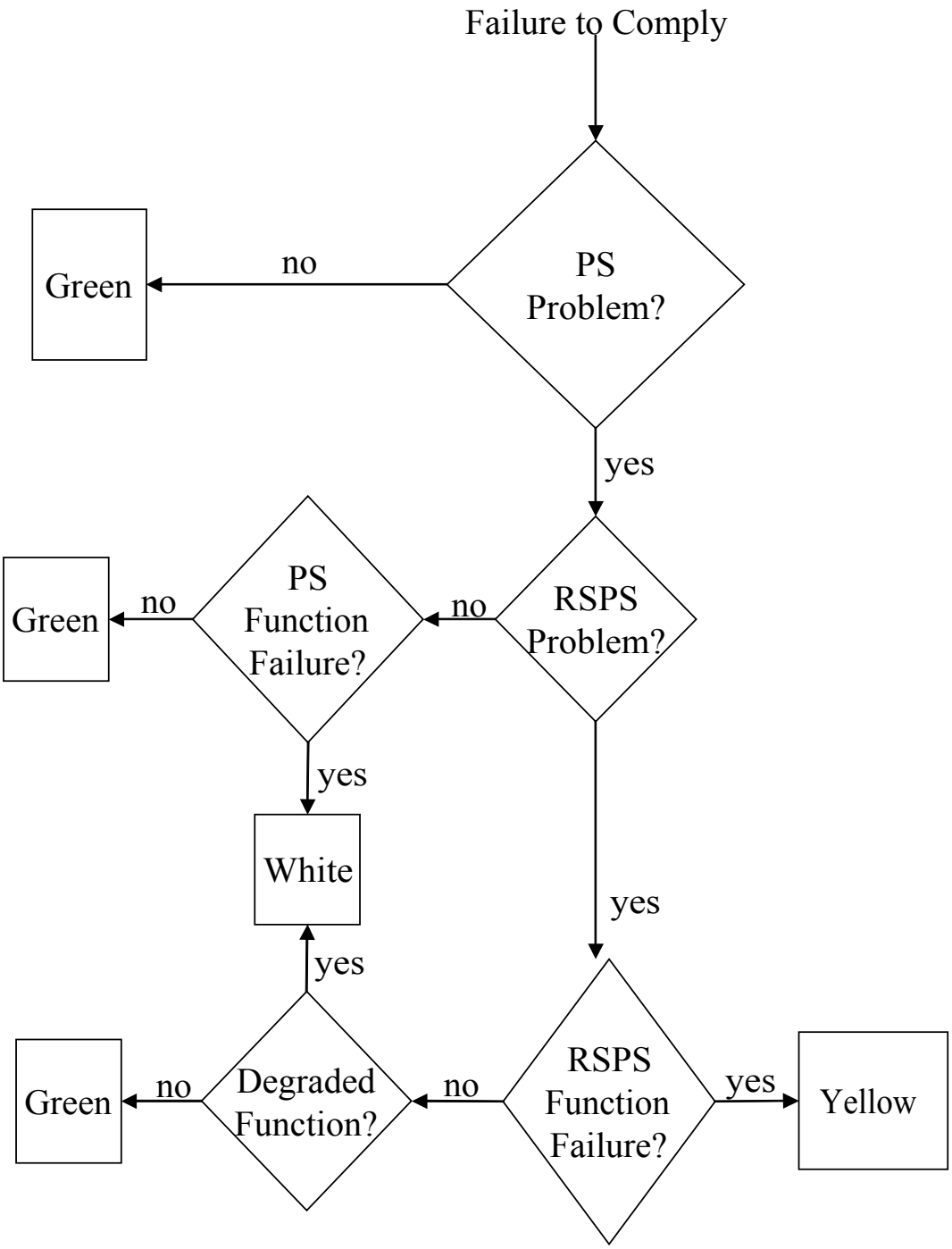
Considerations

The apparent similarity of repeat problems should be reviewed critically. An apparent repetitive problem may have actually occurred under very different circumstances.

