

**NON-ESCALATED
NRC ENFORCEMENT POLICY
ASSESSMENT PROCESS**

Region IV Utility Group

**Final Committee Report on
NUREG-1600, NRC Enforcement
Policy**

April 7, 1997

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A Special Report by the Region IV Utility Group Committee on the NRC Enforcement
Policy (NUREG 1600)

EXECUTIVE SUMMARY

This report provides the results of the Region IV Utility Group (RUG IV) special committee on the non-escalated portion of the NRC Enforcement Policy. The committee was chartered to provide input to the NRC on aspects of the NRC's Enforcement Policy (NUREG-1600) associated with non-escalated enforcement (Severity Level IV, Non-Cited Violations [NCVs], and Minor Violations). RUG IV notes that currently 95% of NRC violations fall into this category of non-escalated enforcement.

The report contains three sections. Section 1.0 discusses the existing non-escalated enforcement policy assessment process. Section 2.0 utilizes existing NRC guidance and clarification, primarily from NUREG-1022, "Licensee Event Report System," Supplement 1, to augment enforcement policy definitions. Section 3.0 provides illustrative examples drawn from actual experience of enforcement actions, similar to those provided in NUREG-1022, Appendix C, "Sample Potentially Reportable Events."

The key conclusions and recommendations of this report are:

- C The current criteria in the NRC Enforcement Manual (NUREG/BR-0195, Revision 1) for a violation to be classified as a Minor violation has led to inconsistent application of the Enforcement Policy. A simplified definition is proposed.
- C The current definitions in the Enforcement Manual for "safety significance" and "potential safety significance" lack specificity. This has led to inconsistent application of the Enforcement Policy. Augmentation with definitions and terminology from NUREG-1022 is proposed.
- C The current definition in the Enforcement Policy for "regulatory concern" is inconsistent with the definition in the Enforcement Manual.
- C The enforcement examples in 10 CFR 2, Appendix C, Supplements I through VIII, were incorporated into the Enforcement Manual, Section 8.0. However, these examples are not sufficiently developed to ensure consistent, uniform application of the enforcement policy. Alternate examples (in the NUREG-1022, Appendix C format) are provided. These examples are illustrative and further evaluation and clarification may be appropriate prior to inclusion into the Enforcement Manual. However, RUG IV believes detailed, illustrative examples are essential to avoid ambiguity and inconsistent application of the Enforcement Policy.

Questions or comments on this report should be directed to Mr. Greg Gibson, Chairman,
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INTRODUCTION

The new NRC Enforcement Policy, NUREG-1600, became effective on June 30, 1995. The Enforcement Policy was subsequently incorporated into the NRC Enforcement Manual (NUREG/BR-0195, Revision 1, dated November 1995). RUG IV supports the NRC's changes to the Enforcement Policy and strongly endorses the NRC's stated purpose for the Enforcement Policy (FR 95-15952):

"This [Introduction and Purpose] section has been modified to emphasize that the purpose and objectives of the enforcement program are focused on using enforcement actions:

- (1) As a deterrent to emphasize the importance of compliance with requirements; and*
- (2) To encourage prompt identification and prompt, comprehensive correction of violations."*

On January 29-30, 1996, the American Nuclear Society (ANS) sponsored a "Utility - NRC Interface Workshop - Region IV." One of the three themes of the workshop was "Enforcement Issues," and included breakout sessions to discuss that topic in detail. One major finding of the workshop session was that although the NRC has successfully established a clear framework and detailed guidance for escalated enforcement actions, the framework and guidance for non-escalated enforcement had not been sufficiently developed.

This finding was supported by similar conclusions from other studies:

"... the [NRC] believes the [enforcement] process can be simplified to improve the predictability of decision making and obtain better consistency between regions." - Section III.C, "Conclusions," NUREG-1525, Assessment of the NRC Enforcement Program.

"... the [NRC:IG] noted the enforcement policy does not appear to have been uniformly applied between regions... ' and '... [NRC organizational structure] contributes to inconsistent program implementation, particularly in the use of violations." - Report, Office of the Inspector General, "Factors Contributing to Inconsistency in the Operating Reactor Inspection Program," (OIG/95A-04).

In response to the ANS workshop, the RUG IV met on March 19, 1996, to review the workshop findings and develop an ad hoc report. The ad hoc report was provided at an open public meeting with the NRC at the Region IV offices on March 20, 1996. The report noted that there were three specific open issues with the implementation of the Enforcement Policy:

- There is limited guidance on the non-escalated portion of the enforcement policy program.
- There are limited definitions and term usage in the enforcement policy program, which in some cases conflict with existing NRC documents.

- There are limited examples of the proper application of the enforcement policy, unlike the detailed and useful examples provided on the NRC's reportability guidance in NUREG-1022, Appendix C.

At the March 20 meeting, one enforcement example was presented. Compounding factors were sequentially added to increase the significance of the issue. The subsequent examples were robustly discussed. It was apparent that a healthy discussion, utilizing specific examples, is beneficial to clarifying the enforcement policy and its implementation.

RUG IV's goal, and reason for participation in the NRC public meeting and in development of this report, is to ensure a uniform, consistent application of the enforcement policy between Regions and among licensees. Therefore, RUG IV formed a special committee to review the non-escalated enforcement policy assessment process. The committee's goal was to provide unsolicited input to the NRC on aspects of the NRC's Enforcement Policy associated with non-escalated enforcement (Severity Level IV, Non-Cited Violations [NCVs], and Minor Violations).

RUG IV notes that currently 95% of all NRC enforcement actions fall into the category of non-escalated enforcement. Within that context, it is estimated that over 80% of a licensee's annual "management attention to enforcement issues" is directed to non-escalated enforcement issues. It is therefore important that non-escalated enforcement be properly focused, clear, and concise.

The RUG IV special subcommittee members met with the NRC on February 25, 1997, to further discuss the enforcement process and review examples of various severity levels.

This report contains three sections. Section 1.0 discusses the existing non-escalated enforcement policy assessment process. Section 2.0 utilizes existing NRC guidance and clarification, primarily from NUREG-1022, Supplement 1, to define enforcement policy assessment process definitions. Section 3.0 provides illustrative examples drawn from actual experience of enforcement actions, similar to that provided in NUREG-1022, Appendix C.

1.0 Non-Escalated Enforcement Assessment Process

The Enforcement Policy, Section VI.B.2, provides a helpful flow chart, which is a graphic representation of the civil penalty process. However, the Enforcement Policy does not contain an overall flow chart of the Enforcement Assessment Process. RUG IV took the Enforcement Policy and developed a graphical flow chart of the non-escalated portion of the Enforcement Assessment Process. The overall flowchart is provided in the following figure (FIGURE 1). The flow chart also contains elements which are discussed in Section 2.0 below.

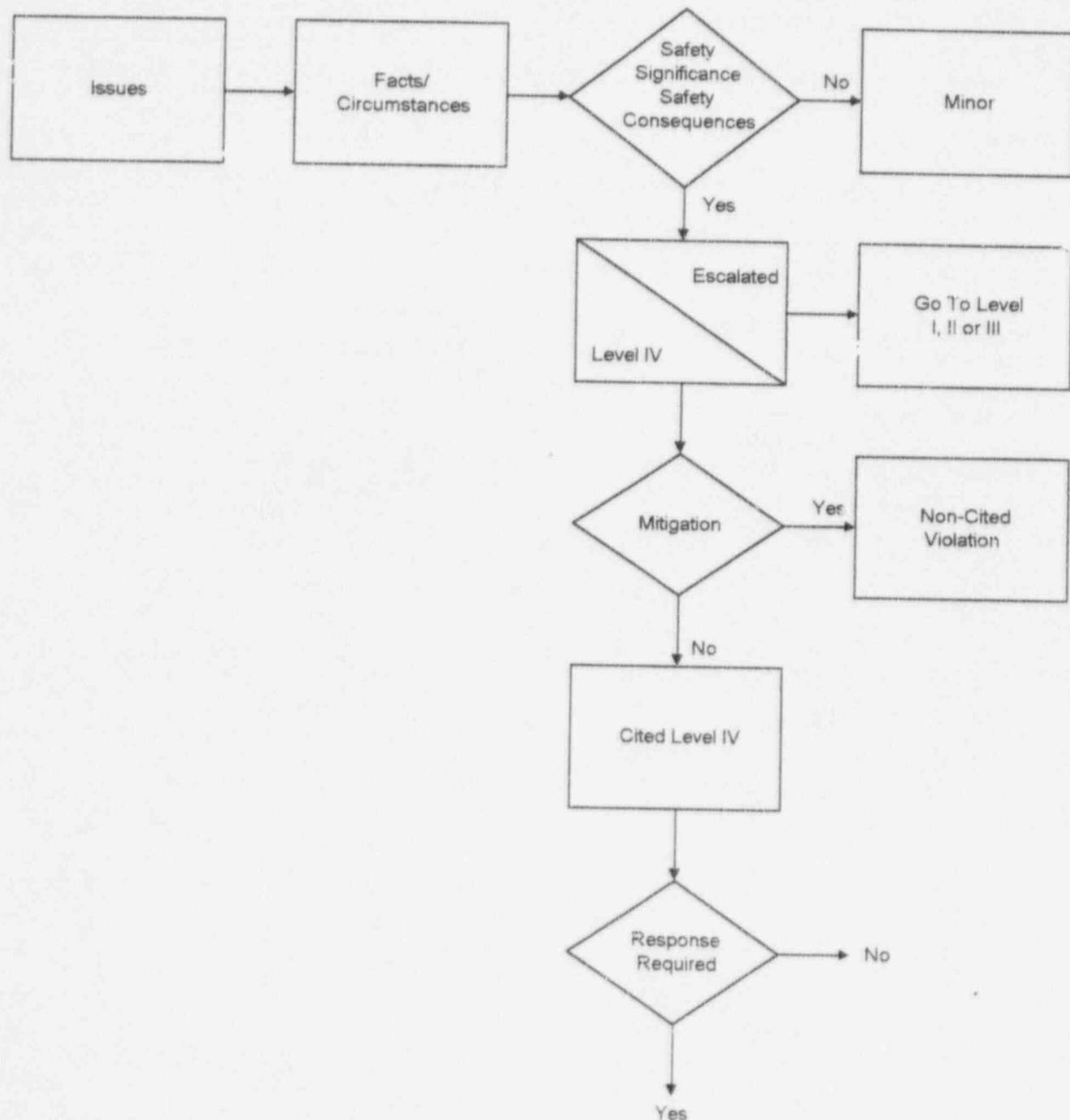


FIGURE 1

2.0 Enforcement Policy Assessment Process Definitions

There are four definitions critical to the implementation of the Enforcement Policy. RUG IV believes that misunderstanding these terms has been the single largest contributor to variance in application of the enforcement policy. These definitions are:

- Minor Violation (Section 2.1)
- Actual Safety Significance (Section 2.2)
- Potential Safety Significance (Section 2.3)
- Regulatory Concern (Section 2.4)

RUG IV evaluated numerous examples where essentially identical violations, issued to separate licensees, received different Severity Level categorizations (i.e., Minor, NCV, Severity Level IV). RUG IV concluded that:

- The current criteria in the Enforcement Manual for a violation to be classified as a Minor Violation has lead to inconsistent application of the enforcement policy. A simplified definition is proposed based on the actual definition in the Enforcement Policy.
- The current definitions in the Enforcement Manual for "actual safety significance/consequence" and "potential safety significance/consequence" lack specificity. This has led to inconsistent application of the enforcement policy.
- The current definition in the Enforcement Policy and Enforcement Manual for "regulatory concern" is inconsistent.

