

# Saint Lucie 2

## 1Q/2011 Plant Inspection Findings

---

### Initiating Events

**Significance:**  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 40A2.2)

Inspection Report# : [2010004](#) (*pdf*)

**Significance:**  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 40A3.3)

## Mitigating Systems

**Significance:**  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:**  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)

---

## Barrier Integrity

---

## Occupational Radiation Safety

**Significance:** G Mar 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Failure to perform adequate surveys to identify potential radiological hazards during valve repair in the 1B WGDT room (**

A self-revealing non-cited violation (NCV) of 10 CFR Part 20.1501(a) was identified for failure to perform adequate surveys to verify radiological conditions within the Unit 1 “B” Waste Gas Decay Tank (WGDT) room prior to allowing workers to enter the area. This resulted in workers unknowingly entering an area with general area dose rates exceeding High Radiation Area (HRA) conditions, i.e., dose rates exceeding 100 millirem per hour (mrem/hr) at 30 centimeters (cm). Because of the potential for changing radiological conditions resulting from normal operation, radiation protection staff established controls for access to all WGDT rooms through administrative postings and locked entry doors to ensure monitoring and establishment of appropriate radiological controls prior to worker entry into the areas. However, on October 4, 2010, two maintenance workers were allowed access to the 1B WGDT room without a Radiation Protection Technician (RPT) performing a survey prior to entry. One worker subsequently received a dose rate alarm on their Electronic Dosimeter (ED), maximum dose rate measurement of 77.5 mrem/hr which exceeded the ED dose rate alarm setpoint of 75 mrem/hr. Both workers exited the room and contacted the assigned RPT. Subsequent surveys measured HRA conditions adjacent to the 1B WGDT, maximum general area dose rates of 250 mrem/hr, resulting from operations venting gas to the subject tank several hours before the workers entered the room. Room postings and access controls were upgraded immediately for the identified HRA conditions. The licensee entered the issue into their corrective action program (CAP) as condition report (CR) number AR 585076.

This finding is greater than minor because it was associated with the Occupational Radiation Safety Cornerstone attribute of Program and Process (Monitoring and RP Controls) 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 operation. The finding was evaluated using the Occupational Radiation Safety Significance Determination Process (SDP) and was determined to be of very low safety significance (Green) because it was not related to As Low As Reasonably Achievable (ALARA) Planning and the ability to assess dose was not compromised. In addition, it did not involve overexposure or substantial potential for overexposure because the maximum exposure rate within the 1B WGDT were not estimated to exceed Locked High Radiation Area (LHRA) conditions, WGDT room doors are administratively locked, keys only issued to RP personnel, and the entrances are posted “Radiation Area, Contact RP Prior to Entry.” The cause of this finding was directly related to the cross-cutting aspect of Conservative Assumptions in the Decision Making component of the Human Performance area because the RPT assumed that radiological conditions in the 1B WGDT room had not changed, even though additional administrative controls were in place due specifically to the identified potential for changing radiological conditions in the area when venting gas to the WGDT. [H.1(b)]. (Section 2RS1)

Inspection Report# : [2011002](#) (*pdf*)

**Significance:** SL-IV Feb 26, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to conduct and document RCA routine radiological surveys**

The NRC identified a non-cited violation of Technical Specification 6.8.1 requirements when it was determined that two St. Lucie Plant Radiation Protection Technician staff willfully failed to follow established Health Physics Procedures. As a result, between July 1, 2008, and September 30, 2009, 16 required Radiologically Controlled Area routine radiation surveys were not conducted, and subsequently were falsely documented as being completed. After the issue was identified by the licensee, it was entered into the licensee’s corrective action program for action and final resolution. Licensee actions included a determination of the impact of the missed surveys on occupational

radiation safety, the extent of condition, and development of additional oversight of for future completed surveys.

This issue was dispositioned using traditional enforcement due to the willful aspects of the performance deficiency. In accordance with the NRC Enforcement Policy, Section 6.7 (d), this failure to maintain procedurally established surveillance activities over licensed material in an area posted as containing radioactive materials despite a functional program to monitor licensed material including training and staff awareness of procedural and 10 CFR Part 20 Code requirements was identified as a Severity Level IV violation. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the NRC Enforcement Policy.

Inspection Report# : [2011008](#) (*pdf*)

---

## **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**

Last modified : June 07, 2011