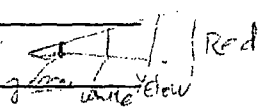


[Part I]

Documenting Findings

October 24, 2006
Presented by Ann Marie Stone

Findings:
Findings \rightarrow white, yellow, red
Notice of Violation
Issue \rightarrow observation of concern \rightarrow finding
or no finding
finding = issue of concern indicating performance
deficiency \rightarrow violation
non-violation
NCV \rightarrow non-critical violation \rightarrow very low significance
(10 or green)
non-compliance \rightarrow violation, non-compliance, violation


Agenda

- Documentation Tools
- "Brief" Overview of IMC 0612
- Example
- "Homework"

Documentation Tools

- Inspection Manual Chapter 0612
- Inspection Manual Chapter 0609
- Inspection Manual Chapter 0620
- Region III Model Report \rightarrow ORP
- NRC Stylist
- Various Checklists
- Other Inspectors and Branch Chiefs

A-15

Assessment of What You Found

- Is it a finding, violation or not?

- Screen it through IMC 0612
 - 05.01 Screen for Performance Deficiencies
 - 05.02 Screen for Traditional Enforcement Action
 - 05.03 Screen for Greater than Minor
 - 05.04 Screen for Significance

Screen for Performance Deficiency

- Answer the following: (Appendix B, Section 1)
 - Did the licensee fail to meet a requirement or a standard, where the cause was reasonably within the licensee's ability to foresee and correct and which should have been prevented?

- If Yes – document
- If No – Discuss with Branch Chief

Screen for Traditional Enforcement

- Answer the following: (Appendix B, Section 2)
 - Does the issue have actual safety consequence?

 - Does the issue have the potential for impacting the NRC's ability to perform its regulatory function? For example, 50.5, 50.9, 50.59? (see Enforcement Policy IV.A.3).

 - Are there any willful aspects of the violation?

Screen for Greater than Minor

- Answer the following: Appendix B, Section 3
 - Could the finding be reasonably viewed as a precursor to a significant event?
 - If left uncorrected would the finding become a more significant safety concern?
 - Does the finding relate to a performance indicator (PI) that would have caused the PI to exceed a threshold?
 - Does the finding relate to maintenance risk assessment and risk management issues?

Screen for Greater than Minor

- Answer the following: Appendix B, Section 3
 - Is the finding associated with one of the cornerstone attributes listed at the end of this attachment and does the finding affect the associated cornerstone objective?

Cornerstone: REACTOR SAFETY: Mitigating Systems

Objective: to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage)

Attributes	Examples
Design Control	Initial Design and Plant Modifications Protection Against External Factors: Flood Hazard, Fire, Loss of Heat Sink, Toxic Hazard, Seismic
Configuration Control	Shutdown Equipment Lineup, Operating Equipment Lineup
Equipment Performance	Availability, Reliability
Procedure Quality	Operating (Post Event) Procedure (ADPs, SOPs, EOPs); Maintenance and Testing (Prevent) Procedures
Human Performance	Human Error (Post Event), Human Error (Prevent)

Documenting Findings

- Introduction - overall "bottom line" results
 - one or two sentences
 - risk characterization (color or significance)
 - applicable enforcement or severity level

- Description - basis for the finding
 - Detail reflect safety consequence
 - Uncomplicated Green findings - succinct

Introduction: The team identified an NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance (Green) involving the control logic of RCIC pump suction valves MO-2516 and MO-2517. These valves, in the suction piping from the torus to the RCIC pump, were designed to automatically open during a low level condition in the CST. This design, which was implemented by Design Change Request (DCR) 1040, failed to retain the remote-manual closure capability of these containment isolation valves. This remote-manual closure capability was specifically addressed in NRC correspondence.

Description: The team reviewed DCR 1040, "RCIC Auto-Suction Switchover from the CST to the Suppression Pool" during the inspection. This design change was implemented in response to NUREG-0737, Item II.K.3.22, "Automatic Switchover of Reactor Core Isolation Cooling System Suction." The acceptance criteria associated with this NUREG item stated, in part, "...the capability of remote manual containment isolation shall be retained." The team noted that the design change, as implemented, failed to retain this remote manual isolation capability when a low CST level signal was present.

In response to this finding, the licensee initiated CAPC41114 on March 22, 2006. The licensee determined that the as-installed design was a deviation from an NRC commitment and that the condition did not result in an operability concern. As an interim measure, the licensee revised an operating procedure to allow the operators to manually block specific relay contacts in the control room, allowing these valves to be closed if required until plans to modify the valve control logic could be evaluated and implemented.

Documenting Findings

- Enforcement Section (continued)
 - what requirement was violated,
 - how the violation occurred,
 - when the violation occurred and how long it existed,
 - when the violation was identified,
 - safety consequence (if not described earlier)
 - root cause or apparent root cause at the time of report writing (if identified and not described earlier),
 - immediate corrective actions taken
 - specific enforcement actions (i.e., cited or non-cited)
 - tracking number resulting from the violation

Enforcement: Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," required, in part, that measures be established to assure that specific functions to be performed by a structure, system, or component of a facility are correctly translated into specifications, drawings, procedures, and instructions. The RCIC suction isolation valves MO-2516 and MO-2517 are containment isolation valves.

