Saint Lucie 2
3Q/2010 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Procedure for Installation of PZ Safety Valves
A self-revealing NCV of 10 CFR Part 50, Appendix B, Criterion V, Instructions, Procedures, and Drawings, was identified regarding the licensee's failure to provide adequate guidance in a safety-related maintenance procedure to ensure pressurizer safety valves (PSV) were properly aligned during installation to minimize potential leakage and failure to ensure that the pressurizer nozzle insulation was installed. Following a manual reactor trip due to a leaking PSV, the licensee performed a root cause evaluation to determine the cause(s) of repeated leaking PSVs during reactor coolant system (RCS) heatup. The licensee determined that several procedural deficiencies existed that contributed to PSV leakage. Specifically, maintenance procedure 0-MMP-01.09, Pressurizer Safety Valve Removal, Testing, and Installation, did not specify acceptance criteria during alignment of the inlet and outlet flanges of the PSVs to associated piping. In addition, the procedure did not ensure installation of the pressurizer nozzle insulation. This issue was entered into the Corrective Action Program (CAP) as CR 2009-21705

The finding was determined to be more than minor in accordance with IMC 0612, Appendix B, "Issue Screening", because it affects the Initiating Events cornerstone attribute of procedure quality and adversely affected the cornerstone objective to limit the likelihood of an event that upsets plant stability by resulting in a manual reactor trip. The finding was evaluated in accordance with IMC 0609, Attachment 4, and determined to be of very low safety significance (Green) per the SDP Phase 1 Screening because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. This finding has a cross-cutting aspect in the area of problem identification and resolution because the licensee did not thoroughly evaluate and take corrective actions to address the long-standing safety issue of repetitive leaking pressurizer safety relief valves (IMC 0310 Aspect P.1.c). (Section 4OA2.2)

Inspection Report# : 2010004 *(pdf)*

Significance: G Jun 30, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Take Timely and Effective Corrective Actions to Prevent RCS Pressure Boundary Leakage through the RCP Seal Lines
A self-revealing NCV of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, was identified when a reactor coolant pump (RCP) seal line weld failure resulted in RCS pressure boundary leakage in July 2009. Specifically, the licensee failed to prevent the recurrence of RCS pressure boundary leakage, a significant condition adverse to quality, caused by conditions of low stress, high-cycle fatigue affecting RCP seal line welds. Licensee personnel shutdown the reactor and entered reduced inventory operations to perform repairs. The issue was entered into the CAP.

The finding was more than minor because it was associated with 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 during shutdown as well as power operations. Specifically, the finding was associated with repeated RCP weld failures and affected the integrity of the RCS pressure boundary. The finding was determined to be of very low safety significance because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The inspectors determined that the cause of this finding was related to the appropriate and timely corrective actions aspect of the CAP component in the problem identification and resolution crosscutting area (IMC 0305 Aspect P.1.d). (Section 4OA3.3)

Inspection Report# : 2010003 *(pdf)*

Significance: G Mar 31, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Procedure for Main Steam Isolation Valve Testing
A self-revealing non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified when safety related surveillance test procedure 2-OSP-08.01, “Main Steam Isolation Valves Periodic Test,” was implemented as written in Mode 2 causing the main feed water isolation valves (MFIVs) to close resulting in a momentary loss of feed water to the steam generators. The surveillance procedure did not provide adequate initial conditions or special precautions to prevent plant conditions that would result in a loss of feed water to the steam generators. The issue was entered into the corrective action program (CAP) as condition report (CR) 2009-29332.

The finding was more than minor because it was similar to example 4.b in IMC 0612, Appendix E, in that it challenged steam generator water level control due to closure of the MFIVs and resulted in a feed flow transient. The finding was associated with the procedure quality attribute of the Initiating Events cornerstone and adversely affected the associated 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 finding was evaluated in accordance with IMC 0609, Attachment 4, and determined to be of very low safety significance per the Significance Determination Process (SDP) Phase 1 Screening because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available, and did not screen as potentially risk significant due to external events. This finding has a cross-cutting aspect in the area of human performance because the licensee did not provide complete, accurate and up-to date procedures to plant personnel (H.2.c). (Section 4OA2.2)