Each of these definitions/concepts is discussed below:

2.1 Minor Violation

The Enforcement Policy first defines a Minor Violation only after having discussed Severity I, II, III and IV violations in Section IV, "Severity of Violations." The Enforcement Policy, Section IV, states in part:

"The Commission recognizes that there are other violations of minor safety or environmental significance which are below the level of significance of Severity Level IV violations. These minor violations are not the subject of formal enforcement action and are not usually described in inspection reports."

RUG IV concluded that the Enforcement Policy intended to ascertain first whether a violation was a Severity Level I, II, III or IV, and if a violation did not meet that criteria, then it was a Minor Violation.

However, the Enforcement Manual, Section 3.5.c provides a complex "test" as follows:

"A test of whether a violation should be categorized as a minor violation is whether, if it recurred several times, it would still be of minor concern. Such violations normally are characterized by (1) having no actual impact and little or no potential for impact on safety, (2) being isolated, not evidencing programmatic weaknesses, and (3) relating to licensee administrative limits rather than to NRC regulatory limits. When an inspector identifies a violation, the determination of whether the violation is minor should consider the following questions:

- Does the violation have any actual impact (or realistic potential for impact) on safety?*
- Does the violation suggest a programmatic problem that could have a realistic potential safety or regulatory impact?*
- Could the violation be viewed as the possible precursor to a significant event?*
- If the violation recurred, would its recurrence be a more significant concern?*
- If inadvertently left uncorrected, would this violation become a more significant safety and regulatory concern?*
- Are there associated circumstances that add regulatory concern to this violation (e.g., apparent willfulness, licensee refusal to comply, management involvement, etc.)?*

"If the answer to all of these questions is "no," the violation should be considered a minor violation. If, on the other hand, the answer to any one of these questions is "yes," the violation should not be considered a minor violation."

RUG IV notes that many elements in the test above involve concepts that are overly subjective and are not clearly defined, such as:

- impact on safety*
- programmatic weaknesses*
- regulatory impact*
- possible precursor*
- a more significant concern*
- a more significant safety and regulatory concern*

RUG IV believes that a "reasonable individual" could utilize/interpret the Enforcement Manual guidance above, and conclude that any violation could fail the test "If the violation recurred, would its recurrence be a more significant concern?" (i.e., is more than a Minor Violation). RUG IV recommends that the Enforcement Manual adopt the specific definition in the Enforcement Policy, as follows:

Minor Violation A Minor Violation is any violation of regulatory requirements which is not a Severity Level I, II, III, or IV.

2.2 Safety Significance and Actual Safety Consequence

The Enforcement Manual, Section 3.5.a, "Safety Significance," states in part:

"Safety significance, as used in the enforcement program, involves consideration of three factors: (1) the actual safety consequences (e.g., overexposure, offsite release, loss of safety system), (2) the regulatory significance, and (3) the potential safety consequences of a violation. In other words, consideration is given to the matter as a whole in light of the circumstances surrounding the violation. There may be cases where the actual safety consequence of a violation represents a minor concern but the regulatory significance or the potential safety consequences represents a significant concern."

It is noted that the terms "significance" and "consequence" are used interchangeably. However, consequence usually implies an associated result of the action (reactor trip, system operation or actuation, or alarm/communication).

The following definition from the Enforcement Policy is proposed:

Actual Safety Significance and Safety Consequence

The event must cause an actual overexposure in excess of NRC regulatory limits (10CFR20), offsite release of radioactivity in excess of NRC regulatory limits (10CFR20), or result in the actual loss of the safety function of a safety train or system (inability of the safety train or system to perform its safety function as described in the UFSAR, as credited in the Chapter 15 Accident Analysis).

2.3 Potential Safety Significance

RUG IV supports the position that a violation's potential safety significance or consequence should be evaluated using a consistent, documented methodology. In 1986, NUREG-1022 was issued, and enhanced in 1989 with Supplement 1, to provide an established, consistent, regulatory framework to evaluate potentially safety significant events for reportability. Both licensees and the NRC have over 10 years experience with reportability using this criteria. These established terms and definitions in NUREG-1022 can be very useful for evaluating and assessing enforcement issues.

For example, the following sections of 10 CFR 50-73 appear relevant as "universal definitions" of what constitutes potential safety significance:

- 10CFR50.73(a)(2)(i)B Any operation or condition prohibited by the plant's Technical Specifications
- 10CFR50.73(a)(2)(ii) Any event or condition that resulted in the condition of the nuclear plant, including its principal safety barriers, being seriously degraded, or that resulted in the nuclear power plant being: (A) In an unanalyzed condition that significantly compromised plant safety; (B) In a condition that was outside the design basis of the plant; or (C) In a condition not covered by the plant's operating and emergency procedures.

10CFR50.73(a)(2)(v) *Any event or condition alone that could have prevented the fulfillment of the safety function of structures or systems that are needed to: (A) Shut down the reactor and maintain it in a safe shutdown condition; (B) Remove residual heat; (C) Control the release of radioactive material; or (D) Mitigate the consequences of an accident.*

The Enforcement Policy guidance when augmented with NUREG-1022 provide additional clarification on these particular concepts which correspond to the escalation of Severity Levels, such as:

Inoperability - Severity Levels

- Level I/II: A system was called upon to prevent or mitigate a serious safety event and was unable to perform its intended safety function.
- Level III: A system designed to prevent or mitigate a serious safety event was not called upon to prevent or mitigate a serious safety event, but:
- a) Would not have been able to perform its intended function under certain conditions (e.g., safety system not operable unless offsite power is available; materials or components not environmentally qualified), or
 - b) Was degraded to the extent that a detailed evaluation would be required to determine its operability (e.g., component parameters outside approved limits such as pump flow rates, heat exchanger transfer characteristics, safety valve lift setpoints, or valve stroke times).
- Level IV: A train designed to prevent or mitigate a serious safety event was not called upon to prevent or mitigate a serious safety event, and:
- a) There were other trains within the same system that could perform the same functions. [NUREG-1022, Supplement 1, Q&A 7.7], or
 - b) It involved an independent component failure that alone could have caused a train to fail to fulfill its safety function, or is indicative of a generic problem that could have resulted in the failure of more than one component, and thereby cause one or more trains to fail to fulfill their safety function. [NUREG-1022, Supplement 1, Q&A 7.22]
- Minor: A train designed to prevent or mitigate a serious safety event was not called upon to prevent or mitigate a serious safety event, and the condition involved a single, independent component failure where a redundant component in the same system/train would have fulfilled the safety function (i.e., no loss of safety function and there was no safety consequence). [NUREG-1022, Supplement 1, Q&A 7.20, 7.22]

Alternate Conditions:

An assessment of the event under alternative conditions must be included if the incident would have been more severe (e.g., the plant would have been in a condition not analyzed in the Safety Analysis Report) under reasonable and credible alternative conditions, such as power level or operating mode. [NUREG-1022, Section V, Page 19]

In evaluating the significance of any violation, it is not appropriate to assume any additional component, equipment, system, structure, or personnel action which did not actually exist or occur. It is not appropriate to "what if," beyond those reasonable and credible circumstances (operating parameters such as power level), in determining if an event "could" have prevented fulfillment of a safety function. Specifically, unrelated and independent failures that did not actually occur should not be considered. [NUREG-1022, Supplement 1, Q&A 7.8 & 7.22]

Procedural Compliance:

All licensees have a requirement to establish, implement, and maintain procedures in accordance with Regulatory Guide 1.33. In developing procedures, licensees always go beyond the regulatory requirements and include additional information, direction, and specificity. Also, most procedures have a requirement for final supervisory review and approval prior to completion, for the purpose of ensuring that all steps/elements of the procedure have been completed.

There are at least two types of procedures: "linear" and "cumulative." "Linear" procedures are typically operations-type procedures involving a specific sequence of steps for operating or performing evolutions - and a failure to follow an individual specific step may have immediate "consequence" [a self-revealing error such as flow diversion, trip, inadvertent valve repositioning, system energization, or inadvertent alarm/actuation]. "Cumulative" procedures are typically maintenance or surveillance procedures where the system is not operational (it is formally taken out of service), and only after retest and procedure close out is the system returned to service.

For the "cumulative" procedures, a failure to perform a specific step is likely to be caught and corrected by the licensee's established review and approval process, and/or the associated post-maintenance test program. Enforcement action should not be prematurely taken for a failure to follow "cumulative" procedures when opportunities remain for licensee identification and correction of the error or omission.

Engineering Judgement:

Determinations of a condition's validity, scope, and resulting impact will all involve varying degrees of engineering judgement and these determinations can affect whether the condition has safety significance. Engineering judgement may include either a documented engineering analysis or judgement by a technically qualified individual, depending on the complexity, seriousness, and nature of the event or condition. A documented engineering analysis is not a requirement as an engineering judgement, but it would be appropriate for particularly complex events. [NUREG-1022, Supplement 1, Q&A 11.1]

Safety Function:

A safety system must operate long enough to complete its intended function as defined in the FSAR. Reasonable operator actions to correct minor problems may be considered; but heroic actions and unreasonably insightful diagnoses, particularly during stressful situations, should not be assumed. Control room and outside control room operator actions are permitted as specified in each licensee's accident analyses. [NUREG-1022, Supplement 1, Q&A 7.6]

Accidents that need to be considered are only those analyzed for in the FSAR. Usually the credited systems are Category I systems and structures and are usually addressed in the FSAR and Technical Specifications. However, non-Category I systems and structures, if credited in the FSAR accident analyses, fall under this definition. [NUREG-1022, Supplement 1, Q&A 7.13 & 7.14]

2.4 Regulatory Concern

The NRC Enforcement Policy, Section IV, "Severity of Violations," states in part,

"Therefore, the relative importance of each violation, including both the technical and regulatory significance is evaluated. . . In some cases, special circumstances may warrant an adjustment to the severity level categorization. . . A. Aggregation of Violations. . . B. Repetitive Violations. . . C. Willful Violations. . . D. Violations of Reporting Requirements. . ."

