

Saint Lucie 2

4Q/2011 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2011

Identified By: NRC

Item Type: FIN Finding

Failure to Comply with Design Drawing Results in Main Steam Vent Line Failure and Subsequent Transient

A self-revealing finding of very low safety significance was identified following a rapid downpower and manual reactor trip of Unit 2 on May 16, 2011. Specifically, the licensee failed to comply with an approved design drawing during installation fabrication of a one-inch vent line which resulted in a fatigue failure of the vent line. No violations of NRC requirements were identified because the location of the vent line was downstream of the main steam isolation valve and was classified as non-safety related. The licensee entered the issue into the Corrective Action Program as Action Request (AR) 1651817.

The finding was more than minor because it resulted in a rapid downpower and manual reactor trip. The finding was associated with the Design Control attribute of the Initiating Events Cornerstone and adversely 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 at power operations. Using NRC Inspection Manual Chapter 0609.04, Significance Determination Process (SDP) Phase 1 – Initial Screening and Characterization of Findings, Table 4a for the Initiating Events Cornerstone, the finding was determined to be of very low safety significance (Green) because it was a transient initiator but did not increase the likelihood that mitigation equipment would not be available. This finding did not have a cross-cutting aspect because the performance deficiency was not indicative of current plant performance. Specifically, the performance deficiency occurred in 2005 or earlier.

Inspection Report# : [2011003](#) (*pdf*)

Mitigating Systems

Significance: G Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Operability Determination Procedure for Evaluation of Past Operability

The inspectors identified a NCV of Technical Specification (TS) 6.8.1 and Regulatory Guide (RG) 1.33 for the licensee failing to implement a written procedure for operability determinations. Safety related procedure EN-AA-203-1001, "Operability Determinations and Functionality Assessments," was not fully implemented as written on multiple occasions when the 1A and 2A auxiliary feed water pump discharge pressure gauges used for periodic in-service surveillance testing were found out of calibration during periodic maintenance. Specifically, during the performance of maintenance procedure 1400064P, "Installed Plant Instrumentation Calibration," pressure gauge PI-09-7A was found out of calibration, required adjustment, and a condition report written for evaluation in the licensee's corrective action program. The inspector determined a performance deficiency existed when on three separate occasions from 2009 thru 2011, the senior reactor operator concluded incorrectly that the out of calibration gauge conditions did not affect past operability and therefore no engineering evaluation was performed as required by procedure EN-AA-203-1001.

The finding was more than minor because if the performance deficiency is not corrected then it could lead to a more significant safety concern. Using the NRC Manual Chapter 0609, ASignificance Determination Process,@ Table 4A, "Characterization Worksheet," the finding does not represent an actual loss of safety function or screen as potentially risk significant due to seismic, flooding, or severe weather. A contributing cause of the finding is related to the cross-

cutting area of Problem Identification and Resolution, with a corrective action program aspect. Specifically, the operator failed to thoroughly evaluate the condition for past operability of the affected auxiliary feed water pump.

Inspection Report# : [2011005](#) (*pdf*)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: 6 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

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