Saint Lucie 2
3Q/2007 Plant Inspection Findings

Initiating Events

Significance: G Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Take Adequate Corrective Actions for Establishing Current Transformer Inspections
The inspectors identified a Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failure to take timely and effective corrective actions to prevent recurrence of a known condition whereby the epoxy-anhydride coating on certain 480 Volt (V) current transformers (CTs) reverts back to a liquid and may flow to unwanted areas within electrical system breaker cubicles. In 1989, as part of a response to a 10 CFR Part 21 issue regarding this phenomenon, the licensee planned to perform the inspection activity of CTs every eighteen months. This corrective action was not procedurally implemented into the licensee's Preventive Maintenance (PM) Program and therefore was not being performed as planned by the licensee.

The finding is greater than minor because if left uncorrected, could become a more significant safety concern if the liquified coating migrates to adjacent breakers and affects breaker operation, thus challenging the overall performance and reliability of 480V breakers. The finding is associated with the equipment performance attribute of the Mitigating Systems Cornerstone. However, the finding was determined to be of very low safety significance because it did not represent an actual malfunction of a 480V breaker.
Inspection Report# : 2007002 *(pdf)*

Significance: G Mar 31, 2007
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Implement Unit 2 Number 1 Throttle Valve Maintenance Procedure
A self-revealing finding was identified for improper torquing of cap screws used to attach a blind flange to an auxiliary servo actuator associated with the turbine digital electro-hydraulic (DEH) control system which caused a premature failure of an O-ring and resulting hydraulic oil leak. The oil leak resulted in an unplanned manual reactor/turbine trip from 45 percent power due to the DEH leak on the Unit 2 number 1 throttle valve servo actuator. The failed O-ring was a result of poor contractor workmanship and inadequate procedure guidance for torque verification following installation during rebuilding of the actuator at the vendor's facility. The licensee documented this issue in CR 06-18379 with corrective actions to address vendor oversight by Florida Power and Light Company.

This finding is greater than minor because it affected the equipment reliability attribute of the Initiating Events Cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operation. The finding was determined to be of very low safety significance because although the finding contributed to a manual reactor trip, mitigation equipment and functions remained available. A contributing cause of the finding is related to the cross-cutting area of Human Performance specifically Work Practices because the licensee did not provide adequate supervisory oversight of this specific maintenance activity at the vendor's facility. (Section 4OA3.6)

Inspection Report# : 2007002 *(pdf)*

Significance: G Dec 31, 2006
Identified By: NRC
Item Type: FIN Finding
Failure to Correct a Known Deficiency Associated With a Turbine Building Salt Water Cooling System Configuration Issue

A self-revealing finding was identified for failure to correct a known deficiency associated with a turbine building cooling water system piping connection with a history of leakage and leak repairs. Specifically, previous pipe repairs replaced aluminum bronze piping with carbon steel which was in contrast with system design documents which specified the pipe material as aluminum bronze or Monel 400 as shown in piping design drawing 2998-C-124. As a result, a dissimilar metal galvanic corrosion cell was created followed by severe corrosion and failure of a threaded connection, severe system leakage, and a rapid downpower of the reactor plant.

The finding is greater than minor in accordance with IMC 0612, “Power Reactor Inspection Reports,” Appendix B, “Issue Screening,” because the finding was associated with the equipment performance attribute of the Initiating Events Cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors evaluated the finding using IMC 0609, Appendix A, “Determining the Significance of Reactor Inspection Findings for At-Power Situations.” The Initiating Events Cornerstone column of the work sheet was used to determine the transient initiator did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be unavailable. Consequently, the finding is considered to be of very low safety significance (Green). A contributing cause of the finding is related to the cross-cutting area of PI&R, specifically the component of Corrective Action Program in that the licensee did not thoroughly evaluate the piping leakage problem to ensure the resolutions addressed the cause of the leakage. (Section 4OA2)

Inspection Report# : 2006005 *(pdf)*

Mitigating Systems

Significance:  Sep 28, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Procedure for Verification of ICW Operability
The team identified a violation of 10 CFR 50, Appendix B, Criterion V, Instructions, Procedures, and Drawings, for an inadequate procedure used to verify operability of the Intake Cooling Water (ICW) system when high ocean temperatures occur.