Contrary to the above, as of March 22, 2006, Design Change Request 1040, "RCIC Auto-Suction Switchover from the CST to the Suppression Pool" modified the control logic of MO-2516 and MO-2517 and prevented remote manual containment isolation capability from the control room under some conditions. However, because this violation was of very low safety significance and it was entered into the licensee's corrective action program, this violation is being treated as an NCV, consistent with Section VI A.1 of the NRC Enforcement Policy (NCV 05000331/2006007-02(DRS)). The licensee entered the finding into their corrective action program as CAP041114.

Documenting Findings

- Summary of Findings
 - First Paragraph:
 - Color/Significance
 - BRIEF description of finding
 - Enforcement
 - Who Identified
 - Corrective Actions
 - Second Paragraph:
 - BRIEF why more than minor
 - BRIEF why green
 - Cross-cutting Aspect
 - Section number

a. Inspection Scope

The inspectors: (1) reviewed operator logs, plant computer data, and/or strip charts for the below listed evolutions to evaluate operator performance in coping with nonroutine events and transients; (2) verified that operator actions were in accordance with the response required by plant procedures and training; (3) attended and/or reviewed postevent critic meetings; and (4) verified that AmerenUE identified and implemented appropriate corrective actions associated with any human performance problems that occurred during the nonroutine evolutions sampled.

- March 29, 2006, Cooling tower blowdown pipe leak and tritium sampling, CAR 200602491
- April 3, 2006, Operations personnel not able to meet FSAR assumed establishment of cold leg recirculation emergency core cooling system mode, CAR 200602565
- May 12, 2006, Turbine trip and reactor trip on P-14 high steam generator level, CAR 200603734
- May 31, 2006, Main steam line steam flashing event (CAR 200604255)
- June 6, 2006, Operations personnel response to loss of switchyard Bus B and 4 kV essential Bus NB01, CAR 200604492.

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed five samples.

non cited violation

→ optional.

Introduction: The team identified an NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance (Green) involving the control logic of RCIC pump suction valves MO-2516 and MO-2517. These valves, in the suction piping from the torus to the RCIC pump, were designed to automatically open during a low level condition in the CST. This design, which was implemented by Design Change Request (DCR) 1040, failed to retain the remote-manual closure capability of these containment isolation valves. This remote-manual closure capability was specifically addressed in NRC correspondence.

Analysis: The team determined that the failure to retain the capability of remote manual containment isolation was a performance deficiency and a finding. The team determined that the finding was more than minor in accordance with Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Dispositioning Screening," because it was associated with the barrier integrity attribute of design control, which affected the barrier integrity cornerstone objective of providing reasonable assurance that physical barriers protect the public from radionuclide releases by ensuring the functionality of the primary containment. Specifically, under certain circumstances, the design change prevented the automatic and remote-manual closure of two containment isolation valves.

The team reviewed IMC 0609, "Significance Determination Process (SDP)," dated May 19, 2005, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," dated December 1, 2004. The team determined that the barrier integrity cornerstone was affected because the licensee incorrectly modified the control logic of RCIC suction isolation valves MO-2516 and MO-2517 and consequently failed to implement the design basis requirement to maintain remote manual containment isolation capability under all conditions. Because the finding did not represent an actual open pathway in the physical integrity of the reactor containment or involve an actual reduction in defense-in-depth for the atmospheric pressure control or hydrogen control functions of the reactor containment, the team determined the finding to be of very low safety significance. The basis for this conclusion was that the RCIC system and containment would have performed their safety functions in the event of an accident.

The team concluded this finding did not have a cross-cutting aspect.

- Green. The team identified a Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance involving the control logic of reactor core isolation cooling (RCIC) pump suction valves MO-2516 and MO-2517. Design Change Request 1040 modified the control logic and did not retain the remote-manual closure capability of these containment isolation valves. This remote-manual closure capability was specifically addressed in NRC correspondence. As an interim measure, the licensee revised an operating procedure to allow the operators to manually block specific relay contacts in the control room, allowing these valves to be closed if required. The licensee entered the finding into their corrective action program as CAP 041114.

The finding was more than minor because failure to retain the remote-manual closure capability of these valves was associated with the attribute of design control, which affected the barrier integrity cornerstone objective of ensuring the functionality of the primary containment isolation valves. The finding was of very low safety significance based on the results of the licensee's analysis and screened as Green using the SDP Phase 1 screening worksheet. (Section 1R21.3.b.2)

Inspection Reports – Part 2

November 16, 2006

- Inspection Report – Part 2**
- Review
 - Performance Deficiency
 - Traditional Enforcement
 - More than Minor
 - Determination of Significance
 - Documenting the Analysis Section
 - Cross-cutting Aspects
 - Enforcement Section
 - Questions

Review

- Performance Deficiency
- Definition: An issue that is the result of a licensee not meeting a requirement or standard where the cause was reasonably within the licensee's ability to foresee and correct, and that should have been prevented. The licensee does not have to be committed to a standard in order to determine whether there is a performance deficiency (PD). For example, a PD is determined to exist if the licensee fails to adhere to a widely accepted industry standard.

