Arkansas Nuclear 1
2Q/2006 Plant Inspection Findings

Initiating Events

Significance: G Jun 23, 2006
Identified By: Self-Revealing
Item Type: FIN Finding
REACTOR TRIP DUE TO AUTOMATIC ACTUATION OF THE REACTOR PROTECTION SYSTEM ON MAIN TURBINE TRIP AND INVALID ACTUATION OF THE EMERGENCY FEEDWATER SYSTEM
The inspectors reviewed a self-revealing finding for an inadequate maintenance procedure which did not include vendor recommended maintenance for the Unit 1 main turbine lube oil ejector dischage check valve. On December 26, 2005, Unit 1 experienced an automatic reactor trip caused by a main turbine trip due to low lube oil pressure. Welds on the main turbine lube oil ejector discharge check valve hinge failed from an overstress condition and allowed the valve disk to partially block oil flow resulting in low lube oil pressure. During the previous refueling outage, the welds of the size recommended by the vendor were not performed during valve maintenance and lead to the overstress condition. This finding had human performance cross cutting aspects in that the maintenance procedure did not contain a design detail drawing of the lube oil ejector valve to ensure vendor recommended maintenance was performed to original specifications.

The finding is more 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, and affected the cornerstone attribute of procedural quality. Using the Phase 1 worksheets of Manual Chapter 0609, "Significant Determination Process", the finding was determined to have very low safety significance because all other systems functioned normally during the turbine trip/reactor trip.
Inspection Report# : 2006003*(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)*

Barrier Integrity

Significance: G Jun 23, 2006
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
MOVEMENT OF IRRADIATED FUEL WITH LESS THAN REQUIRED SOURCE RANGE INSTRUMENTS
A noncited violation of Technical Specification 3.9.2 was identified for movement of irradiated fuel assemblies with less than the two required operable source range instruments. On December 1, 2005, the licensee loaded four fuel assemblies into the reactor vessel during core reload activities. Prior to loading the fourth fuel assembly in the reactor vessel, the power source to source range instrument NI-502 failed rendering the instrument inoperable. Core alterations with less than two operable source range instruments is contrary to requirements of Technical Specification 3.9.2. This issue has been entered into the licensee's corrective action program as CR-ANO-1-2005-2628. This issue involved problem identification and resolution crosscutting aspects associated with less than thorough corrective actions related to a similar occurrence in April, 2004.

The finding is more than minor because the configuration control attribute of the reactor safety/barrier integrity cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding) protect the public from radio nuclide releases caused by accidents or events was

not met. Using Appendix G of Manual Chapter 0609 “Significant Determination Process,” the finding was determined to be of very low safety significance because the finding did not increase the likelihood of a loss of reactor coolant system inventory, degrade the licensee’s ability to terminate a leak path, or degrade the licensee’s ability to recover decay heat removal once it had been lost.
Inspection Report# : 2006003*(pdf)*

Emergency Preparedness

Significance: G Jun 23, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO MEET IMMEDIATE NOTIFICATION REQUIREMENTS DURING TRANSIENT EVENTS
A noncited violation of 10 CFR 50.54(q), 10 CFR 50.47(b)(5), and 10 CFR 50, Appendix E.IV.D.3. was identified for programmatic and procedure inadequacies that allow the licensee to not make immediate offsite notifications for certain situations after a valid emergency classification was made. Specifically, following certain transient events, the licensee developed a practice of not completing immediate notifications to local authorities if the emergency action level conditions cleared before the notifications were completed. The licensee entered the deficiency into their corrective action program as condition report CR-ANO-C-2006-00665 for resolution.

The finding was assessed through the Emergency Preparedness Significance Determination Process. The finding is a performance deficiency in that the current interpretation and implementation of Emergency Plan Implementing Procedure 1903.010, "Emergency Action Level Classification," could result in failure to conduct a 15 minute notification following declaration of an emergency condition, potentially delaying offsite emergency response. Because the finding affected the reactor safety emergency preparedness cornerstone objective, the finding is greater than minor. The finding was determined to have very low safety significance because it represented a degradation and not a loss of the notification emergency planning standard function.
Inspection Report# : 2006003*(pdf)*

Occupational Radiation Safety

Significance: G Jun 23, 2006
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW WRITTEN CHEMISTRY PROCEDURES
The inspector reviewed a self-revealing, noncited violation of Technical Specification 5.4.1.a., resulting from a chemistry technician’s failure to follow written procedures. On November 8, 2005, while performing an annual liquid alpha cross-check of Am-241, a chemistry technician inadvertently left the planchet containing the evaporated standard in the gas flow proportional counting system. This was contrary to Chemistry Procedure 1604.001, “Gross Alpha Measurement”, Change No. 014-01. On November 30, 2005, a second chemistry technician placed a ventilation filter into the same planchet that contained the Am-241 residue. During the subsequent investigation, it was discovered that the gas flow proportional counter was contaminated with Am-241. Bioassays were performed on the individuals involved in the investigation and it was determined that four individuals had been internally contaminated with Am-241. Dose calculations based on bioassay results determined that the highest exposure received by any one individual was 68 milliRem Committed Effective Dose Equivalent. The licensee made procedure enhancements and conducted training to ensure that future sample planchets are properly disposed.

The finding was greater than minor because it was associated with one of the Occupational Radiation Safety cornerstone attributes of exposure control and the finding affected the cornerstone objective in that a failure to follow written procedures resulted in unplanned and unintended radiation dose. The inspector determined that the finding had very low safety significance because: (1) it did not involve an ALARA finding, (2) there was no personnel overexposure, (3) there was no substantial potential for personnel overexposure, and (4) the finding did not compromise the licensee’s ability to assess dose. The finding also had cross-cutting aspects related to human performance, in that, the chemistry technician’s failure to follow written procedures directly resulted in the finding.
Inspection Report# : 2006003*(pdf)*

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Last modified : August 25, 2006