Inspection Report# : 2010002 *(pdf)*

Significance: G Dec 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Safety-Related Maintenance Procedure to Properly Align the 2B2 Reactor Coolant Pump/Motor Shaft Coupling Assemblies
An inspector identified non-cited violation of Technical Specification 6.8.1.a and Regulatory Guide 1.33 was identified for an inadequate safety-related maintenance procedure. Specifically, the inspectors identified that during reassembly of Reactor Coolant Pump (RCP) 2B2 in July 2009 mechanical maintenance procedure MMP-01.17, “Reactor Coolant Pump Model N-9000 Seal Removal and Installation,” Revision 10, instructed the licensee to utilize a method of checking the RCP coupling alignment that was not in accordance with Byron Jackson Technical Manual 741-N-0001/4, Revision 23. The procedure instructed the maintenance workers to measure the shaft coupling flange face gap clearance rather than measuring the concentricity/runout of the coupling flanges as required in the subject vendor technical manual. This resulted in the RCP running with increased vibrations and ultimately requiring a plant shutdown to perform repairs. This issue was entered into the Corrective Action Program (CAP) as Condition Reports 2009-28512 and 2009-22728

This finding is more than minor because it is associated with procedure quality attribute and affected the objective of the Reactor Safety/Initiating Event Cornerstone to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the subject RCP maintenance procedure did not require the measurement of coupling run-out whenever the coupling is disassembled in accordance with the vendor technical manual requirements which resulted in an unplanned plant shutdown. The finding was determined to be of very low safety significance since it did not contribute to both the likelihood of a reactor trip and that mitigation equipment or functions would not be available. The inspectors determined that the cause of this finding has a crosscutting aspect in the area of human performance associated with the resources attribute, in that the maintenance procedure instructions were not complete or accurate to ensure proper RCP coupling alignment. (IMC 0305 aspect H.2.c). (Section 4OA2.2)

Inspection Report# : 2009005 *(pdf)*

Mitigating Systems

Significance: G Sep 30, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Properly Identify and Correct a condition Adverse to Quality
An NRC-identified NCV of 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action, for failure of the licensee to promptly identify and correct a condition adverse to quality (CAQ) associated with the Unit 2 reactor water tank isolation valve MV-07-1B. The valve motor power cable conduit was completely rusted through exposing the cabling inside. The licensee examined the degraded condition and initiated a prompt operability determination to evaluate the condition. Based on this evaluation, the valve was declared Operable. This issue was entered into the CAP as condition reports 2010-577132 and 2010-577608.

This finding was more than minor in accordance with IMC 0612, Appendix B, “Issue Screening”, because it was associated with the Mitigating Systems cornerstone attribute of protection against external events and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was evaluated in accordance with IMC 0609, Attachment 4, and determined to be of very low safety significance (Green) per the SDP Phase 1 Screening because it did not result in an actual loss of operability to the component. The inspectors also determined that this finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program, because the licensee did not promptly and completely identify an adverse condition in the CAP in a timely manner commensurate with its safety significance (IMC 0310 Aspect P.1.a). (Section 1R04)

Inspection Report# : 2010004 *(pdf)*

Significance: G Sep 30, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Procedure for Restoration of Non-Essential CCW Flow Following SIAS
An NRC-identified NCV of very low safety significance involving Technical Specification 6.8.1, for failure of the licensee to provide adequate procedures for restoration of non-essential component cooling water (CCW) following a Safety Injection Actuation Signal (SIAS). Specifically, emergency operating procedure, 1-EOP-99, Appendix A, “Sampling Steam Generators” and Appendix J, “Restoration of CCW and CBO to the RCPs”, Rev. 38, did not address the potential adverse impact on essential cooling flow required to mitigate a LOCA when the non-essential CCW was restored. This issue was entered into the CAP as CR 2009-22623

The finding was more than minor in accordance with IMC 0612, Appendix B, “Issue Screening”, because it was associated with the procedure quality attribute of the mitigating systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and operability of the control room air conditioning system to perform its intended safety function during a design basis event. The inspectors determined that the finding was of very low safety significance because it did not result in an actual loss of operability to the component. This finding was reviewed for cross-cutting aspects and none were identified.