The NRC Enforcement Manual, Section 3.5.c, states in part,

" . . . regulatory concern to this violation (e.g., apparent willfulness, licensee refusal to comply, management involvement, etc.)."

RUG IV endorses the Enforcement Policy and Enforcement Manual definitions of Regulatory Concern, which would avoid a non-specific qualitative, subjective opinion. While there is clearly a place for discretion by Senior NRC Management in application of escalated enforcement, non-escalated enforcement assessment should be specific and avoid subjective analyses.

Therefore, the following definition from the Enforcement Policy is proposed:

Regulatory Concern

The event involves any of the following special circumstances: aggregation, repetition, willfulness, and/or reporting.

3.0 Illustrative Examples

RUG IV notes that the NRC provided in NUREG-1022, Appendix C, 51 examples of various potentially reportable situations, and evaluated each situation against 10 CFR 50.73. Licensees have found these examples to be extremely helpful in understanding NRC requirements.

Appendix B, "Enforcement Policy Assessment Process Examples," provides numerous examples taken from actual enforcement cases.

CONCLUSION

RUG IV has concluded that a lack of specificity in terms and definitions utilized in implementing the Enforcement Policy is the likely root cause for the inconsistent application of the Enforcement Policy observed by OIG and NRR in non-escalated enforcement actions. If not the root cause, different interpretations of terms and definitions can certainly significantly contribute to inconsistent applications. Communication is very important to ensure clear concise guidance to all parties.

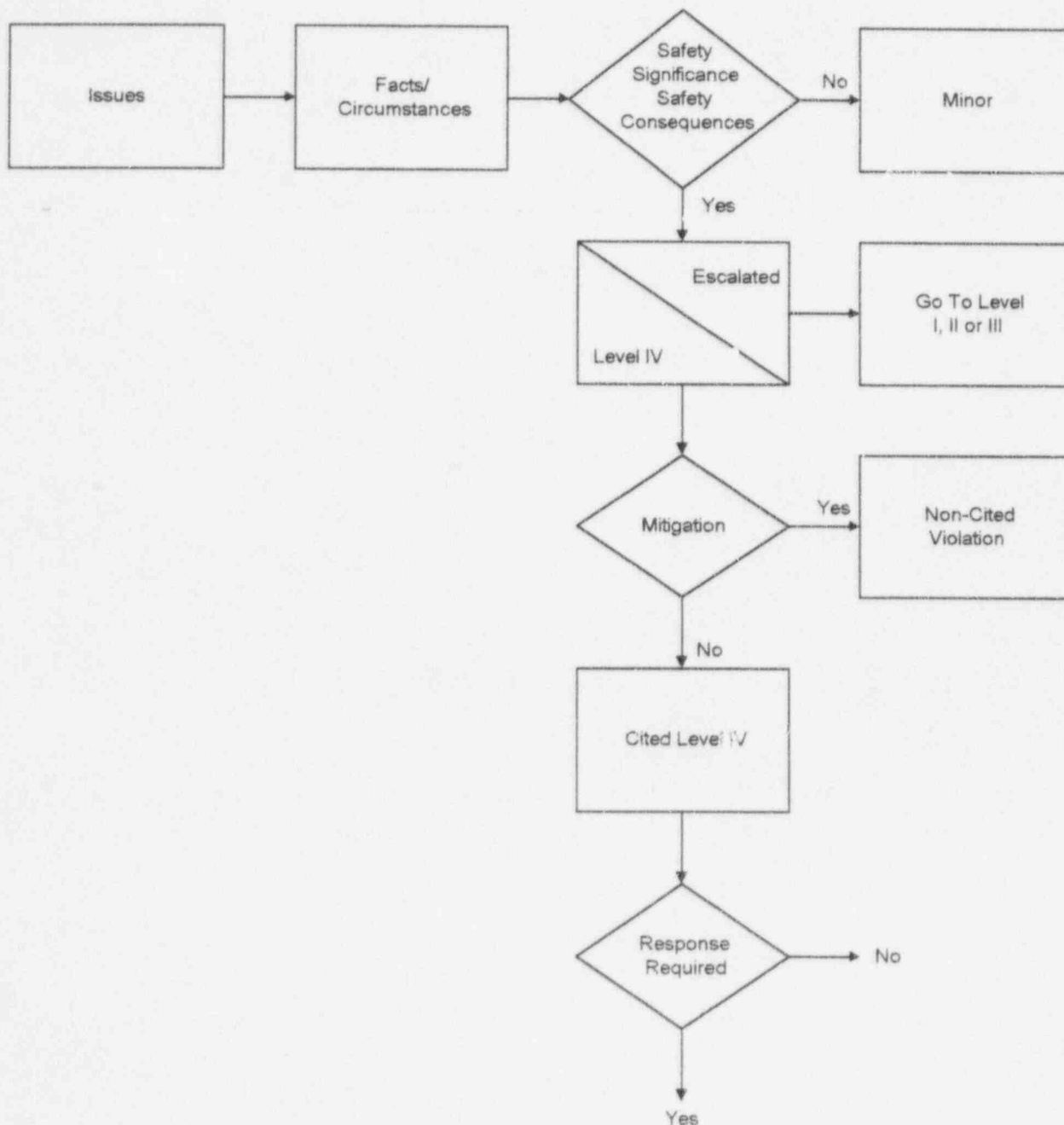
RUG IV believes that guidance in NUREG-1022, which has been developed through the full public comment process, provides valuable, established definitions and examples which can significantly improve the clarity and precision of the Enforcement Policy.

APPENDIX A

NON-ESCALATED ENFORCEMENT POLICY ASSESSMENT PROCESS

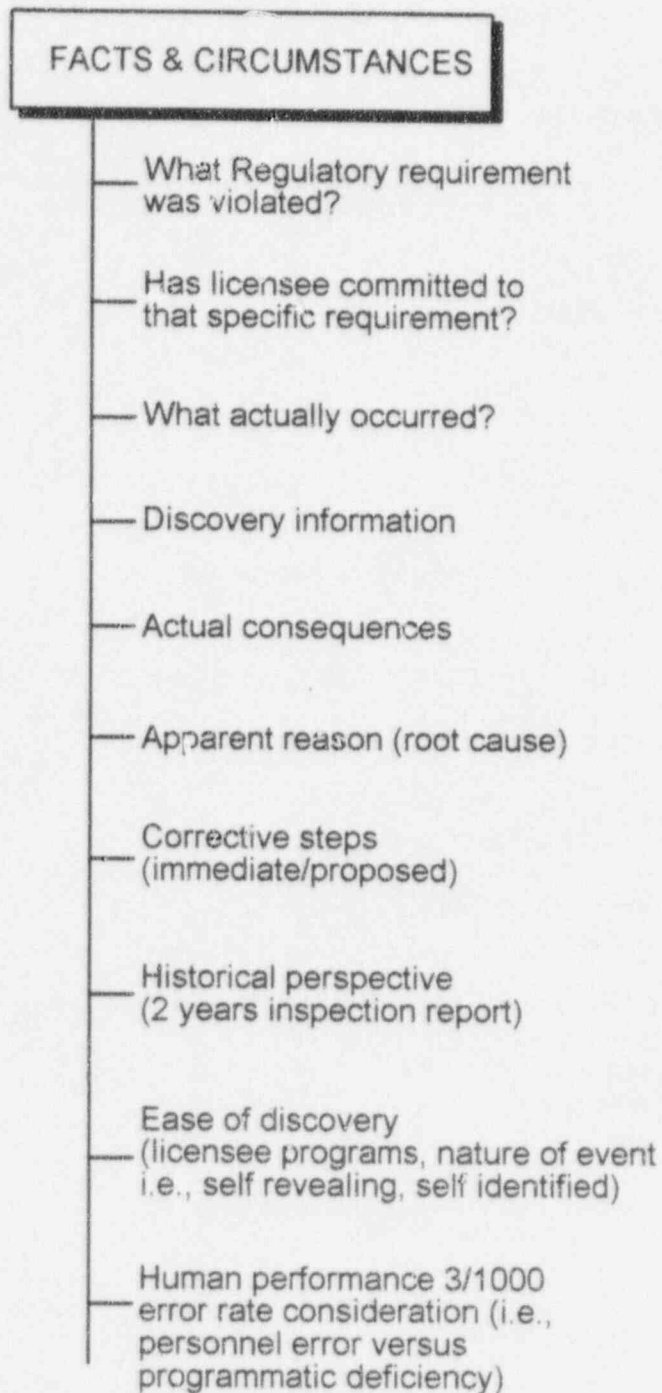
NON-ESCALATED ENFORCEMENT POLICY ASSESSMENT PROCESS

The NRC Enforcement Policy, Section VI.B.2, "Civil Penalty Assessment," contains a flow chart which is a graphical representation of the civil penalty assessment process. Similarly, the following flow chart is a graphical representation of the entire enforcement policy assessment process:



Individual elements of the process are expanded further as follows:

