Calvert Cliffs 2
3Q/2006 Plant Inspection Findings

Initiating Events

Significance: G Jun 28, 2003
Identified By: Self-Revealing
Item Type: FIN Finding
Troubleshooting Human Performance Error Results in a Reactor Trip
The inspectors identified a finding because the work practices during a turbine governor valve control circuit troubleshooting activity were inadequate and resulted in a reactor trip.

This finding is greater than minor because it affected an attribute and the objective of the Initiating Events Cornerstone in that the work practices inadequacies resulted in a perturbation in plant stability by causing a reactor trip. The finding is of very low safety significant in accordance with Phase 1 of the reactor safety SDP because, although it caused a reactor trip, it did not increase the likelihood of a primary or secondary system loss of coolant accident initiator, did not contribute to a combination of a reactor trip and loss of mitigation equipment functions, and did not increase the likelihood of a fire or internal/external flood.
Inspection Report# : 2003003*(pdf)*

Mitigating Systems

Significance: G Sep 30, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Comply with TS for SRW and AFW with Watertight Doors Open
The Inspectors identified a non-cited violation (NCV) for the Service Water (SRW) and Auxiliary Feedwater (AFW) systems being inoperable without completing the actions required by Technicial Specifications. Constellation did not declare AFW and SRW trains inoperable when water tight doors providing a High Energy Line Break (HELB) carrier were opened for maintenance or testing. Station personnel wrote condition report (CR) IRE-016-870 to address the control of these HELB barriers and have provided guidance to declare the trains inoperable if the water tight doors are open.

This finding is more than minor because it had a credible impact on the objective for the mitigating system cornerstone and the attribute of component availability during design basis events, specifically HELBs. The SDP phase 1 review determined a phase 1 evaluation was required since both SRW and AFW subsystems could have been impacted with the HELB barrier removed. The phase 2 evaluation yielded a very low safety significance (Green) because of the low exposure time when the watertight doors were open. A contributing cause of the finding is related to the cross cutting aspect in the area of problem identification and resolution (PI&R) because Constellation did not implement and institutionalize operating experience (OE) related to control of the HELB barriers through changes to station processes or procedures. (Section 1R15)
Inspection Report# : 2006004*(pdf)*

Significance: G Sep 30, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Comply with TS 5.4.1 for Salt Water Strainers
The inspectors identified a NCV of TS 5.4.1.a because Constellation did not initiate a condition report (CR) to document the adverse performance of the service water (SRW) heat exchanger salt water (SW) strainers during high debris loading as required in the Service Water Heat Exchanger Alarm Manual. Constellation also did not assess the operability of the

strainers as required by the Corrective Action Program. Station personnel initiated CR IRE-017-018 to address the issue and assess operability of the strainers.

The finding was more than minor since it had a credible impact on the objective for the mitigating system cornerstone and the attribute of component reliability during design basis events where the SRW system was required. This finding was determined to be a finding of very low safety significance (green) because only one subsystem of the SRW system was inoperable at any time and the subsystem inoperability time was less than the maximum allowed by TS. A contributing cause of this finding was related to the cross-cutting aspect of PI&R because Constellation did not implement the corrective action program with a low threshold for identifying the problems with the SRW heat exchanger SW strainers. (Section 4OA2)
Inspection Report# : 2006004*(pdf)*

Significance: G Jun 30, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to establish reference values or reconfirm previous values following maintenance that affected reference values of the AFW and ECCS pumps
The inspectors identified a non-cited violation of 10 CFR 50.55a, Codes and Standards, because the licensee did not establish new reference values or reconfirm the previous reference values following maintenance that affected hydraulic or mechanical parameters on the auxiliary feedwater (AFW) and emergency core cooling system (ECCS) pumps as required by the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code for inservice testing. The licensee entered this issue into their corrective action program as IRE-014-764. The planned corrective action include a review of maintenance and IST data to determine whether new reference values are needed or reconfirm existing reference values for the AFW and ECCS pumps.

This finding is more than minor because the same issue affected a number of safety-related pumps tested and the issue was repetitive. The finding has a very low safety significance because the condition did not result in an actual failure of the AFW and ECCS pumps, or result in systems being declared inoperable for greater than their allowed technical specification outage time. A contributing cause of the finding is related to the cross-cutting aspect in the area of problem identification and resolution because the licensee did not periodically trend and assess information to identify programmatic and common cause problems.

Inspection Report# : 2006003*(pdf)*

Significance: G Nov 18, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to identify and correct unavailability problems for the turbine drive AFW pump.
The NRC identified a Green non-cited violation (NCV) of Technical Specification (TS) 5.4.1 due to an inadequate procedure for installation and adjustment of packing for the 22 turbine-driven auxiliary feedwater (TDAFW) pump, which led to premature pump shutdown during a quarterly surveillance test. During the test, operators secured the pump when they noticed a burning smell and observed smoke coming from the pump’s inboard packing gland. Investigation found the inboard packing gland had lost adequate leak off flow along its inner diameter. The licensee entered the deficiency with the pump overhaul procedure into their corrective action (CA) program for resolution.

