Arkansas Nuclear 1
1Q/2006 Plant Inspection Findings

Initiating Events

Significance: G Jun 23, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW A SERVICE WATER SURVEILLANCE PROCEDURE
A self-revealing noncited violation of Unit 1 Technical Specification 5.4.1, "Procedures," was reviewed by the inspectors when Unit 1 operators secured flow to the auxiliary cooling water system when performing surveillance testing. This resulted in a loss of cooling water to the condensate pumps and increased the potential of a plant transient. This issue involved human performance crosscutting aspects associated with an operator not following a procedure.

The inspectors determined this finding was greater than minor because it affected the initiating events cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions attributable to human performance error. The inspectors concluded this finding was of very low safety significance after performing a Phase 2 analysis using Appendix A, "Technical Basis For At Power Significance Determination Process," of Manual Chapter 0609, "Significance Determination Process," and the Phase 2 worksheets from "Risk-Informed Inspection Notebook for Arkansas Nuclear One - Unit 1," the emergency feedwater and high pressure injection systems remained unaffected which would have been relied upon which would have been relied upon to mitigate a reactor trip transient remained unaffected
Inspection Report# : 2005003*(pdf)*

Significance: G Jun 23, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
UNTIMELY CORRECTIVE ACTIONS TO ADDRESS REPETITIVE 4160 VAC CABLE FAILURES
The inspectors documented a self-revealing, noncited violation of 10 CFR 50, Appendix B, Criterion XVI, because the licensee failed to correct a 4160 VAC cable failure mechanism (a significant condition adverse to quality). In addition, the licensee failed to properly address industry operating experience on the same topic. The cables were submerged in water but they were not designed for submergence. Consequently, several 4160 VAC service water pump and fire pump motor cables failed in service between 1993 and 2003. The licensee replaced all the vulnerable cables in 2003. This issue had cross-cutting aspects associated with problem identification and resolution in that the licensee failed to adequately evaluate the condition.

The failure to take appropriate corrective measures to address a significant condition adverse to quality was a performance deficiency. This finding was more than minor because it affected the Initiating Events and Mitigating System cornerstone objectives of limiting the likelihood of initiating events and ensuring the availability of systems that mitigate plant accidents. The issue required a Phase 3 significance determination because it had screened out of the Phase 2 significance determination as potentially greater than Green. The Phase 3 significance determination concluded that the issue was of very low risk significance.
Inspection Report# : 2005003*(pdf)*

Mitigating Systems

Significance: G Mar 24, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO ENSURE FIRE DOORS WERE LATCHED
Four examples of an NRC identified noncited violation of Unit 1 License Condition 2.C.(8), “Fire Protection,” and ANO Unit 2 License Condition 2.C.(3)(b), “Fire Protection,” were identified for the failure of licensee personnel to ensure fire doors were latched. On various days in January 2006, four fire doors were found unlatched. These four failures degraded the doors’ fire confinement capability assumed in the fire hazards analyses. This issue was entered into the licensee's corrective action program as Condition Report ANO-C-2006-0067.

The finding is greater than minor because it is associated with the mitigating systems cornerstone attribute of protection against external factors and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the fire protection significance determination process, the finding was determined to have very low

safety significance because the fire areas adjacent to the unlatched doors either were covered by an automatic suppression system, did not contain redundant equipment, or were only unlatched for a very short time. The cause of the finding is related to the crosscutting element of human performance in that licensee personnel did not ensure fire doors were being maintained shut and latched.

Inspection Report# : 2006002*(pdf)*

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Prevent Nonsafety-Related Components from being Installed in Safety-Related Systems
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criteria III, for the failure to include provisions to assure that appropriate quality standards were specified, and that deviations from such standards were controlled. As a result, non-safety grade components were installed in the high pressure injection, low pressure injection, and reactor building spray systems. A walk down of the high pressure injection pumps revealed that one temperature element appeared to be bent significantly more than the others. Further investigation revealed that the temperature elements were nonsafety grade (affected high and low pressure injection systems). Additionally, one temperature element was missing its protective sheath which was not in accordance with its design. The installed optomatic oilers and piping connections were also determined to be nonsafety grade (affected high and low pressure injection and reactor building spray systems). Since these components are part of the lube oil system boundary, they should have been classified as safety grade components.

The inspectors determined that the failure to utilize safety-related components in safety-related systems, and the temperature element missing the protective sheath (not in accordance with design), was a performance deficiency. This finding was more than minor because it affected the design control attribute under the Mitigating Systems Cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Using the significance determination process the issue was determined to have very low safety significance because the finding did not result in a loss of function per Part 9900 Technical Guidance, "Operability Determination Process for Operability and Functional Assessment," did not represent an actual loss of safety function, and is not potentially risk significant due to external events.
Inspection Report# : 2005005*(pdf)*

Significance: G Sep 23, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO ADEQUATELY ASSESS RISK FOR A BLOCKED DECAY HEAT VAULT DOOR
The inspectors identified a noncited violation of 10 CFR 50.65(a)(4) for the failure to perform an adequate risk assessment before replacement activities associated with Unit 1 decay heat room Cooler VUC-1D. Because the work procedure referenced an outdated engineering report, it did not include adequate information to ensure that the required risk management actions were taken. Mechanical maintenance personnel failed to inform operations personnel that a Unit 1 decay heat vault door was open and incapable of being readily shut. The licensee entered this performance deficiency into their corrective action program for resolution. The cause of the finding is related to the crosscutting element of human performance.