A. FACTS and CIRCUMSTANCES

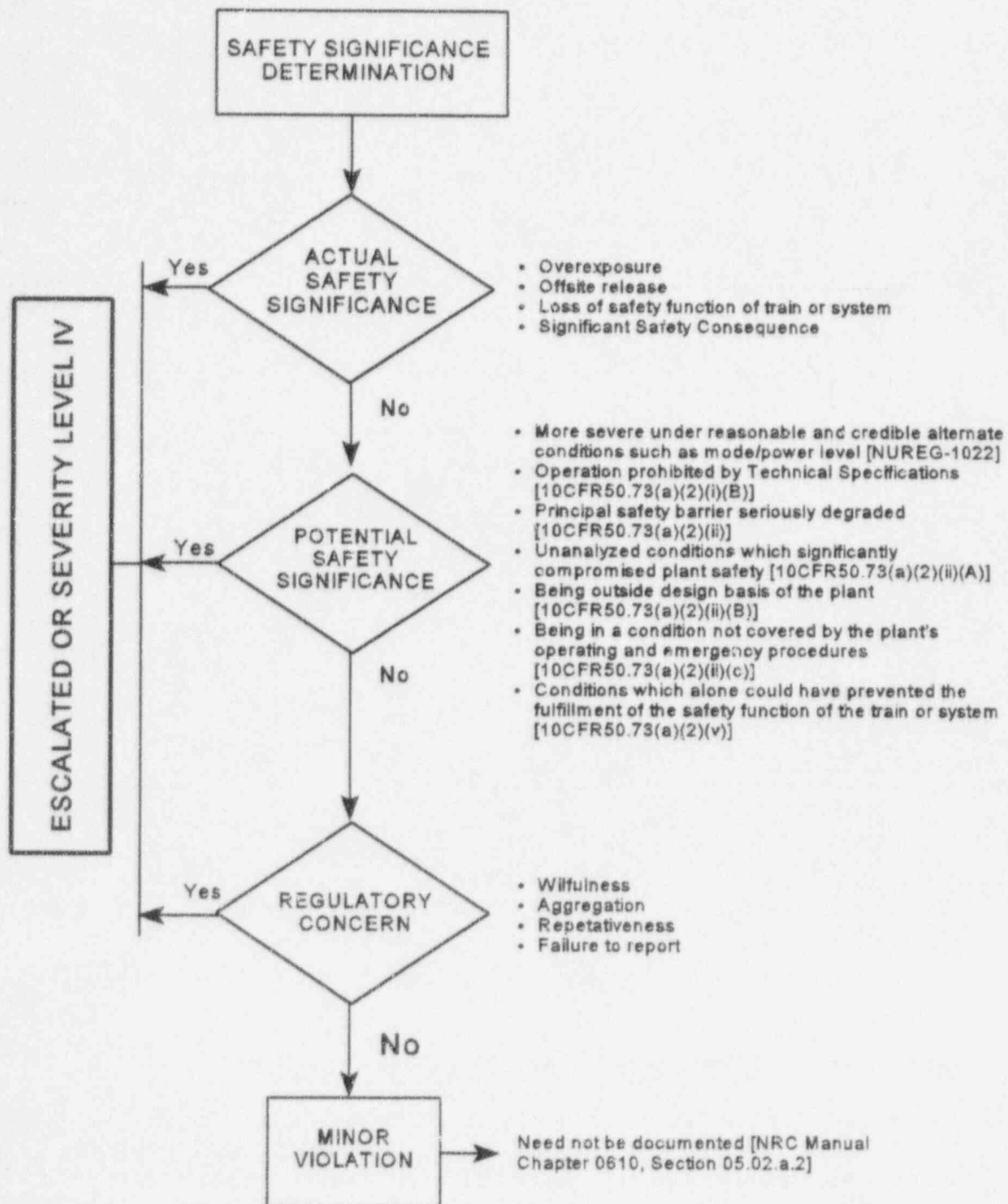


Facts and Circumstances (continued)

Several factors should be considered and evaluated while at the point of initial problem identification and determination.

1. What specific regulatory requirements were violated? If none, then the process is ended.
2. If a requirement was violated, then confirm the licensee is committed to the specific requirement (the regulatory requirement is part of the licensee's current license basis).
3. What were the facts and circumstances which actually occurred?
 - Scenario
 - Sequence of events
 - Licensee immediate actions for recovery
 - Any associated circumstances that add regulatory concern (i.e., aggregation, repetition, willfulness, or reporting)
4. Discovery information
 - Licensee identified
 - NRC identified
 - Self-revealing, e.g., identified through an event
 - Mixed identification
 - Missed opportunity to identify
 - Ease of discovery - what extent/methods were needed to find issue?
5. Actual/potential (if any) consequences of the event
 - Is there any actual impact on the plant?
 - A possible precursor to a more significant event?
6. Apparent or (preferably) formal root cause reason, if available. Are there significant programmatic problems?
7. Immediate/long term corrective actions proposed by licensee
 - Speed of response
 - Scope of response
 - Accuracy of approach to problem (i.e., has licensee captured the problem?)
8. View the issue from a historical (2 year) perspective?
 - Is it recurring?
 - Were previous corrective actions for an event with the same root cause ineffective?
9. Human performance
 - Was error due to personnel error or other causes (e.g., weak procedure?)
 - Since human error occurs (3/1000 failure rate) and is unavoidable, was the error particularly egregious or the result of lack of qualification? [Ref. NUREG/CR-1278, "Handbook of Human Reliability Analysis with Emphasis on Nuclear Power Plant Applications," August 1983]

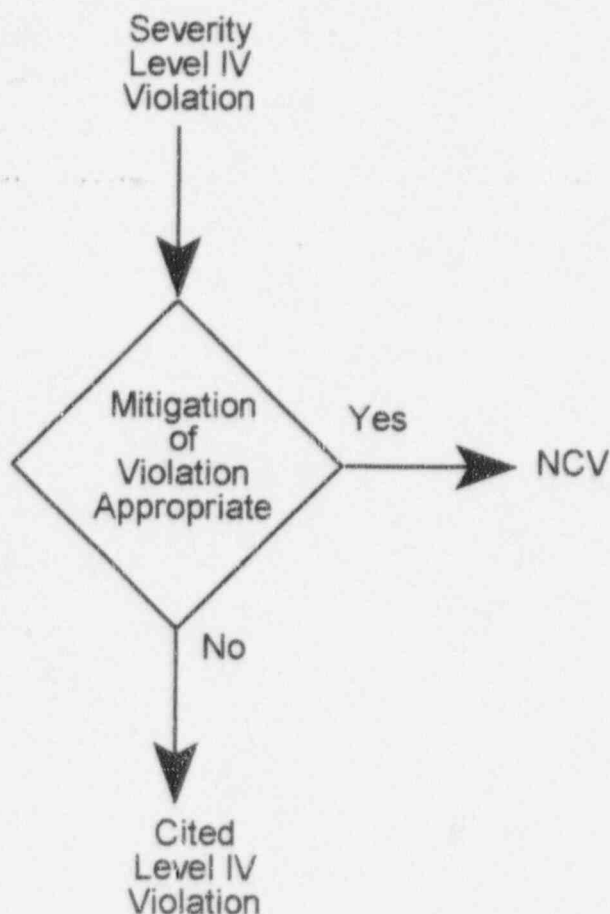
B. SAFETY SIGNIFICANCE



C. MITIGATION

Once the violation is confirmed to have safety significance, the violation is then evaluated against the escalated enforcement policy for Severity Level I, II, or III. If the violation does not meet a Level I, II, or III, it would be by definition a Severity Level IV. Then the Severity Level IV is evaluated for possible mitigation, as follows:

MITIGATION



For mitigation of a Severity Level IV Violation to a Non-Cited Violation, the following criteria must be met:

- (A) It was identified by the licensee, including identification through an event.
- (i) **Licensee-Identified.** When a problem requiring corrective action is licensee-identified (i.e., identified before the problem has resulted in an event), the NRC normally gives the licensee credit for actions related to identification, regardless of whether prior opportunities existed to identify the problem. In addition, for NRC-identified issues, the licensee may still be given credit for self-identification if they would likely have identified the issue in the same time period if the NRC had not been involved.

- (ii) **Identified Through an Event** . When a problem requiring corrective action is identified through an event, the decision on whether to give the licensee credit for actions related to identification normally should consider the ease of discovery, whether the event occurred as the result of a licensee self-monitoring effort (i.e., whether the licensee was "looking for the problem"), the degree of licensee initiative in identifying the problem or problems requiring corrective action, and whether prior opportunities existed to identify the problem.

Any of these considerations may be overriding if particularly noteworthy or particularly egregious. For example, if the event occurred as the result of conducting a surveillance or similar self-monitoring effort (i.e., the licensee was looking for the problem), the licensee should normally be given credit for identification. As a second instance, even if the problem was easily discovered (e.g., revealed by a large spill of liquid), the NRC may choose to give credit because noteworthy licensee effort was exerted in ferreting out the root cause and associated violations, or simply because no prior opportunities (e.g., procedural cautions, post-maintenance testing, quality control failures, readily observable parameter trends, or repeated or locked-in annunciator warnings) existed to identify the problem.

- (B) It was not a violation that could reasonably be expected to have been prevented by the licensee's corrective action for a previous violation or a previous licensee finding that occurred within the past two years, or the period within the last two inspections, whichever is longer.
- (C) It was or will be corrected within a reasonable time by specific corrective action committed to by the licensee by the end of the inspection, including immediate corrective action and comprehensive corrective action to prevent recurrence.
- (D) It was not a willful violation or if it is/was a willful violation;
- (i) The information concerning the violation, if not required to be reported, was promptly provided to appropriate NRC personnel, such as a resident inspector, Regional section chief or branch chief;
 - (ii) The violation involved the acts of a low-level individual (and not a licensee official);
 - (iii) The violation appears to be the isolated action of the employee without management involvement, and the violation was not caused by lack of management oversight - as evidenced by either a history of isolated, willful violations or a lack of adequate audits or inadequate supervision of employees; and
 - (iv) Significant remedial action commensurate with the circumstances was taken by the licensee such that it demonstrated the seriousness of the violation to other employees and contractors, thereby creating a deterrent effect within the licensee's organization. Although removal of the employee from licensed activities is not necessarily required, substantial disciplinary action is expected.

APPENDIX B

ENFORCEMENT POLICY ASSESSMENT PROCESS EXAMPLES

OPERATIONS EXAMPLE 1:

TITLE: CHILLER REFRIGERANT LEVEL ABOVE MAXIMUM OPERABILITY

The licensee initiated a Corrective action document in response to a Train B chiller trip. Prior to completing a root cause evaluation for the trip, the licensee suspected that low refrigerant level in the cooler may have been a contributing factor. The licensee identified that the Train B chiller refrigerant level was low in its band.

Several years earlier, HVAC engineering had established that refrigerant levels in the cooler should be maintained between 3 and 7 inches in accordance with an engineering evaluation. The high and low levels had been defined as the maximum and minimum operability limits. The inspector noted that, following the Train B chiller trip, HVAC technicians increased the shutdown refrigerant levels in all three units as necessary to slightly greater than 6 inches to prevent a trip on "low refrigerant temperature."

During a system walkdown to verify the licensee's corrective actions, the inspector identified that the refrigerant level in another chiller was above 7 inches.

