

## Saint Lucie 2

### 1Q/2005 Plant Inspection Findings

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## Initiating Events

**Significance:**  Dec 31, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

### **Improper Implementation of Emergency Operating Procedure Following a Manual Reactor Trip**

A self-revealing non-cited violation (NCV) was identified for failing to properly implement emergency operating procedure 2-EOP-99, Appendix X, Secondary Post Trip Actions, as prescribed by TS 6.8.1.a and Regulatory Guide 1.33. More specifically, a licensed reactor operator did not ensure the main feedwater regulating valve block valves were in the closed position following the reactor trip on December 25, which then directly contributed to the cause of another manual reactor trip on December 27.

The finding is greater than minor because it involved the human performance attribute of the Initiating Events Cornerstone and its objective, in that failure to follow and implement a required emergency operating procedure step directly contributed to a subsequent plant transient that resulted in a manual reactor trip. The finding is of very low safety significance because, although it caused a manual 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. This finding directly involved cross cutting aspects of human performance. (Section 1R14)

Inspection Report# : [2004006\(pdf\)](#)

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## Mitigating Systems

**Significance:**  Sep 25, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

### **Wrong Lead Lifted During Maintenance Rendering Containment Spray Pump 2A Inoperable**

A self-revealing non-cited violation (NCV) was identified for failing to properly implement procedure OP-2-0010125A, Surveillance Data Sheets, Data Sheet 8A, Quarterly Valve Cycle Test (All Modes), as prescribed by Technical Specification (TS) 6.8.1.a. Specifically, an I&C journeyman inadvertently lifted an electrical lead on a terminal board, rendering the 2A-Containment Spray Pump (CSP) out-of-service (OOS) for a period of time without the knowledge of the on-shift Operations personnel.

The finding is more than minor because it affected the Mitigating Systems Cornerstone objective of equipment reliability, in that when the electrical lead was lifted it rendered the 2A-CSP OOS. The finding was determined to be of very low safety significance based on the other train of containment spray being operable and available and the TS Limiting Condition for Operation (LCO) allowed outage time not being exceeded. This finding involved the cross-cutting element of human performance. (Section 1R19)

Inspection Report# : [2004005\(pdf\)](#)

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**Significance:**  Jun 26, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Follow Procedures per TS 6.8.1.(a)**

The inspectors identified two examples of a non-cited violation (NCV) of Technical Specification 6.8.1.(a) for failure to follow procedures in maintaining and reactivating SRO licenses. This resulted in two senior reactor licensed operators standing watch without the appropriate qualifications.

The finding, which involves the mitigating systems cornerstone, is greater than minor because it is associated with human performance attributes that affect the availability, reliability, and capability of licensed operators to respond to initiating events to prevent undesirable consequences. The NRC considers the maintenance and proficiency of licensed operators an element of the defense in depth philosophy, and the compliance with procedures which implement the requirements of 10 CFR 55.53(f), to be significant. (Section 1R11)

Inspection Report# : [2004004\(pdf\)](#)

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## Barrier Integrity

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## Emergency Preparedness

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## Occupational Radiation Safety

**Significance:**  Sep 25, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure To Follow And To Have Adequate Procedure Guidance For Controls Associated With Posted LHRA Locations**

The inspectors identified an NCV of TS 6.11 for failure to meet procedural guidance for locked high radiation area (LHRA) postings and signs, and to have adequate guidance for control of equipment maintained in the vicinity/adjacent to LHRA barrier gates and walls. During the week of August 16, 2004, the licensee failed to post all accessible walls of the Unit 1 Drumming Room LHRA waste storage facility with the required labels (postings) and failed to provide additional signs on walls to deter climbing as specified in Health Physics Procedure (HPP)-3), High Radiation Area, Revision (Rev.) 15. Further, the procedure failed to address the use and storage of other equipment placed against established physical barriers which could potentially facilitate unauthorized access to LHRAs. Equipment examples observed by the inspectors included portable step stools maintained in the vicinity of the LHRA posted Unit 2 (U2) Volume Control Tank (VCT) cubicle and several empty 55 gallon drums placed against the Unit 1 (U1) Drumming Room LHRA storage facility's eastern wall and entrance gate.

This finding is greater than minor because it adversely affected the access control program and process attribute of the Occupational Radiation Safety cornerstone in that failure to follow or have adequate procedures for maintaining LHRA barrier controls decreased the licensee's ability to provide reasonable assurance to prevent unauthorized entry required for adequate protection of worker health and safety from exposure to radioactive materials as a result of routine civilian nuclear reactor operations. The finding is of very low safety significance because the event did not result in any unanticipated and unexpected worker exposures. Immediate corrective actions included removal of the equipment away from the LHRA barrier walls and gates and positing of proper labels and signs. (Section 2OS1)

Inspection Report# : [2004005\(pdf\)](#)

**Significance:**  Sep 25, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure To Have Adequate Procedural Guidance For Response To Extended Duration ARM Alarms**

The inspectors identified an NCV of TS 6.11 for failure to have adequate procedural guidance to meet area radiation monitor (ARM) radiation protection design objectives during periods of prolonged local alarm annunciation. During calendar year 2003 and year-to-date (YTD) 2004, several examples of ARM equipment in prolonged audible or visual alarm, ranging from several days to approximately eight months, were identified with no guidance to address and minimize potential worker habituation and indifference to potential radiological conditions that the alarm annunciators are designed to identify.

This finding is greater than minor because it adversely affected the access control program and process attribute of the Occupational Radiation Safety cornerstone in that failure to properly address prolonged ARM alarms could result in workers improperly responding to actual changes or unexpected operating conditions as a result of routine civilian nuclear reactor operations. The finding is of very low safety significance because there was no failure to identify atypical radiological conditions, no failure to assess doses to workers, nor unexpected personnel exposures (Section 2OS3).

Inspection Report# : [2004005\(pdf\)](#)

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## Public Radiation Safety

**Significance:**  Sep 25, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure To Maintain Adequate QC Program Activities To Meet Design Specifications To Ensure Representative Sampling of Main Plant Vent Airborne Effluent Particulates**

The inspectors identified an NCV of TS 6.8.1.i for failure to implement Quality Control activities to ensure representative sampling and monitoring of particulates in the main plant vent airborne effluents. Specifically, the licensee failed to establish appropriate guidance for tests and test acceptance criteria for the U1 and U2 Reactor Auxiliary Building (RAB) HEPA ventilation exhaust (HVE) 10A/10B fan plenum cleanup systems which limit maximum diameter of airborne effluent particulates to ensure representative sampling.

This finding is greater than minor because it adversely affected the effluent monitoring program and process attribute of the Public Radiation Safety cornerstone in that failure to ensure representative sampling could impact representative sampling and subsequent monitoring of particulates in airborne effluents released into the public domain as a result of routine civilian nuclear reactor operations. The finding is of very low safety significance because there was no failure to assess dose to the public from airborne particulates released from the main plant vents and doses did not exceed Appendix I to 10 CFR Part 50 design criteria. Licensee immediate corrective actions included adoption of industry approved testing guidance and acceptance criteria for the RAB HVE filters. The finding involved the cross-cutting element of problem identification and resolution, specifically the timeliness of corrective actions. (Section 2PS1).

Inspection Report# : [2004005\(pdf\)](#)

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## **Physical Protection**

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

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## **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 : June 17, 2005