The finding was more than minor because it affected the procedure quality attribute associated with the mitigating systems cornerstone as related to the reliability, availability, and capability of the ICW system to perform the intended safety function during high ocean temperatures. The finding was of very low safety significance (Green) because it was a design deficiency determined not to have resulted in the loss of safety function. No cross cutting aspect was identified for this finding. The licensee entered this deficiency into their corrective action program. (Section 1R21.2.2)

Inspection Report# : 2007006 *(pdf)*

Significance:  Sep 28, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Use the Most Limiting Design Inputs in Engineering Analyses - Several Examples
The team identified a violation of 10 CFR 50, Appendix B, Criterion III, Design Control, for failure to use the most limiting design inputs in engineering analyses. Several examples were identified.

The finding was more than minor because if uncorrected it would become a more significant safety concern. The finding was of very low safety significance (Green) because it was a design deficiency determined not to have resulted in the loss of safety function. No cross cutting aspect was identified for this finding. The licensee entered this deficiency into their corrective action program. (Section 1R21.2.6)

Inspection Report# : 2007006 *(pdf)*

Significance: G Sep 28, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Corrective Action Associated with Degraded Performance of the CCW Heat Exchanger Temperature Control Valve (2-TCV 14-4A)
The team identified a violation of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, for inadequate corrective actions associated with the degraded performance of the Component Cooling Water (CCW) heat exchanger temperature control valve (2-TCV-14-4A).

The finding was more than minor because it affected the equipment performance attribute associated with the mitigating systems cornerstone as related to the reliability, availability and capability of the ICW system. The finding was of very low significance (Green) because there was no loss of system safety function. Analysis performed by the licensee during the inspection determined that at the failed valve position the ICW system was capable of removing the design base accident heat load. This finding has a cross cutting aspect in the area of Problem Identification and Resolution, specifically Corrective Action Program, because the licensee failed to take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance (MC 0305 aspect P.1(d)). The licensee entered this deficiency into their corrective action program. (Section 1R21.2.7)

Inspection Report# : 2007006 *(pdf)*

Barrier Integrity

Significance: G Mar 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Procedure for Post Maintenance Testing of a Containment Isolation Valve
The inspectors identified a Non-Cited Violation (NCV) of Technical Specification (TS) 6.8.1.a, which requires that written procedures be implemented covering the activities in applicable procedures recommended by Regulatory Guide 1.33, including procedures for maintenance. The maintenance work order procedure 37000257, “FCV-23-7 Repair,” was inadequate because it failed to give guidance for post maintenance test acceptance criteria required by procedure ADM-78.01, “ Post Maintenance Testing.” The performance deficiency resulted in an unplanned TS Limiting Condition of Operation entry. The licensee entered this performance deficiency into their corrective action program for resolution.

The finding is greater than minor because it is associated with the Barrier Integrity Cornerstone and the respective attribute of Systems, Structures, or Components (SSC) and barrier performance. The finding is of very low safety significance because it only affected the containment barrier and subsequent engineering evaluations determined there was no actual degradation to the subject containment barrier equipment. A contributing cause of the finding is related to the cross cutting area of Human Performance specifically Resources, because the licensee did not have a complete and accurate procedure or work package to perform this maintenance activity.
Inspection Report# : 2007002 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Significance: G Dec 31, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Calculate Accurate Airborne Effluent Doses to Members of the Public
The inspectors identified a NCV of 10 CFR 20.1302(b) for failure to perform accurate calculations of airborne effluent releases to demonstrate that the maximally exposed individual did not exceed the annual dose limit. Specifically, during the period of March 17, 2004 to October 4, 2006, the flow rate of the Unit 2 Fuel Handling Building (U2 FHB) exhaust fans exceeded that used to calculate the effluent release rate, resulting in a non-conservative dose calculation assessment for members of the public. This finding was entered into the licensee's corrective action program.