This finding is more than minor because it affected the availability attribute under the mitigating systems cornerstone objective of ensuring the availability of systems that respond to initiating events to prevent undesirable consequences, in that the licensee failed to implement compensatory risk management measures. Using the maintenance risk assessment and risk management significance determination process, the finding was determined to have very low safety significance because the performance deficiency was associated only with inadequate risk management actions and the incremental increase in core damage probability was negligible.

Inspection Report# : 2005004*(pdf)*

Significance: G Sep 23, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO ADEQUATELY ASSESS RISK DURING MAINTENANCE ACTIVITIES
The inspectors identified a noncited violation of 10 CFR 50.65(a)(4) for the failure to perform an adequate risk assessment before the Low Pressure Injection Train B was removed from service with the Electromatic Relief Valve already removed from service. Operators failed to consider the increased probability of a pressurizer code safety valve lifting. The licensee entered this performance deficiency into their corrective action program for resolution. The cause of the finding is related to the crosscutting element of human performance.

This finding is greater than minor because it related to a licensee's risk assessment which failed to consider a risk significant component that was unavailable during maintenance, contained known errors that had the potential to change the outcome of the assessment. Using the Maintenance Risk Assessment and Risk Management Significance determination process, the finding was determined to have very low safety significance because the inadequate risk assessment only had an incremental increase in core damage probability of less than 1 x 10-6.

This item was revised based on a letter from NRC to Entergy Operations dated April 13, 2006.

Inspection Report# : 2005004*(pdf)*

Significance: G Jun 24, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE CORRECTIVE ACTION TO REPAIR DAMAGED STRUCTURE
The team identified a violation of 10 CFR 50, Appendix B, Criterion XVI (Corrective Action) for the failure to take prompt corrective actions to address a longstanding problem. In 1993, a design change incorporated an impermeable membrane fabric over the top of the ECP dam/spillway. On May 19, 2002 a Condition Report (CR-ANO-C-2002-00394) was written to document that the fabric was torn, missing in some areas and in need of replacement. At the time of this inspection, the licensee had not initiated any actions to repair or replace the damaged and missing portions of the fabric.

The failure to address this longstanding problem was a performance deficiency. The issue had more than minor safety significance because it impacted the Mitigating Systems cornerstone objective of ensuring the availability of systems that mitigate plant accidents and could have affected the ability of a safety-related structure to perform its design basis function. The finding was of very low safety significance because the structure remained operable consistent with Generic Letter 91-18, "Information to Licensees Regarding NRC Inspection Manual Section on Resolution of Degraded and Nonconforming Conditions," Revision 1 and because it did not represent an actual loss-of-safety function.
Inspection Report# : 2005008*(pdf)*

Significance: G Jun 24, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO INCORPORATE DESIGN CHANGE INTO DESIGN BASIS AND TECHNICAL SPECIFICATIONS
The team identified a violation of 10 CFR 50, Appendix B, Criterion III (Design Control) for failing to assure that a design change to the Emergency Cooling Pond (ECP) was incorporated into the design basis and the associated Technical Specification surveillance requirements.

This finding was a performance deficiency because the licensee failed to recognize that the design change reduced the effective volume of the ECP and that the surveillance acceptance criteria needed to be revised. This finding was more than minor because the ECP capacity was degraded due to a reduced volume which was not detected during the design change nor during subsequent surveillances. ANO engineering staff had to perform reanalyses and operability evaluations to address this finding and the minimum required ECP level had to be increased to ensure operability. The finding was of very low safety significance because it did not represent an actual loss-of-safety function.
Inspection Report# : 2005008*(pdf)*

Significance: G Jun 24, 2005
Identified By: NRC
Item Type: FIN Finding
POTENTIAL DESIGN VULNERABILITY OF SERVICE WATER SYSTEM STRAINERS
The team identified a finding in that the licensee had failed to fully address a vulnerability in the design of the Unit 1 and Unit 2 Service Water system strainers. Specifically, the design did not include any provisions for bypassing or cleaning the strainers while in service, should they become clogged during system operation.

This finding was more than minor because it could affect the availability, reliability, and capability of the service water systems under accident conditions. This design condition was not contrary to any regulatory requirements or the Unit 1 or Unit 2 licensing bases. Consequently, it was not considered to be a violation of regulatory requirements. The finding was of very low safety significance because it did not represent an actual loss-of-safety function.
Inspection Report# : 2005008*(pdf)*

Barrier Integrity

Significance: G Jun 24, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE CORRECTIVE ACTION TO INCLUDE VALVE IN TESTING PROGRAM
The team identified a violation of 10 CFR 50, Appendix B, Criterion XVI (Corrective Action) for failing to place the closing function of the containment sump isolation valve (2CV-5650-2) into the in-service testing program despite two opportunities to do so over an 11-year period.

This finding was a performance deficiency because a condition adverse to quality was examined in 1994 and in 1997, and was not identified as a deficiency and corrected until 2005. The finding is greater than minor because it had the potential to affect the Barrier Integrity cornerstone

objective of ensuring that physical barriers protect the public from radionuclide releases in that failure of the valve to close could release radioactivity from containment following an accident. The violation was of very low safety significance because there was never an actual open pathway from the reactor containment building.
Inspection Report# : 2005008*(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Last modified : May 25, 2006