This finding was greater than minor because it adversely affected the availability of a safety-related TDAFW pump which affected the equipment performance attribute of the Mitigating Systems Cornerstone because the pump was unavailable until the degraded packing had been replaced and the pump was satisfactorily retested. The finding was determined to be of very low safety significance (Green) in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," because an engineering analysis determined that the pump would have remained operable, and was capable of performing its intended safety function. (Section 4OA2.2)

Inspection Report# : 2005007*(pdf)*

Significance: G Oct 16, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Maintenance Rule Failure to Monitor Safety-Related Power Supply System
The inspectors identified a non-cited violation (NCV) of 10 CFR 50.65(a)(2) for failure to establish adequate measures to demonstrate that performance of Unit 2 safety-related power supplies were effectively monitored in the maintenance rule program. The licensee failed to adequately identify, evaluate, and track the failures of these power supplies in accordance with the requirements of their maintenance rule program. Specifically, when reviewing relevant power supply failures, the inspectors identified that the power supply failure associated with the 22 feedwater steam generator level transmitter, which occurred on September 16, 2005, was not properly classified as a maintenance rule functional failure. The licensee's failure to classify this as a maintenance rule functional failure resulted in the system being placed in a 50.65 (a)(1) category on October 16, 2005, after this deficiency was identified by the inspectors, instead of on September 16, 2005, when the failure occurred. A condition report was generated by the licensee to document this as well as a condition report generated to place the safety-related power supplies in an (a)(1) status.

The finding is greater than minor because it is associated with the equipment performance attribute and affected the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the licensee did not demonstrate effective control of the performance or condition of the safety-related power supplies by failing to put the affected structure, system, component (SSC) in a 50.65 (a)(1) category. The finding is of very low safety significance because no loss of safety-related equipment actually occurred, and the affected safety-related equipment was capable of performing its intended safety function. The inspectors identified that a contributing cause to the finding was related to the cross-cutting area of human performance. Plant personnel did not properly evaluate and classify the 22 feedwater steam generator level transmitter 2LT1124C power supply failure as a maintenance rule functional failure. This inadequate classification contributed to the system not being placed in a 50.65 (a)(1) category. (Section 1R12)
Inspection Report# : 2005005*(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: G Mar 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to properly control access to a high radiation area
Green. A self-revealing non-cited violation (NCV) associated with the alternate access control requirements established in accordance with 10 CFR 20.1601 (c), was identified. Specifically, the licensee failed to control and properly post a high radiation area with dose rates greater than 1,000 millirems per hour. On January18, 2006, a nondestructive examination (NDE) worker’s electronic personnel dosimeter unexpectedly alarmed when the worker was exposed to unanticipated radiation levels of up to approximately 3,000millirems per hour. The area was not adequately surveyed by a radiation protection technician to establish the dose rate levels in the area and to properly post the area, and the worker was not made aware of the actual dose rate levels prior to entry into the area while wearing an alarming electronic personnel dosimeter. The licensee determined that the worker received less than ten millirems. This performance deficiency was entered into the licensee’s corrective action program for resolution. The inspectors determined that a contributing cause of this finding was related to the cross-cutting area of human performance in that access to a high radiation area was not properly controlled.

This finding is more than minor because it is associated with the Occupational Radiation Safety attribute of exposure control and affected the cornerstone objective in that not controlling the locked high radiation area could increase personal exposure. Using the Occupational Radiation Safety Significance Determination Process, the inspectors determined that the finding was of very low safety significance (Green) because it did not involve: (1)as low as is reasonably achievable planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. (Section 2OS1)

Inspection Report# : 2006002*(pdf)*

Public Radiation Safety

Significance: G Dec 21, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to perform an adequate survey for radioactivity
The inspectors identified a non-cited violation of 10 CFR 20.1501 for failure to make surveys of the radioactivity in a "sink hole" to assure compliance with 10 CFR 20.1301(a)(1) regarding the total effective dose equivalent limit for individual members of the public from licensed operations, specifically regarding assessing dose for batch releases of liquid radioactive waste and assessing annual dose.

This violation is more than minor because it is associated with the cornerstone attribute of maintaining a program and process to estimate offsite dose due to abnormal releases and to record and report on such releases and because it affected the Radiation Safety/Public Radiation Safety Cornerstone's objective to ensure the adequate protection of public health and safety from exposure to radioactive materials released into the public domain. The violation is of very low significance because, while it did impair the licensee's ability to assess the timing of dose consequence and the accuracy of the batch and annual effluent release dose records and reports due to the large difference in transit times for the permitted and non-permitted discharge pathways to the bay, the licensee did account for all released radioactivity and did assess the cumulative doses from their effluent releases. Additionally, the violation is of very low significance because the involved radioactivity had been addressed in licensee permits prior to release, the unanalyzed non-permitted pathway (i.e., via groundwater to the bay) did not impact private property, the dose consequences would not differ significantly from those calculated in the licensee's release permits, and the assessed doses did not exceed the dose values in Appendix I to 10 CFR 50.

Inspection Report# : 2006003*(pdf)*

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Significance: N/A Nov 18, 2005
Identified By: NRC
Item Type: FIN Finding
Identification and Resolution of Problems
The team determined that Constellation's Calvert Cliffs (CC) Units 1 and 2 Nuclear Power Plants were effective at identifying problems and entering them into the corrective action program (CAP). Relatively few deficiencies were

identified by external organizations (including NRC) that had not been previously identified by the licensee. Audits and self-assessments were generally thorough. Once entered into the CAP, issues were screened and prioritized in a timely manner using established criteria. Items entered into the CAP were also properly evaluated commensurate with their safety significance. The causal evaluations for equipment and performance issues were complete, and proposed corrective actions that addressed the identified causes. Corrective actions were generally effective and typically implemented in a timely manner. On the basis of interviews conducted during the inspection, workers at the station felt free to raise safety issues and were willing to enter them into the corrective action program. However, an ineffective maintenance procedure adversely impacted the availability of an auxiliary feedwater pump.
Inspection Report# : 2005007*(pdf)*

Last modified : December 21, 2006