The inspector determined that a Corrective Action document had not been initiated to document and resolve the refrigerant level discrepancy. The inspector noted in the weekly chiller preventive maintenance tasks for the previous month, the refrigerant level was recorded as 4 3/4 inches. The week before the refrigerant level was recorded at 3 3/8 inches.

The inspector concluded that the high refrigerant level and the abnormal trend represented a condition adverse to quality which, according to the licensee's corrective action program, required that a Corrective Action document be initiated. The inspector concluded that the isolated failure of the maintenance technicians to initiate a Corrective Action document demonstrated that they were not fully cognizant of refrigerant level issues, despite the recent trip of the Train B chiller. The inspector further concluded that maintenance engineering, which had responsibility for the chiller preventive maintenance program and had been involved in the review of the chiller trip, had not ensured that the maintenance technicians were sufficiently aware of previous refrigerant level discrepancies. The isolated failure to identify a condition adverse to quality is a violation of 10 CFR Part 50, Appendix B, Criterion XVI.

ENFORCEMENT DISCUSSION:

Safety Significance/Safety Consequence - MINOR VIOLATION

Actual Safety Significance/
Safety Consequence:

None - no overexposure, offsite release, or loss of safety function occurred.

Potential Safety Significance/
Safety Consequences:

Minor - not more severe under reasonable and credible alternate conditions, such as mode or power level, not a Technical Specification (TS) Limiting Condition for Operation (LCO) violation, safety barrier not affected, not in an unanalyzed condition, not outside the design basis of the plant, condition was covered by the plant's operating procedures, not a condition that alone could have prevented fulfillment of the safety function, could have had minor consequences under different climatic conditions.

Regulatory Concern:

None - not willful, no aggregation, not repetitive, and no failure to report.

ALTERNATE ANALYSIS:

1. Had the Corrective action document determined the one train of the essential chillers was not capable of performing its intended safety function, a Severity Level IV would be appropriate.
2. Had the failure to issue Corrective action documents been repetitive, (indicative of a programmatic breakdown, as evidenced by several minor violations identified by the NRC, or several licensee identified failures within the past two years) a Severity Level IV would be appropriate.
3. Had the Corrective action document determined that both trains of essential chilled water could have been incapable of performing its intended safety function under design basis accident conditions, a Severity Level III would be appropriate.

OPERATIONS EXAMPLE 2:

TITLE: DIESEL GENERATOR COMBUSTION AIR INTAKE VALVE LEFT IN INOPERABLE CONFIGURATION

While the NRC inspection team was observing diesel generator surveillance testing, the licensee noted that the over-speed butterfly valve for the combustion air intake line to the diesel generator did not fully close as required. Upon review, it was determined that this valve had been disconnected three weeks earlier, in conjunction with a periodic diesel disassembly and inspection performed pursuant to work order. Although this work order contained work instruction steps which provided for retest of the butterfly valve, the applicable step was in the body of the work document, and was not included or referenced in the retest section. The work instructions also stated that tasks in the body of the work instructions could be performed out of sequence. As a result, although the retest was apparently performed, other work instruction steps performed after the retest made the valve inoperable. The licensee indicated they would change the applicable procedure writer's guides to ensure that all retests are either listed or referenced in the retest section of the procedure and not performed until all related work is complete.

ENFORCEMENT DISCUSSION

1. Safety Significance/Safety Consequence - LEVEL IV VIOLATION

Actual Safety Significance/
Safety Consequence:

None - no overexposure, offsite release, or loss of safety function occurred.

Potential Safety Significance/
Safety Consequence:

Yes - a significant failure to comply with the Action Statement for a TS LCO where the appropriate action was not taken within the required time. Emergency diesel generator was not called on to prevent or mitigate an accident during the inoperability period, and redundant diesels and offsite power were available during this period. Safety function could have been performed by redundant emergency diesel generator.

Regulatory Concern:

None - not willful, no aggregation, not repetitive, and no failure to report.

2. Mitigation - Yes, re-categorize as a NON-CITED VIOLATION

Licensee-identified:

Yes.

Reasonably preventable:

No - could not have reasonably been expected to have been prevented by the licensee's corrective action for a previous violation or a previous licensee finding that occurred within the past two years.

Corrected:

Yes.

Willful:

No.

ALTERNATE ANALYSIS:

1. Had the affected diesel generator still been able to perform its intended safety function, the event would be a Minor Violation.
2. Had the diesel generator been unable to perform its intended safety function, and the redundant diesel generator was removed from service and was therefore also unable to perform its intended safety function, consideration for a Severity Level III Violation would be appropriate.
3. Had the diesel generator been unable to perform its intended safety function, and the redundant diesel generator was removed from service and also was unable to perform its intended safety function during a valid loss of voltage event which occurred in response to a grid or plant transient, consideration for a Severity Level I or II Violation would be appropriate. Depending on how egregious the violation was, it may be mitigated for the case (e.g., where the plant successfully recovered from the event through a fast transfer to an alternate power supply).

OPERATIONS EXAMPLE 3:

TITLE: INAPPROPRIATE CONTROL ROOM MATERIALS

During backshift operations, with no evolutions in progress, the inspector observed an onshift control room operator briefly (20 seconds) showed another licensee employee his new granddaughter's baby picture. The inspector noted that operations management expectations, described by procedure, were that no material should be reviewed in the control room by operators responsible for monitoring the plant. Specifically, the procedure stated, in part, that "Potentially distracting activities shall be prohibited, such as radios, televisions, games, horseplay, hobbies, and reading that is not company approved." The inspector concluded that because activities in the control room at the time were minimal, and because the operator did not appear to be neglecting any emergent condition, that the safety significance was low. However, the inspector concluded that the operator violated the procedure by engaging in the distracting activity of showing another licensee employee the baby picture.

ENFORCEMENT DISCUSSION:

Safety Significance/Safety Consequence - MINOR VIOLATION

Actual Safety Significance/ Safety Consequences:	None - no overexposure, offsite release, or loss of safety function occurred.
Potential Safety Significance/ Safety Consequences:	None - not more severe under reasonable and credible alternate conditions, not a TS LCO violation, safety barrier not affected, not in an unanalyzed condition, not outside the design basis of the plant, condition was covered by the plant's operating procedures, and not a condition that alone could have prevented fulfillment of the safety function.
Regulatory Concern:	None - not willful, no aggregation, not repetitive, and no failure to report.

Note: This event was a minor violation because activities in the control room at the time were minimal, the operators did not appear to be neglecting any emergent condition and were fully ready to respond to any annunciator(s), verbal communications, or other situations that may have occurred.

ALTERNATE ANALYSIS:

1. Had the distraction (20 second viewing of the baby picture) occurred during a routine plant evolution (i.e., fill and vent of S/T tanks), a Severity Level IV Violation would be appropriate.
2. If management had contributed to distracting activity (provided training video tapes with the expectation that the Operators view them during shift work), a Severity Level III Violation would be appropriate.
3. Had Operators been engaged in a card game, rather than the few second distraction, a more significant (regulatory concern) violation occurs. Under those conditions, a Severity Level III Violation or higher against the licensed operator would be appropriate.
4. As a result of any distracting activity, had the Operator failed to properly respond to emergent plant conditions and not followed procedures, consideration for a Severity Level II Violation against the licensed operator as well as the utility (if condoned by the utility) would be appropriate.

OPERATIONS EXAMPLE 4:

TITLE: DRAIN DOWN OF THE PRESSURIZER AND A PARTIAL DEPRESSURIZATION OF THE RCS

While the plant was shut down for a refueling outage, with the plant in Mode 4 and still cooling down (reactor coolant temperature at about 300 degrees F and pressure at about 350 psig), a violation of procedural requirements resulted in draining approximately 9,200 gallons of water from the reactor coolant system to the refueling water storage tank (RWST), draining most of the water from the pressurizer and causing a decrease in RCS pressure to about 25 psig. The event occurred when operators opened a valve that was required by system operating procedures to be closed when bringing a residual heat removal system (RHR) train on line, creating a drainage path for reactor coolant to be pumped to the RWST. This event can be blamed on a failure of the operating crew to maintain adequate control of two activities that were occurring at the same time but which were essentially incompatible with testing a motor-operated valve in the RHR system, when that same valve was required to be closed while bringing RHR into service.

The operating staff quickly diagnosed the event and took prompt action to terminate the drain-down in approximately 66 seconds and restore RCS inventory. Due to this prompt action, the event did not result in a loss of core cooling and the 9,200 gallons of reactor coolant was confined to plant systems, primarily the RWST.

The NRC considers the violation that caused the event a significant regulatory concern because: 1) the event itself was significant given the relatively short time that the plant had been shut down and the amount of decay heat available; 2) the event had the potential, had it continued, to result in a loss of emergency core cooling system equipment and complicate a recovery; and 3) the event resulted in an unnecessary challenge to plant operators, necessitating prompt diagnosis and action. In addition, the NRC has issued general Information Notices to the industry regarding events of this type and is concerned that, with the industry trend toward shorter outages, outage planning include tight controls over plant activities in the early stages of an outage when the plant is still cooling down and the plant is in transition from a routine operating mode.

ENFORCEMENT DISCUSSION:

1. Safety Significance/Safety Consequence - LEVEL III VIOLATION

Actual Safety Significance/
Safety Consequences:

None - no overexposure, offsite release, or loss of safety function occurred.

Potential Safety Significance/
Safety Consequences:

Yes - could have been more severe under reasonable and credible alternate conditions due to the relatively short time that the plant had been shut down and the amount of decay heat available. As is, the event resulted in RCS diversion causing a decrease in RCS pressure to about 25 psig. If left uncorrected, the violation would have become a more significant concern; it could have resulted in a loss of emergency core cooling system equipment and complicated recovery.

Regulatory Concern:

None - not willful, no aggregation, not repetitive, and no failure to report.

Escalation: Yes - inattentiveness to duty on the part of licensed personnel; failure of operating crew to maintain adequate control of two incompatible activities. In addition, the event resulted in reactor parameters that caused unanticipated reductions in margins of safety.

2. Mitigation - No, retain as a CITED LEVEL III VIOLATION

Licensee-identified: No - identified through an event. The event resulted in an unnecessary challenge to plant operators, necessitating prompt diagnosis and action. In addition, NRC Information Notices have been issued regarding events of this type.

Reasonably preventable: No - could not have reasonably been expected to have been prevented by the licensee's corrective action for a previous violation or a previous licensee finding that occurred within the past two years.

Corrected: Yes.

Willful: No - a failure of the operating crew to maintain adequate control of two activities occurring at the same time, but which were essentially incompatible.

