

Saint Lucie 1

3Q/2006 Plant Inspection Findings

Initiating Events

Significance:  Dec 31, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Accomplish Prescribed Procedure Steps Resulting in Starting the 1B LPSI Pump With its Suction Valve Closed

A self-revealing NCV of Technical Specification 6.8.1.b, "Refueling Operations," was identified when the licensee failed to properly implement system operating procedure NOP-03.05, "Placing the 1B SDC System in Operation" while attempting to restore reactor plant shutdown cooling (SDC) flow. As a result a low pressure safety injection (LPSI) pump was started with its suction valve closed which caused the pump to cavitate. This finding had human performance cross-cutting aspects in that an operator failed to comply with procedural requirements.

This finding is greater than minor because it is associated with the configuration control and human performance attributes of the Initiating Events cornerstone and adversely impacted the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. In addition, if left uncorrected, this finding would result in a more significant safety concern. The inspectors evaluated the finding using Inspection Manual Chapter (IMC) 0609, Appendix G, Attachment 1, Checklist 3, "Pressurized Water Reactor (PWR) Refueling Operations with RCS Open and Refueling Cavity Level < 23 feet." The finding affected one train of decay heat removal (DHR) which was required to be operable; therefore, the finding did not screen out in Phase 1. Subsequently, the Region II SRA evaluated the finding using the IMC 609, Appendix G, Attachment 2, Phase 2 Significance Determination Process Template for PWR During Shutdown. This finding was a precursor finding that has the potential to cause a loss of the operating train of DHR. The Phase 2 SDP evaluation determined the finding to be of very low safety significance (Green) because the required operating SDC train was only briefly interrupted; the standby SDC train was promptly placed in service; and the affected train was quickly restored. The licensee took prompt action to enter the item into their corrective action program and implement interim corrective actions. The cause of the finding is related to the cross-cutting element of human performance. (Section 1R20)

Inspection Report# : [2005005\(pdf\)](#)

Significance:  Dec 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to take timely and effective corrective actions to control hot work activities while being planned or performed to prevent recurrence

A NCV of TS 6.8.1.f, Fire Protection Program Implementation, was identified by the inspectors during a trend review of multiple small fires in the Unit 1 containment building during outage hot work (air arc gouging) activities. The inspectors determined that the licensee failed to take timely and effective corrective actions to control hot work activities. The licensee entered the issue into their CAP as Condition Report (CR) 2005-33661. This CR requires a comprehensive common cause analysis by a cross-functional team, which will examine the various fire protection issues identified, to determine whether or not a generic fire protection programmatic weakness is present.

This finding is greater than minor because it is associated with the protection against external factors attribute of the Initiating Events cornerstone and adversely impacted the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. In addition, if left uncorrected, this finding would result in a more significant safety concern. The inspectors determined that the finding was associated with fire prevention and administrative controls and assigned a low degradation rating. As a result of the phase 1 screening, this finding was determined to be of very low safety significance. The cause of the finding is related to the cross-cutting

element of problem identification and resolution, specifically involving incomplete corrective actions. (Section 40A2)

Inspection Report# : [2005005\(pdf\)](#)

Mitigating Systems

Significance:  Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedure for Erection of Temporary Ladders and Structures On Or Around Safety Related Equipment

A Non-Cited Violation was identified for failing to implement administrative procedure ADM-27.11, Scaffold Control, on issues related to the erection of ladders and scaffold structures around safety related equipment. Specifically, over a short period of time (about a week) the inspectors identified four examples where either a structure or ladder was erected without an engineering evaluation being completed to ensure acceptability.

The finding is greater than minor because the failure to implement appropriate procedures to properly construct and seismically qualify scaffold in safety-related areas could become a more significant safety concern, if left uncorrected. The finding involved the attribute of equipment performance and affected the mitigating systems objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609, Appendix A, Attachment 1, "Significance Determination Process," Phase 1 Worksheet, the finding was determined to have very low safety significance because it only affected the mitigating systems cornerstone, and all subsequent engineering evaluations determined that there was no adverse effect to mitigating equipment. A contributing cause of the finding is related to the cross-cutting element of human performance, specifically work practices, in that personnel failed to follow procedures when erecting ladders and structures near safety-related components. (Section 1R17)

Inspection Report# : [2006004\(pdf\)](#)

Significance:  Mar 31, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Reset the 1C AFW Pump Mechanical Over Speed Trip Linkage

A Green self-revealing NCV was identified for the licensee failing to comply with 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings." As a result of an inadequate procedure, a turbine driven auxiliary feed water (AFW) pump was returned to service without having its mechanical overspeed trip mechanism properly reset following a periodic surveillance test. The licensee performed a thorough root cause evaluation of the event and implemented interim corrective actions to prevent recurrence.