More than Minor – Appendix B

- 1. Could the finding be reasonably viewed as a precursor to a significant event?
 - Likely used for findings resulting in transients – where it was fortuitous that another condition or action prevented the situation from being worse
 - Ex: Instrument mechanic error caused rods to quickly step in. An attentive operator stopped rod movement (2 steps!). More significant event if the operator was unable to stop (core fluctuations)
 - Possibly used for programmatic issues

More than Minor – Appendix B

- 2. If left uncorrected would the finding become a more significant safety concern?
 - Used for unknown or degrading conditions:
 - Ex. Service water pipe had a pin hole leak. If left uncorrected (undetected at this point), it WOULD result in a complete failure of the pipe.
 - Limited to situation at hand:
 - Ex. A failure to follow procedure X will NOT necessarily mean an operator won't follow procedure Y (a more safety significant procedure.)

More than Minor – Appendix B

- 3. Does the finding relate to a performance indicator (PI) that would have caused the PI to exceed a threshold?

- 5. Does the finding relate to maintenance risk assessment and risk management issues?

Example

- The team determined that was considered a performance deficiency and a finding. The team determined that the finding was more than minor in accordance with IMC 0612, Appendix B, "Issue Disposition Screening", Specifically,
- The team evaluated the finding using IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," Phase 1 screening, and determined that the finding screened as Green because (Specifically or added information)

Cross-Cutting Aspects

- Definition: Performance characteristics that comprise a cross-cutting area component. They are associated with inspection findings and play a significant role in contributing to the performance deficiency.
- IMC 0305 and Appendix F of IMC 0612

Cross-Cutting Aspect

- Cross-Cutting Areas: Problem Identification and Resolution, Human Performance, or Safety-Conscious Work Environment
- Cross-Cutting Aspect: Behavior or Performance Characteristic related to the cross-cutting areas.
- Cross-Cutting Components: Decision-Making, Resources, Work Control, Work Practices, Corrective Action Program, Operating Experience, Self- and Independent Assessments, Environment For Raising Concerns, Preventing, Detecting, and Mitigating Perceptions of Retaliation

Example

- Cross-cutting Area: Human Performance
- Components:
 - Decision Making
 - Resources
 - Work Control
 - Work Practices

Example

- Cross-cutting Area: Problem Identification and Resolution
- Components:
 - Corrective Action Program
 - Operating Experience
 - Self and Independent Assessments

Example

- Cross-cutting Area: Safety Conscious Work Environment
- Components:
 - Environment For Raising Concerns
 - Preventing, Detecting, and Mitigating Perceptions of Retaliation

Example – Cited Violation

Technical Specification 6.8.1 requires that procedures covering areas such as "normal startup and operation of systems and components of the facility" and "responses to alarms" be implemented and maintained.

Operating Instruction (OI) 149, "Residual Heat Removal System," requires pressurizing the RHR system with condensate service pressure prior to starting pumps unless otherwise directed by the Operations Shift Supervisor (OSS).

Contrary to the above, on February 19, 1997, the inspectors identified that an operator failed to follow OI 149 and did not pressurize the RHR system with condensate service pressure prior to starting an RHR pump.

This is a Severity Level IV violation (Supplement 1).

Example – Non-Cited Violation

Enforcement: Technical Specification 6.8.1 requires that procedures covering areas such as "normal startup and operation of systems and components of the facility" and "responses to alarms" be implemented and maintained.

Contrary to the above, on February 19, 1997, the inspectors identified that an operator did not pressurize the RHR system with condensate service pressure prior to starting an RHR pump as required by step 1.2.3 of Operating Instruction (OI) 149, "Residual Heat Removal System"

Licensee Identified Violations

- Must be very low safety significance (Green)
- Must be a violation (not just a finding)
- Document in Section 40A7:
 - Requirement(s) violated
 - How it was violated,
 - Licensee's corrective action tracking number,
 - Very brief justification why the violation is not greater than Green.

Tips to Ensure "Nexus"

- Design Violations
 - Design basis translated into specifications, drawings, procedures, and instructions
 - Appropriate quality standards are specified
 - Selection and review for suitability of application of materials
 - Identification and control of design interfaces and for coordination among participating design organizations.
 - Verifying or checking the adequacy of design by the use of alternate or simplified calculational methods, or by the performance of a suitable testing program
 - Design control measures commensurate with original design
- In other words, make sure you cite the appropriate section of a requirement.

Tips to Ensure "Nexus"

- Corrective Actions
 - Promptly identified and corrected
 - Opportunity to identify
 - What was not corrected
 - Significant Conditions Adverse to Quality
 - What makes it a SCAQ? (licensee definition)
 - When did it previously occur? (prevent recurrence)
 - What root cause was missed? (identify cause)

Questions?