ALTERNATE ANALYSIS:

1. Had the operator inadvertently operated any other valve, not resulting in a drain-down event (safety consequence), then a Minor Violation would be appropriate.
2. Had the event resulted in draindown and subsequent loss of shutdown cooling suction, consideration for a Level II Violation would be appropriate (emergency core cooling system not being able to perform its intended safety function).

OPERATIONS EXAMPLE 5:

TITLE: TEMPERATURE RECORDER NOT ENGAGING THE RECORDER PAPER

The inspector walked down Control Room boards and noted that one of the two recording pens for a wide range reactor coolant cold leg temperature recorder was not in contact with the chart paper. The inspector made this observation at approximately 10:30 a.m. and noted that the recorder had not responded since approximately 4 a.m. that same morning. The inspector informed the control operator, who reengaged the pen to the strip chart. The inspector noted this recorder was one of 51 indications operators could have used to trend RCS temperature in the event of entry into emergency procedures in order to control RCS heatup and cooldown. The inspector was also concerned because the inoperability of the recorder had gone unnoticed during the 6 a.m. shift turnover and because the condition had been unnoticed for so long.

ENFORCEMENT DISCUSSION:

Safety Significance/Safety Consequence - MINOR VIOLATION

Actual Safety Significance/
Safety Consequences:

None - no overexposure, offsite release, or loss of safety function occurred.

Potential Safety Significance/
Safety Consequences:

Minor - not more severe under reasonable and credible alternate conditions, not a TS LCO violation, safety barrier not affected, not in an unanalyzed condition, not outside the design basis of the plant, condition was covered by the plant's operating procedures, and not a condition that alone could have prevented fulfillment of the safety function, minor isolated inattention to detail by the operator.

Regulatory Concern:

None - not willful, no aggregation, not repetitive, and no failure to report.

ALTERNATE ANALYSIS:

1. Had there been repetitive instances of operator inattention to degraded control room recorder status, a Severity Level IV would be appropriate.

OPERATIONS EXAMPLE 6:

TITLE: FAILURE TO FOLLOW PROCEDURES - TWO EXAMPLES

Potential Violation A

During a tour of the west switchgear, the inspector observed that maintenance personnel had erected and secured an 8-foot step ladder to an electrical conduit to support installation per an engineering change notice. The purpose of the change was to remove the security uninterruptable power supply located in the west switchgear room. The work was to be conducted in accordance with a construction work order.

Upon noticing the ladder was secured to the conduit, the inspector traced the conduit to a junction box. The junction box housed the breaker for instrument power for an Auxiliary Feedwater (AFW) panel. This panel provided indication and control of the AFW system to allow for a safe shutdown of the plant during an emergency that resulted in the forced evacuation of the control room.

The inspector noted that the conduit the ladder was secured to was less than 2 inches in diameter. The inspector questioned maintenance personnel as to whether the ladder should have been secured to the conduit since the conduit was less than two inches in diameter. Maintenance personnel acknowledged that the ladder should not have been tied to the conduit.

Standing Order "Storage of Transient Equipment and Material to Prevent Seismic Interactions" states, in part, that ladders shall only be secured to conduits greater than 2 inches in nominal diameter. Securing the ladder to an electrical conduit less than 2 inches in diameter is a violation.

Potential Violation B

A licensed operator was performing a procedure titled, "Diverse Scram System Actuation Relay Operability Test." During performance of the test, the operator inadvertently operated the bypass switch which caused a single channel trip condition.

During review of this event, the inspectors concluded that the reactor trip was a result of personnel error in that the operator failed to properly follow the procedure and adequately self-check to ensure the right switch was manipulated. Based on reviews performed by the inspectors, the failure to properly follow the surveillance test procedure for the diverse scram system is a violation.

ENFORCEMENT DISCUSSION:

Safety Significance/Safety Consequence - MINOR VIOLATION

Actual Safety Significance/
Safety Consequences:

None - no overexposure, offsite release, or loss of safety function occurred.

Potential Safety Significance/
Safety Consequences:

Minor - not more severe under reasonable and credible alternate conditions, not a TS LCO violation, safety barrier not affected, not in an unanalyzed condition, not outside the design basis of the plant, condition was covered by the plant's operating procedures, and not a condition that alone could have prevented fulfillment of the safety function, minor isolated failure to follow procedure.

Regulatory Concern:

None - not willful, no aggregation, not repetitive, and no failure to report.

Note: Engineering judgement showed seismic event would not have caused the step ladder to damage conduit making AFW inoperable.

ALTERNATE ANALYSIS:

1. Had the step ladder actually damaged the conduit, making one train of the AFW inoperable, a Level IV Violation would be appropriate.
2. Had the reactor tripped, a Level IV Violation would be appropriate (loss of safety function).

ENGINEERING/TECHNICAL SUPPORT EXAMPLE 1:

TITLE: INADEQUATE DRAWINGS

This violation involved the failure to maintain piping and instrumentation diagrams in accordance with an established procedure. Although the NRC staff recognizes the relative minor safety significance in this instance associated with the identification of locked valves on piping and instrumentation diagrams; the violation is of concern because the drawing discrepancies did not receive adequate management attention until addressed by the NRC staff.

Through interviews, the team determined that engineering had attempted to correctly indicate on the drawings (P&IDs) all valves specified in the locked valve list. However, there were other valves indicated as locked on the drawings which were not in the locked valve list. The team determined that engineering had not established measures to correct the drawings (P&IDs). The status of valves identified during the audit had not been corrected on plant drawings. The team determined that the drawings had not been updated to correctly indicate the locked valve status in certain instances. The team identified the failure to revise the P&IDs as a violation of Criterion V, "Instructions, Procedures, and Drawings," of Appendix B to 10 CFR Part 50 and the licensee's procedure.

ENFORCEMENT DISCUSSION:

Safety Significance/Safety Consequence - MINOR VIOLATION

Actual Safety Significance/
Safety Consequences:

None - no overexposure, offsite release, or loss of safety function occurred.

Potential Safety Significance/
Safety Consequences:

Minor - not more severe under reasonable and credible alternate conditions, not a TS LCO violation, safety barrier not affected, not in an unanalyzed condition, not outside the design basis of the plant, condition was covered by the plant's operating procedures, and not a condition that alone could have prevented fulfillment of the safety function, minor isolated example of administrative oversight in preparation of drawings.

Regulatory Concern:

None - not willful, no aggregation, not repetitive, and no failure to report.

ALTERNATE ANALYSIS:

1. Had the deficient P&IDs been used to control TS required locked valve positions resulting in a TS violation, and the condition was licensee identified and corrected, a NCV would be appropriate.
2. Had the deficient P&IDs been used to control TS required locked valve positions resulting in a TS violation, and was discovered by the NRC (as noted above), a Level IV Violation would be appropriate.

ENGINEERING/TECHNICAL SUPPORT EXAMPLE 2:

TITLE: FAILURE TO GENERATE 50.59 SAFETY EVALUATION

A weakness was identified in the implementation of a plant procedure titled, "Field Change Notice (FCN) and Field Interim Design Change Notice (FIDCN)," used by the licensee for field change notices. Field change notices are stand-alone documents used by the licensee to implement small scope changes. The licensee defined small scope changes as those that would not result in major changes to plant function or any changes to design bases described in primary design drawings, or any regulatory design commitment documents. If the proposed change exceeds these criteria, the change must be processed as a design change package. The procedure included a field change notice decision tree that served several purposes. The procedure provided guidance on how to classify a change as a field change notice or a design change package. The procedure also provided the criteria for assisting the evaluator in determining the need for a detailed 10 CFR 50.59 safety evaluation.

The inspector's limited review of several hundred field change notices found that very few facility change notices had a detailed 10 CFR 50.59 safety evaluation performed. Instead, the licensee used a safety evaluation screening process (i.e. a yes or no checkoff) to indicate whether a 10 CFR 50.59 evaluation was required. However, the individual performing the 10 CFR 50.59 screening did not document the basis for the answers to the screening questions. Thus, a second party reviewer would not know the basis for the preparer answers to the screening questions.

ENFORCEMENT DISCUSSION:

Safety Significance/Safety Consequence - MINOR VIOLATION

Actual Safety Significance/
Safety Consequences:

None - no overexposure, offsite release, or loss of safety function occurred.

Potential Safety Significance/
Safety Consequences:

Minor - not more severe under reasonable and credible alternate conditions, not a TS LCO violation, safety barrier not affected, not in an unanalyzed condition, not outside the design basis of the plant, condition was covered by the plant's operating procedures, and not a condition that alone could have prevented fulfillment of the safety function, minor isolated failure to properly document an evaluation.

Regulatory Concern:

None - not willful, no aggregation, not repetitive, and no failure to report.

ALTERNATE ANALYSIS:

1. Had this failure to document the screening criteria been an indication of ineffective corrective actions from previous violations within the past two years (repetitive), or had multiple examples such that it was indicative of a programmatic breakdown, a Severity Level IV Violation would be appropriate.

ENGINEERING/TECHNICAL SUPPORT EXAMPLE 3:

TITLE: FAILURE TO FOLLOW PROCEDURE FOR WELDING WORK

Plant procedure titled, "Radiographic Examination," had been reviewed and approved by the appropriate licensee personnel, and by the authorized nuclear inservice inspector. The procedure provided detailed information and guidance to allow qualified nondestructive examination personnel to perform the specified radiographic examination. Acceptance criteria were clearly identified, either directly or by reference to the appropriate ASME Code appendix and section.

The inspector noted that the welding procedure specification permitted a maximum interpass temperature of 225°F for the gas tungsten arc welding process and 600°F for the shielded metal arc welding process, while the procedure qualification record showed a recorded maximum interpass temperature of 450°F for both welding processes.

Paragraph QW-200.1 of Article II in Section IX of the ASME Code requires welding procedure specifications to describe all of the essential, nonessential, and, when required, supplementary essential variables for each welding process used in the welding procedure specification. Supplementary essential variables are invoked whenever welding of materials having specified notch toughness properties occurs. QW-200 further stipulates that changes in essential or required supplementary essential variables require requalification of the welding procedure specification (i.e., new or additional procedure qualification records to support the change in supplementary essential variables). The inspector's review of the welding variables tables for the shielded metal arc and gas tungsten metal arc welding processes showed that interpass temperature is a supplementary essential variable (QW-406.3).