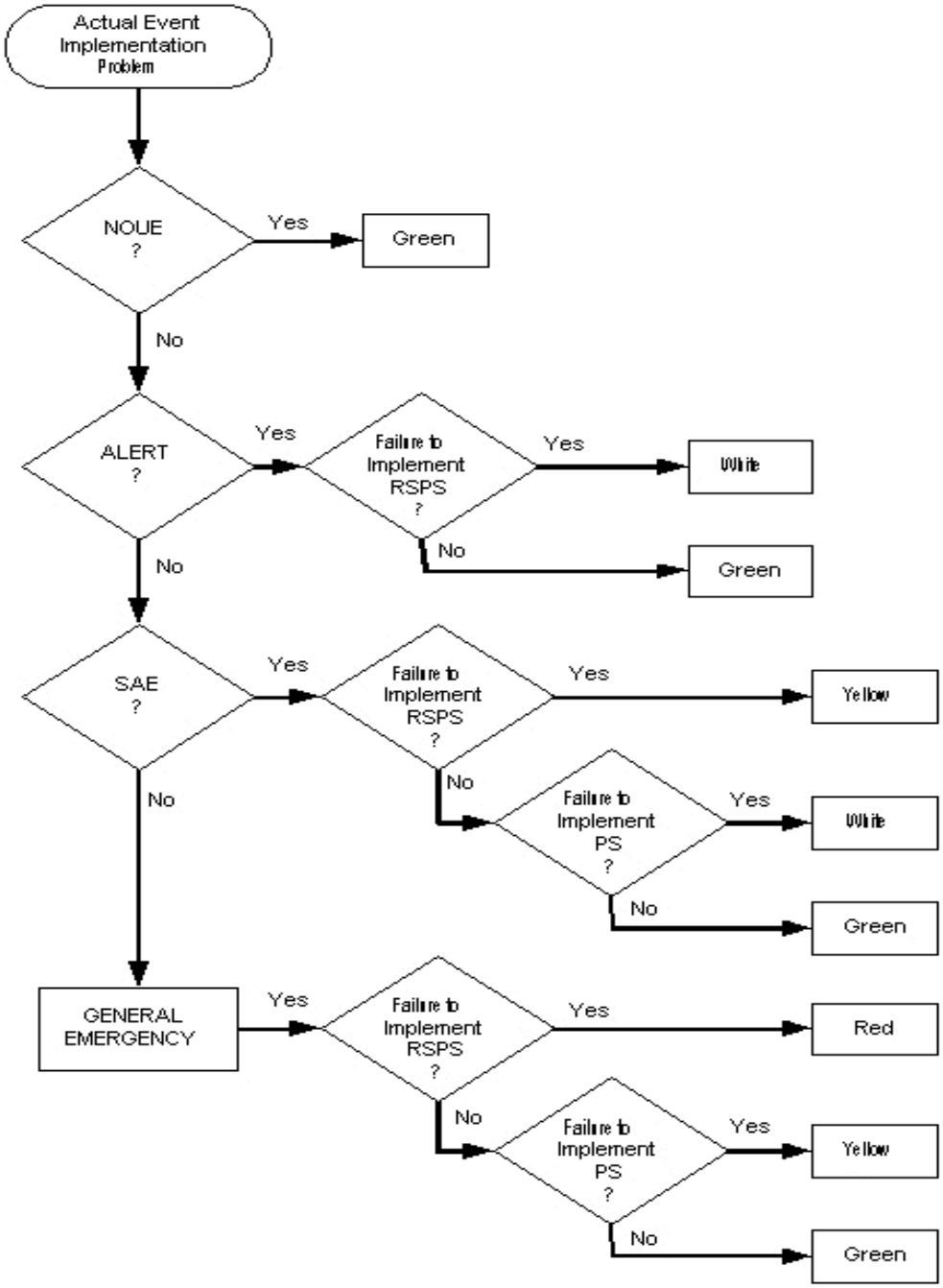
Emergency Preparedness Significance Determination Process



Proposed Revision to EP SDP
Failure to meet Regulatory Requirement
(This line replaces left line sheet 1 Failure to meet Regulatory Requirement)



Emergency Preparedness Significance Determination Process



Sheet 2

2/18/00