Crystal River 3
1Q/2007 Plant Inspection Findings

Initiating Events

Significance: G Mar 31, 2007
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Address Marine Fouling Resulted in a Plant Transient
A self-revealing finding was identified for the failure to address the marine fouling failure mode in the scope of the existing preventive maintenance on the intake screen wash auto start system. As a result, reactor power had to be decreased to 80 percent to maintain condenser operating temperature limits. The licensee entered the issue into the corrective action program. Corrective actions included cleaning both the low and high side differential level sensing tubes, replacing tubes as needed, and implementing preventive maintenance procedures to periodically clean the tubes.

The finding was more than minor since it affected the equipment performance attribute of the initiating events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions. Using the NRC Manual Chapter 0609, “Significance Determination Process,” Phase 1 screening worksheet, the finding was determined to be of very low safety significance since it did not contribute to the likelihood of a loss of coolant accident, did not contribute to a loss of mitigation equipment, and did not increase the likelihood of a fire or internal/external flood. A contributing cause of the finding is related to the cross-cutting area of Problem Identification and Resolution, specifically the Operating Experience (OE) Program, in that, the licensee did not adequately implement OE through changes to station procedures to provide instructions to clean the sensing tubes during preventive maintenance on the system. (Section 4OA2.2)
Inspection Report# : 2007002 *(pdf)*

Significance: G Mar 31, 2007
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Replace a Non-refurbished ICS Module Resulted in a Reactor Trip
A self-revealing finding was identified for failure to replace a non-refurbished integrated control system (ICS) multiplier module that had been temporarily installed during the Fall 2005 refueling outage. As a result, an age-related failure of a multiplier module resulted in an automatic reactor trip. The licensee entered the issue into the corrective action program. Corrective actions completed and/or proposed include: installation of a refurbished multiplier module; development of an engineering refueling outage turnover checklist to ensure formal followup actions are implemented whenever components not of desired quality are installed; and briefing of engineering personnel of this event.

The finding was more than minor because it affected the equipment reliability attribute of the Initiating Events Cornerstone and resulted in an automatic reactor trip that upset plant stability and challenged critical safety functions. Using the NRC Manual Chapter 0609, “Significance Determination Process,” Phase 1 screening worksheet, the finding was determined to be of very low safety significance since it did not contribute to the likelihood of a loss of coolant accident, did not contribute to a loss of mitigation equipment, and did not increase the likelihood of a fire or internal/external flood. The cause of the finding is related to the cross-cutting area of Human Performance, specifically Decision Making in that the licensee did not adequately communicate decisions and the basis for decisions to personnel who have a need to know the information. (Section 4OA3.1)

Inspection Report# : 2007002 *(pdf)*

Mitigating Systems

Significance: G Mar 31, 2007
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Identify and Correct Repetitive Raw Water System Flush Water Strainer Baskets Degradation
A self-revealing, non-cited Violation of 10 CFR 50, Appendix B, Criterion XVI was identified for failure to identify and take appropriate corrective actions for repetitive failures of the raw water pumps bearing flush water strainer baskets. As a result, both raw water pumps, RWP-2B and RWP-3B, were inoperable for a period greater than that allowed by Improved Technical Specifications when shell debris passed through a corroded strainer and clogged the cyclone separator discharge piping. The licensee entered the issue into the corrective action program. New strainer baskets made of a material compatible with service conditions were installed. Additional corrective actions include: performing routine engineering review of degraded conditions found during preventative maintenance activities; revision to applicable surveillance procedures, and counseling of maintenance and engineering personnel on the need to identify and document adverse conditions in the corrective action program.

The finding was more than minor because it affected the equipment reliability attribute of the Mitigating System Cornerstone and resulted in a raw water train being inoperable for a period of time greater than allowed by Improved Technical Specifications. The finding was assessed through the Significance Determination Process (SDP) Phase 1 screening worksheet and determined to be of very low safety significance since the raw water pumps with a degraded flush water system had a very high likelihood of performing their safety function during a loss of offsite power event. A contributing cause of the finding is related to the cross-cutting area of Problem Identification and Resolution, specifically, the licensee did not document the adverse condition of degraded strainer baskets in the corrective action program after it was determined that the filtering ability of the cyclone separator was a required design function. (Section 4OA3.2)

Inspection Report# : 2007002 *(pdf)*

Significance: G Jun 23, 2006
Identified By: NRC
Item Type: FIN Finding
Failure to Conduct an Extent of Condition Review after Three Motor Operated Valves Were Found with Their Pinion Gears Installed Incorrectly
A Green finding was identified by the inspectors for failure to conduct an extent of condition evaluation when three motor operated valves (MOVs) which were thought to not be susceptible to incorrect pinion gear installation were found with their pinion gears installed backwards.