Inspection Report# : 2010004 *(pdf)*

Significance: G Mar 31, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Untimely Corrective Actions for 2A1 EDG Immersion Heaters
The inspectors identified a Non-Cited Violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, “Corrective

Action," for failure to promptly identify and correct a condition adverse to quality for degraded wiring in the 2A1 EDG immersion heater power circuitry that resulted in low lube oil temperatures and required Operations to run the diesel several times over the course of a few days to ensure operability. The issue was entered into the CAP as CR 2010-3332.

The finding was more than minor because it affected the equipment performance attribute of the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of the 2A EDG to respond to initiating events to prevent undesirable consequences. SDP Phase 1 Screening indicated that the finding was of very low safety significance because it was not a design deficiency, nor did it result in an actual loss of system or single train function, nor did it screen as potentially risk significant due to external events. This finding has a cross-cutting aspect in the problem identification and resolution area of the corrective action program component because the licensee did not perform a thorough evaluation of problems such that the resolutions address causes and extent of conditions (P1.c) (Section 1R15)

Inspection Report# : 2010002 *(pdf)*

Significance: G Mar 19, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to promptly correct a condition adverse to quality associated with degraded intake cooling water pump discharge check valves.
The NRC identified a Green Non-cited Violation of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, for the licensee's failure to promptly correct a condition adverse to quality that being degraded check valves on the intake cooling water system affecting both units. The failure to implement corrective actions after identifying that the valves were degraded in an inspection in 2005 resulted in a reduction in system reliability and a burden to plant operators. The issue was documented in the corrective action program as CR 2010-7380, and the license intends to replace the check valves at the next availability.

The finding was more than minor because it is associated with the Equipment Performance attribute of the Mitigating Systems Cornerstone in that it adversely affected the reliability of the intake cooling system to respond to initiating events to prevent undesirable consequences. The finding was screened using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," and was determined to have a very low safety significance (Green) because the system remained operable and capable of meeting its design function with no loss of safety function of any train of intake cooling water. The cross-cutting aspect of H.3(b) was applicable because the licensee did not plan work activities to support long term equipment reliability to limit operator workarounds and reliance on manual actions. (4OA2)

Inspection Report# : 2010006 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

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 Mar 19, 2010
Identified By: NRC
Item Type: FIN Finding
PI&R
The team concluded that, in general, problems were properly identified, evaluated, prioritized, and corrected. The threshold for initiating condition reports (CRs) was appropriately low, as evidenced by the types of problems identified and the number of CRs entered annually into the Corrective Action Program (CAP). Employees were encouraged by management to initiate CRs. However, several examples of problems related to CAP administration were identified by the team, including minor equipment issues that had not been identified by the licensee and entered into the corrective action program, a few minor examples of corrective actions closed where the specified action had not been completed, and some minor problems with sustainability of corrective actions to prevent recurrence (CAPRs). When identified, the licensee entered these issues into the CAP. In the weeks prior to the inspection, a licensee self-assessment team found similar minor issues with CAP administration and had entered these items into the CAP. Corrective actions were planned but not fully implemented in the licensee identified cases, and an assessment of the sustainability of the corrective actions could not be accomplished.

The team found problems with deferral of preventive maintenance on risk significant equipment, including the intake cooling water check valves. The team found examples of deferral of critical preventive maintenance activities that were not based on engineering evaluation, but rather scheduling concerns or management discretion. However, there was no evidence that failures had occurred because of deferred maintenance. The licensee had identified deferred maintenance as a problem in 2009 and had undertaken comprehensive evaluation and actions to remedy the problem. These activities were in progress and the timetable to correct deficient conditions was appropriate.

The team determined that, overall, audits and self-assessments were adequate in identifying deficiencies and areas for improvement in the CAP, and in most cases, appropriate corrective actions were developed to address the issues identified. Operating experience usage was found to be generally acceptable and integrated into the licensee’s processes for performing and managing work and plant operations.
Based on discussions and interviews conducted with plant employees from various departments, the inspectors determined that personnel felt free to raise safety concerns to management and use the CAP to resolve those concerns. However, internal surveys of work and safety culture issues identified a declining trend in worker satisfaction in 2008, and actions have been initiated to improve the work and safety culture environments throughout the corporation.

Inspection Report# : 2010006 *(pdf)*

Last modified : November 29, 2010