This finding is greater than minor because it is associated with the Public Radiation Safety Cornerstone attribute of Program and Process and affected the cornerstone objective of assuring adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation. The finding was evaluated using the Public Radiation Safety SDP and was determined to be of very low safety significance (Green) because it did not prevent the licensee from assessing doses, and offsite doses from gaseous effluents during the time period in question did not exceed Appendix I to 10 CFR Part 50 criteria. This finding has a cross-cutting aspect in the area of human performance because the procedure used to calculate the effluent activity released did not contain accurate and up-to-date information regarding the U2 FHB ventilation flow rates, resulting in inaccurate calculation of effluent releases. (Section 2PS1)

Inspection Report# : 2006005 *(pdf)*

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Aug 25, 2006
Identified By: NRC
Item Type: FIN Finding
Identification and Resolution of Problems
The inspectors identified that the licensee was effective at identifying problems and entering them into the corrective action program. The licensee's effectiveness at problem identification
was evidenced by the relatively few deficiencies identified by external organizations
(including the NRC) that had not been previously identified by the licensee, during the
review period. The licensee effectively used risk in prioritizing the extent to which individual
problems would be evaluated and in establishing schedules for implementing corrective
actions. Corrective actions, when specified, were generally implemented in a timely
manner. Operating experience usage was also found to be effective. Self assessment results adequately identified problems. The inspectors identified a number of weaknesses that are detailed in the report in various aspects within the corrective action process.

On the basis of the samples selected for review, the inspectors concluded that, 1) in general problems were properly identified, evaluated, and corrected within your problem identification and resolution program, 2) the processes and

procedures of your corrective action program were generally effective; thresholds for identifying issues were appropriately low, and in most cases, corrective actions were adequate to address conditions adverse to quality, and 3) on the basis of interviews conducted during this inspection, workers at the site felt free to input safety findings into the corrective action program.

Inspection Report# : 2006008 *(pdf)*

Significance: N/A Jan 14, 2005
Identified By: NRC
Item Type: FIN Finding
Special Inspection's Findings and Observations Related with Breaker Failures
• After two safety-related 4160 volt circuit breakers failed to close, the licensee developed and performed sufficient tests to verify the ability of the remaining safety-related 4160 volt circuit breakers to operate.

• While the initial operability tests ensured that a breaker would cycle once, the licensee did not take into consideration breakers that must operate multiple times in performing various design functions. As a result, for any breaker cycled after passing an initial voltage verification test, but before operability was confirmed by a smooth operation check of the spring charging motor limit switch bracket, the licensee did not have reasonable assurance that the breaker would perform its safety function until a second successful voltage verification test was completed.

• The licensee's root cause evaluation was sufficient to identify the cause of the breaker failures associated with the 1A and 1C Component Cooling Water Pump Breakers. However, it did not examine the following potential programmatic or organizational causes of the breaker failures: inadequate receipt inspection for the 1A Component Cooling Water Pump Breaker evidenced by the failure to identify the bent limit switch bracket; failure to refurbish the 1C Component Cooling Water Pump Breaker within the time frame identified in the maintenance program, or to identify the technical basis for extending the refurbishment cycle by 25%; and failure of the preventive maintenance procedure to identify the degraded performance of the 1C Component Cooling Water Pump Breaker.

• The licensee did not fully implement industry related operating experience in two areas; post-refurbishment receipt inspection of the Westinghouse DHP 4160 volt breakers and effects of hardened grease on 4160 volt breaker operation.
Inspection Report# : 2004011 *(pdf)*

Last modified : December 07, 2007