ASME Section IX, Paragraph QW-406.3 requires welding procedure specification requalification if there is an increase of more than 100°F above the maximum interpass temperature recorded on the supporting procedure qualification record, unless the welding procedure specification is qualified with a postweld heat treatment above the upper transformation temperature, or when an austenitic material is solution annealed after welding. Neither of these conditions were applicable.

The permitted use in the welding procedure specification of a maximum interpass temperature of 600°F for the shielded metal arc welding process exceeded the allowed 100°F increase over the qualified interpass temperature specified in the appropriate procedure qualification record, and is a violation of 10 CFR 50, Appendix B, Criterion IX.

ENFORCEMENT DISCUSSION:

Safety Significance/Safety Consequence - MINOR VIOLATION

Actual Safety Significance/ Safety Consequences:	None - no overexposure, offsite release, or loss of safety function occurred.
Potential Safety Significance/ Safety Consequences:	None - not more severe under reasonable and credible alternate conditions, not a TS violation, safety barrier not affected, not in an unanalyzed condition, not outside the design basis of the plant, condition was covered by the plant's operating procedures, and not a condition that alone could have prevented fulfillment of the safety function.
Regulatory Concern:	None - not willful, no aggregation, not repetitive, and no failure to report.

Note: As corrective action, the affected feedwater piping welds were removed and rewelded using a revised welding procedure specification and weld record, and interpass temperature was correctly monitored and documented. The weld procedure with the incorrect interpass temperature was determined to have been used only once before. Those welds were evaluated and determined to be acceptable.

ALTERNATE ANALYSIS:

1. Had the use of the incorrect interpass temperature resulted in an unqualified weld which under the worst case accident analysis could have caused minor leakage in the steam generator greater than allowed by the TS, a Severity Level IV Violation would be appropriate.
2. Had this condition affected a steam generator to such a degraded extent that a detailed engineering evaluation would be required to determine secondary system operability, consideration of a Severity Level III Violation would be appropriate.

ENGINEERING/TECHNICAL SUPPORT EXAMPLE 4:

TITLE: FAILURE TO FOLLOW PROCEDURES - MISPLACED FUEL ASSEMBLY

During defueling, a fully burned assembly was inadvertently lowered into the wrong location in the SFP. The error was immediately caught by the refueling supervisor and assembly was immediately repositioned.

ENFORCEMENT DISCUSSION:

Safety Significance/Safety Consequence - MINOR VIOLATION

Actual Safety Significance/ Safety Consequences:	None - no overexposure, offsite release, or loss of safety function occurred.
Potential Safety Significance/ Safety Consequences:	Minor - not more severe under reasonable and credible alternate conditions, not a TS LCO violation, safety barrier not affected, not in an unanalyzed condition, not outside the design basis of the plant, condition was covered by the plant's operating procedures, and not a condition that alone could have prevented fulfillment of the safety function.
Regulatory Concern:	None - not willful, no aggregation, not repetitive, and no failure to report.

ALTERNATE ANALYSIS:

1. Had the fuel element been inserted into the wrong location in the reactor core, and there was significant potential for the situation being undetected by licensee verification and process controls, a Severity Level IV Violation would be appropriate.

ENGINEERING/TECHNICAL SUPPORT EXAMPLE 5:

TITLE: FAILURE TO INITIATE NCR AND TAKE TIMELY CORRECTIVE ACTIONS

The inspector reviewed several hundred nonconformance reports (NCR) and warehouse NCRs. All of the NCRs and WNCRs were dispositioned in accordance with the applicable licensee procedures. The disposition of each was determined to be in accordance with the requirements of 10 CFR Part 50, Appendix B, Criterion XV, "Nonconforming Material, Parts, or Components."

However, in one of the NCRs, the inspector noted a delay, caused by mis-communications between work groups on who would write the NCR. Corrective actions were promptly initiated, however, separate from the delay in documentation. When finally documented, the NCR included an analysis that explained why the relays continued to perform the required safety function, but this analysis was not immediately available.

ENFORCEMENT DISCUSSION:

Safety Significance/Safety Consequence - MINOR VIOLATION

Actual Safety Significance/ Safety Consequences:	None - no overexposure, offsite release, or loss of safety function occurred.
Potential Safety Significance/ Safety Consequences:	None - not more severe under reasonable and credible alternate conditions, not a TS LCO violation, safety barrier not affected, not in an unanalyzed condition, not outside the design basis of the plant, condition was covered by the plant's operating procedures, and not a condition that alone could have prevented fulfillment of the safety function.
Regulatory Concern:	None - not willful, no aggregation, not repetitive, and no failure to report.

ALTERNATE ANALYSIS:

1. Had the condition resulted in a single train of TS equipment inoperability, a Severity Level IV Violation would be appropriate.
2. Had the failure to promptly identify and correct a condition adverse to quality actually resulted in a system's inability to perform its intended safety function, consideration for a Severity Level III Violation would be appropriate.

PLANT SUPPORT EXAMPLE 1:

TITLE: FAILURE TO FOLLOW PROCEDURES

A licensee employee entered the radiologically controlled area (not a high radiation area) without an operating alarming dosimeter. The individual read and signed the applicable radiation work permit and picked up a self-reading dosimeter. However, he failed to stop at the entry point to be logged, via computer, onto the applicable radiation work permit and have the alarming dosimeter turned on. The individual entered the entry point through the swinging exit gate. The failure to turn on the dosimeter was not discovered until the individual exited the controlled area to have exposure logged onto the computer. The licensee's immediate actions were to suspend the individual's access to the controlled area, read his self-reading dosimeter, (zero exposure), and initiate an incident report to document and review the event. Plant procedure titled, "Radiation Protection Administration Procedure," required that all personnel log in and out of the access control system for each radiologically controlled access entry. In addition, the procedure required that personnel entering the controlled area wear approved personnel monitoring equipment. The radiation work permit required a thermoluminescent dosimeter and a self-reading dosimeter. The failure to log into the access control system and have an approved (operable) alarming dosimeter is a violation of NRC requirement.

ENFORCEMENT DISCUSSION:

1. Safety Significance/Safety Consequence - MINOR VIOLATION

Actual Safety Significance/
Safety Consequences:

None - no overexposure, offsite release, or loss of safety function occurred.

Potential Safety Significance/
Safety Consequences:

Minor - not more severe under reasonable and credible alternate conditions, not a TS LCO violation, safety barrier not affected, not in an unanalyzed condition, not outside the design basis of the plant, condition was covered by the plant's operating procedures, and not a condition that alone could have prevented fulfillment of the safety function, minor safety consequence as the worker could have received a greater than anticipated exposure, even though there was no potential for any overexposure.

Regulatory Concern:

None

2. Mitigation - No, retain as a CITED LEVEL IV VIOLATION

Licensee-identified:

Yes.

Reasonably preventable:

Yes - corrective actions from the previous event were not effective; a previous inspection report had documented four other occurrences.

Corrected:

Yes - the licensee's immediate actions were to suspend the individual's access to the controlled area, read his self-reading dosimeter, (zero exposure), and initiate an incident report to document and review the event.

Willful:

No.

ALTERNATE ANALYSIS:

1. Had there been several instances of failure to obtain proper dosimetry, which were indicative of a programmatic breakdown, and the licensee's corrective action was inadequate and/or untimely, in that large numbers of employees were not retrained on the importance of obtaining dosimetry, a Severity Level IV would be appropriate.
2. Had this resulted in a worker exposure above regulatory limits, consideration for a Level III Violation would be appropriate.

PLANT SUPPORT EXAMPLE 2:

TITLE: INADEQUATE CONTROLS OF ACCESS TO ROOF OF THE RAD WASTE BUILDING

In the radwaste building, the licensee identified that unrestricted access was available to the roof of the building. Because some high level radioactive waste was stored in the building, a radiation protection technician performed radiation measurements in accessible areas on the roof. Radiation levels measured by the licensee and confirmed by the inspector were 6 millirems per hour. Because the radiation levels exceeded 5 millirems per hour, the area on the roof was a radiation area, as defined by 10 CFR 20.1003. The licensee did not include the uncontrolled area in its routine survey schedule. The inspectors identified the failure to survey the radiation area is a violation of 10 CFR 20.1501(a), which requires that the licensee make or cause to be made, surveys that may be necessary to comply with the regulations in Part 20, and are reasonable under the circumstances to evaluate the extent of radiation levels and potential radiological hazards that could be present. To comply with 10 CFR 20.1902(a), which requires that radiation areas be conspicuously posted, it would have been necessary for the licensee to have identified the radiation area on the roof of the radwaste building by means of a radiation survey.

Licensee representatives stated that the routine survey schedule would be revised to include the roof of the radwaste building and initiated a corrective action document to document and correct the situation.

ENFORCEMENT DISCUSSION:

Safety Significance/Safety Consequence - Non-Cited Violation (NCV)

Actual Safety Significance/ Safety Consequences:	None - no overexposure, offsite release, or loss of safety function occurred.
Potential Safety Significance/ Safety Consequences:	None - not more severe under reasonable and credible alternate conditions, not a TS LCO violation, safety barrier not affected, not in an unanalyzed condition, not outside the design basis of the plant, condition was covered by the plant's operating procedures, and not a condition that alone could have prevented fulfillment of the safety function.
Regulatory Concern:	None - not willful, no aggregation, not repetitive, and no failure to report.

ALTERNATE ANALYSIS:

1. Had this been discovered by the inspector, a Level IV Violation would be appropriate.
2. Had this been a repetitive violation where previous corrective action had not been effective, a Level IV Violation would be appropriate.
3. Had this resulted in a worker exposure above regulatory limits, consideration for a Level III Violation would be appropriate.

PLANT SUPPORT EXAMPLE 3:

TITLE: FAILURE TO FOLLOW EMERGENCY PLAN

Through a review of records, fire protection audits, and interviews with key individuals, it was determined that some fire drills had not been conducted during 1994. A further review of 1994 fire protection audit results indicated that a similar problem had existed in 1993. Follow-up interviews indicated that during 1993 a problem with maintaining documentation of fire drill participation had occurred. Whereas, in 1994 not only did there appear to be a problem with maintenance of fire drill participation records but also in ensuring that all members of the fire brigades participated in at least two of the quarterly fire drills.

The inspectors verified that the licensee had conducted fire drills during the first and second quarters of 1995. However, because the intended corrective actions implemented in response to the 1994 audit findings were not effective, fire drills were missed in 1994. The inspectors considered the issue to be a weakness in the licensee's corrective action program. The failure to conduct required fire drills is a violation of regulatory requirements.