This finding is more than minor because it affected the equipment performance attribute of the mitigating system cornerstone and affected the cornerstone objective of ensuring reliability of a mitigating system. Using NRC Manual Chapter 0609, “Significance Determination Process, “ Appendix A, Phase 1, this finding was determined to be of very low significance (Green), because the finding has not resulted in a loss of safety function and was not screened as potentially risk significant due to external events. The primary cause of the finding was related to the cross cutting area of Problem Identification and Resolution, in that station personnel failed to determine the need for additional MOV inspections when three MOVs which were initially thought to not be susceptible to incorrect pinion gear installation were found with reversed pinion gears, one of which was also discovered with an improperly staked pinion key.

Inspection Report# : 2006009 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Significance: G Dec 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Conduct Adequate Surveys for Liquid Effluent Releases
The inspectors identified a non-cited violation (NCV) of 10 CFR 20.1501(a) for failure to perform accurate surveys to demonstrate compliance with Technical Specification (TS) 5.6.2.3 Offsite Dose Calculation Manual (ODCM) controls used to maintain doses to members of the public from radioactive effluents as low as reasonably achievable (ALARA) in accordance with Appendix I to 10 CFR 50 design criteria as specified in 10 CFR 50.36a. Specifically, as of December 4, 2006, the licensee failed to conduct adequate dose evaluations to demonstrate compliance with TS 5.6.2.3 for radioactive liquid effluent releases made from the station discharge tank SDT-1 to a percolation pond located within the owner controlled area. The failure to conduct accurate dose evaluations for this liquid release pathway impaired the licensee's ability to demonstrate compliance with ODCM ALARA limits for the liquid radioactive waste processing equipment and operations. The issue was entered into the licensee's corrective action program for resolution.

The violation is more than minor because it adversely affects the program and process attribute of the Public Radiation Safety cornerstone, in that it involved an occurrence in the licensee's radioactive effluent release program that is contrary to NRC regulations. The finding was determined to be of very low safety significance because preliminary calculations based on recently determined dilution factors for the settling pond demonstrated that resultant offsite dose values were small fractions of the ODCM limits (Appendix I to 10 CFR Part 50 design criteria). Further, evaluations of radionuclide concentrations in the effluent were conducted in accordance with 10 CFR 20.1302(b) (2)(i) to demonstrate compliance with 10 CFR 20.1301 limits. (Section 2PS1)

Inspection Report# : 2006005 *(pdf)*

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Significance: N/A Jun 23, 2006
Identified By: NRC
Item Type: FIN Finding
Identification and Resolution of Problems
The team concluded that in general, problems were properly identified, evaluated, prioritized, and corrected within the licensee's problem identification and resolution program. Evaluation of issues was generally comprehensive and technically adequate. Formal root cause evaluations for issues classified as significant conditions adverse to quality were comprehensive and detailed. Overall, corrective actions developed and implemented for issues were effective in correcting the problems. One exception was noted concerning corrective action for identified deficiencies with three motor-operated valves.

The processes and procedures of the licensee's corrective action program (CAP) were generally adequate; thresholds for identifying issues were appropriately low, and in most cases, corrective actions were adequate to address conditions

adverse to quality. Nuclear Assessment Section audits and departmental self-assessments were effective in identifying issues and directing attention to areas that needed improvement. Licensee identified weaknesses and issues in self-assessments were appropriately entered into the CAP and addressed. However, the inspectors observed that several lower threshold issues had not been entered into the CAP.

Based on discussions and interviews conducted with plant employees from various departments, the inspectors did not identify any reluctance to report safety concerns.

Inspection Report# : 2006009 *(pdf)*

Last modified : June 01, 2007