This finding is greater than minor because the improper resetting and engagement of the overspeed trip mechanism is associated with the reactor mitigating systems cornerstone attribute of equipment performance and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In addition, if left uncorrected, this finding would result in a more significant safety concern. This finding was evaluated using the Significance Determination Process (SDP) and was determined to be of very low safety significance. A contributing cause of the finding is related to the cross-cutting element of human performance, specifically resources, in that the procedure was inadequate to accomplish the intended task. (Section 1R15.2)

Inspection Report# : [2006002\(pdf\)](#)

Significance:  Mar 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Unit 1 and 2 Containment Building ECCS Sump Design Control

The inspectors identified an NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failure of the licensee to evaluate the potential consequences of unfiltered debris migrating from the reactor cavity sump to the Emergency Core Cooling System (ECCS) sump via floor drain and equipment drain lines located within the containment sump area. The licensee took prompt corrective action and modified the Unit 1 containment sump and performed an engineering analysis for both Units 1 and 2 which concluded the amount of debris that will bypass the screen is inconsequentially small as the debris will have settled outside the zone of flow influence surrounding the ECCS pump suction lines and there was reasonable assurance that the amount of debris swept into the suction lines would not prevent the ECCS from performing its design functions.

The finding was more than minor because it affected the mitigating system cornerstone attribute of "Design Control." Specifically, the licensee did not account for the unfiltered debris flow from the reactor cavity sump following a Loss of Coolant Accident (LOCA) and Recirculation Actuation Signal (RAS) in its initial design. This finding was of very low safety significance and screened out using the SDP Phase 1 worksheet because the licensee's evaluation determined that the unfiltered flow from the reactor cavity sump would not prevent the ECCS from performing its design function. A contributing cause of the finding is related to the cross-cutting element of problem identification, specifically identification, in that the licensee had multiple opportunities to identify this issue during previous inspections and maintenance. (Section 1R15.1)

Inspection Report# : [2006002\(pdf\)](#)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance:  Dec 31, 2005

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Implement Required HP Controls for U1 Pressurizer Valve Work

A self-revealing NCV of Technical Specification (TS) 6.11 was identified for failure to implement adequate radiological controls for work near contaminated pressurizer components as required by Health Physics Procedure (HPP)-3, High Radiation Areas, Rev. 17A. On November 25, 2005, two individuals entered the Unit 1 (U1) pressurizer cubicle to perform a visual inspection of valve V1249 and subsequently became contaminated due to failure to follow Radiation Work Permit (RWP) requirements and inadequate Health Physics Technician (HPT) coverage.

This finding is greater than minor because it is associated with the Occupational Radiation Safety Cornerstone attribute of exposure/contamination control and adversely affects the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operations. The failure to implement required RWP controls for high radiation area or highly contaminated area work activities could result in unintended exposures. The finding was determined to be of very low safety significance because the individuals were monitored for exposures from external radiation fields and from internally deposited radionuclides, as appropriate; and no individuals exceeded either internal or external exposure limits. The finding involved the cross-cutting aspect of Human Performance because the contamination events were a direct result of worker and HPT failures to implement required radiological controls. The licensee entered this finding in its corrective action program (CAP) as CR 2005-32859.

(Section 2OS1).

Inspection Report# : [2005005\(pdf\)](#)

Public Radiation Safety

Significance:  Dec 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Appropriate DOT Type A Package Closure Requirements

The inspectors identified a NCV of 10 CFR 71.5 for failure to follow Department of Transportation (DOT) regulations for proper closure of Type A shipping packages. Specifically, for Type A packages containing in-core instrument cutting equipment shipped on October 3, 2003 and February 17, 2005, the licensee failed to prepare the package closures in accordance with the container vendor specifications as required by DOT 49 CFR 173.475 (e).

The finding was more than minor because it is associated with the Public Radiation Safety Cornerstone program and process attribute involving transportation procedures. The cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive material released into the public domain was affected because the identified issue involved shipments of radioactive material that were contrary to NRC and DOT regulations. The finding is of very low safety significance (Green) because it did not involve a radiation limit being exceeded or a package being breached. This finding also involved the cross-cutting aspect of problem identification and resolution regarding implementation of Operating Experience (OE). Although the licensee had reviewed OE 19531 associated with lid bolting torque for a Type A package they did not enter this OE into their CAP process and implement actions to prevent similar occurrences. After inspector identification of the issue, the licensee entered this finding into the CAP as CR 2005-25727 (Section 2PS2).

Inspection Report# : [2005005\(pdf\)](#)

Physical Protection

[Physical Protection](#) information not publicly available.

Miscellaneous

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 21, 2006