ENFORCEMENT DISCUSSION:

Safety Significance/Safety Consequence - MINOR VIOLATION

Actual Safety Significance/ Safety Consequences:	None - no overexposure, offsite release, or loss of safety function occurred.
Potential Safety Significance/ Safety Consequences:	None - not more severe under reasonable and credible alternate conditions, not a TS LCO violation, safety barrier not affected, not in an unanalyzed condition, not outside the design basis of the plant, condition was covered by the plant's operating procedures, and not a condition that alone could have prevented fulfillment of the safety function.
Regulatory Concern:	None - not willful, no aggregation, not repetitive, and no failure to report.

ALTERNATE ANALYSIS:

1. Had this resulted from ineffective corrective actions from a previous violation, which was not the case above (licensee audit findings/corrective actions), this would appropriately be considered of regulatory concern (repetitive), and a Severity Level IV Violation would be appropriate.
2. Had this resulted from ineffective corrective actions from a previous violation, and was licensee identified and properly corrected, a NCV Violation would be appropriate.

PLANT SUPPORT EXAMPLE 4:

TITLE: FAILURE TO PROTECT SAFEGUARDS INFORMATION

A document containing safeguards information was left uncontrolled on a desk in an office building outside the protected area. The document was marked Safeguards, but was face down on the desk and was not recognizable as Safeguards Information. The document contained the schedule for patrols of the protected area perimeter. Upon discovery, the schedule was changed within 5 minutes.

ENFORCEMENT DISCUSSION:

Safety Significance/Safety Consequence - MINOR VIOLATION

Actual Safety Significance/ Safety Consequences:	None - no overexposure, offsite release, or loss of safety function occurred. No penetration of the protected area perimeter occurred. No radiological sabotage or loss of a formula quantity of special nuclear material occurred.
Potential Safety Significance/ Safety Consequences:	None - Protected area fence was intact. Protected area cameras and detection equipment were operable. Armed response remained available. Vital area controls remained operable.
Regulatory Concern:	None - not willful, no aggregation, not repetitive, and no failure to report.

ALTERNATE ANALYSIS:

1. Had sufficient information been in the document to permit the protected area to be breached without detection, a Severity Level IV Violation would be appropriate. (Non-cited if licensee identified).
2. If there was a realistic potential that wrongdoers could have had access to the document (i.e., the document was left face up and unattended in the lunchroom overnight), such that undetected penetration of the Protected Area perimeter was possible, a Severity Level III Violation would be appropriate.

MAINTENANCE EXAMPLE 1:

TITLE: FAILURE TO FOLLOW PROCEDURES

The inspectors observed the replacement of an air start solenoid operated valve (SOV), which was designed to admit 250 psi starting air from the forward air receivers to the common starting air manifold on the diesel generator (DG). This repair activity was in response to a failure of the DG to start during a surveillance test.

As the job was commencing, the mechanics erroneously loosened the pilot air supply tubing fitting on the rear starting air valve. By the time the inspectors had reached the platform to challenge this activity, the foreman had identified the error. The mechanics moved to the correct, forward air start SOV. Both valves were clearly labeled and the maintenance work order (MWO) was correct.

ENFORCEMENT DISCUSSION:

Safety Significance/Safety Consequence - MINOR VIOLATION

Actual Safety Significance/ Safety Consequences:	None - no overexposure, offsite release, or loss of safety function occurred.
Potential Safety Significance/ Safety Consequences:	Minor - not more severe under reasonable and credible alternate conditions, not a TS LCO violation, safety barrier not affected, not in an unanalyzed condition, not outside the design basis of the plant, condition was covered by the plant's operating procedures, and not a condition that alone could have prevented fulfillment of the safety function.
Regulatory Concern:	None - not willful, no aggregation, not repetitive, and no failure to report.

Note: This is a minor violation for failure to follow the maintenance job plan requirements. The diesel was inoperable at the time the work was performed, and the error by the mechanic had no impact on diesel operability. There was immediate identification and action by the foreman. The event was isolated, had no safety impact, and was promptly identified and corrected.

ALTERNATE ANALYSIS:

1. Had the worker's actions and the foreman not caught the error, and actually resulted in an inoperable emergency diesel generator (although: the other diesel generators and offsite power remained available and operable), a Severity Level IV Violation would be appropriate.
2. This could potentially have been a Level IV Violation if the work had been performed on the incorrect (operable) diesel, if the error had not been promptly identified and corrected, or if there was any indication of a programmatic breakdown.
3. Had the workers error occurred on the opposite operable emergency diesel generator, resulting in the emergency power system not being able to prevent or mitigate a serious safety event, consideration for a Severity Level III Violation would be appropriate.

MAINTENANCE EXAMPLE 2:

TITLE: FAILURE TO FOLLOW PROCEDURES - PREVENTIVE MAINTENANCE DEFERRAL

There were six out of a total of 1845 (0.33 percent) safety-related preventive maintenance tasks that were late. Additionally, there were nine out of a total of 3756 (0.24 percent) nonsafety-related preventive maintenance tasks that were late.

Administrative procedures described the required action when an extension of a preventive maintenance activity late date was necessary. The action entailed documenting the basis for the extension on a "Preventive Maintenance Deferral Notice" form. The procedure also required that Preventive Maintenance Deferral Notices be processed as Quality Assurance Records. The licensee failed to write Preventive Maintenance Deferral Notices for each of the above safety-related preventive maintenance activities.

Although the number of past due preventive maintenance tasks was low, the inspectors identified that the licensee's control of the late safety-related preventive maintenance activities did not meet the requirements of administrative procedures.

Although the licensee's technical basis for not performing preventive maintenance in accordance with established schedules was weak in some cases, the inspectors had no immediate operability concerns. There were no known noncompliances with the Technical Specifications for any of the equipment listed above, no known current problems were evident, and no history of past problems appeared evident.

ENFORCEMENT DISCUSSION:

Safety Significance - MINOR VIOLATION

Actual Safety Significance/
Safety Consequences:

None - no overexposure, offsite release, or loss of safety function occurred.

Potential Safety Significance/
Safety Consequences:

None - not more severe under reasonable and credible alternate conditions, not a TS LCO violation, safety barrier not affected, not in an unanalyzed condition, not outside the design basis of the plant, condition was covered by the plant's operating procedures, and not a condition that alone could have prevented fulfillment of the safety function.

The failure rate of <3 in 1000 is sufficiently low to conclude that no programmatic deficiency occurred.

Regulatory Concern:

None - not willful, no aggregation, not repetitive, and no failure to report.

ALTERNATE ANALYSIS:

1. Had the failures to perform PM actually resulted in inoperability of TS trains or equipment, a Severity Level IV Violation would be appropriate.
2. Had there been a past history (within two years) of equipment problems related to preventive maintenance (PM) programmatic problems, a Severity Level IV Violation would be appropriate.
3. Had such a PM programmatic problem resulted in the system not being able to prevent or mitigate a serious safety event, consideration for a Severity Level III Violation would be appropriate.

MAINTENANCE EXAMPLE 3:

TITLE: FAILURE TO FOLLOW PROCEDURES

Diesel generator (DG) testing per surveillance test procedure titled, "Diesel Generator 24-Hour Load Test," was performed which involved the demonstration of autostart and load transfer functions. The load transfer portion of the test verified that breakers for 4 kv auto-connected loads closed onto the bus after the DG breaker closed.

In performing this test an operator failed to correctly perform two steps in the surveillance procedure and tripped the sole operating RHR pump.

ENFORCEMENT DISCUSSION:

1. Safety Significance - LEVEL IV VIOLATION

Actual Safety Significance/
Safety Consequences

Yes - inadvertent securing of the in-service residual heat removal pump resulted in temporary loss of core cooling during reactor shutdown. However, redundant pump was available.

Potential Safety Significance/
Safety Consequences

None - not more severe under reasonable and credible alternate conditions, not a TS LCO violation, safety barrier not affected, not in an unanalyzed condition, not outside the design basis of the plant, condition was covered by the plant's operating procedures, and not a condition that alone could have prevented fulfillment of the safety function.

Regulatory Concern:

None - not willful, no aggregation, not repetitive, and no failure to report.

2. Mitigation - No, retain as a CITED LEVEL IV VIOLATION

Licensee-identified:

No - identified through an event; involved two failures by two members of operations staff to follow the appropriate procedure, and a contributing cause of the violation was the failure to conduct an adequate pretest briefing.

Reasonably preventable:

No - could not have reasonably been expected to have been prevented by the licensee's corrective action for a previous violation or a previous licensee finding that occurred within the past two years.

Corrected:

Yes.

Willful:

No.

ALTERNATE ANALYSIS:

1. Had another operator caught the operator's error, thereby preventing the inadvertent loss of core cooling, a Minor Violation would be appropriate.
2. If the RHR was not capable of being recovered, then this event could be considered for a Level III Violation.

MAINTENANCE EXAMPLE 4:

TITLE: FAILURE TO FOLLOW PROCEDURES FOR SELF CHECKS

Two Maintenance Technicians were in the process of implementing a procedure for torquing some newly installed body to bonnet bolts on a safety related valve. One step in the procedure called for the setting of the torque wrench by reading the torque value from a table of torque values in the procedure and adjusting the torque wrench breakaway valve to that setting. Technician A read the wrong value from the Table and set the torque wrench improperly. He then handed the torque wrench to Technician B to check the torque wrench setting, after informing him of the value he had set it to. Technician B did not verify the correct setting from the procedure, he merely verified the setting that Technician A had given him. Technician B then torqued the bolts to the improper setpoint.

The licensee's QC Inspector performing a surveillance of this maintenance activity at the end of the job read the torque wrench setting and checked it against the procedure. He determined that the bolts had been improperly torqued.

The licensee initiated a corrective action document which evaluated the effect of the incorrect torquing, retorqued the valve bolts and checked the torque values on a large sample of the components that Technicians A and B had previously torqued.

ENFORCEMENT DISCUSSION:

1. Safety Significance/Safety Consequence - MINOR VIOLATION

Actual Safety Significance/ Safety Consequences:	None - no overexposure, offsite release, or loss of safety function occurred.
Potential Safety Significance/ Safety Consequences:	Minor - under a different condition where the improper torquing went undetected a very small potential for bolt failure may have manifested itself under extreme load conditions.
Regulatory Concern:	None - not willful, no aggregation, not repetitive, and no failure to report.

ALTERNATE ANALYSIS:

1. Had this violation been discovered by an NRC Inspector during the course of his surveillance rather than the licensee's QC Inspector this could have been a Level IV Violation.