

Saint Lucie 1

4Q/2016 Plant Inspection Findings

Initiating Events

Significance: G Jun 24, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Meet the Combustible Control Requirements Specified By NFPA 805 Section 3.3.1.2(1)

Green. Inspectors identified a Green, non-cited violation (NCV) of 10 CFR 50.48(c), “National Fire Protection Association Standard NFPA 805,” for the licensee’s failure to comply with the combustible control requirements for work platforms that were located in the Intake Cooling Water Pump House. The issue was entered into the site’s corrective action program as AR 2137088.

The licensee’s failure to adequately implement combustible material control requirements in procedures ADM-27.11 and Procedure 0010434 was a performance deficiency (PD). The (PD) adversely impacted the Initiating Events cornerstone attribute of Protection Against External Factors (Fire) and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during plant operations. Additionally, if left uncorrected, the deficiencies in the combustibles control program could result in wood platforms being staged in other areas of the plant. The finding was screened in accordance with NRC IMC 0609, “Significance Determination Process,” dated June 19, 2012, Attachment 4, “Initial Characterization of Findings,” dated June 19, 2012, which determined that, an IMC 0609, Appendix F, “Fire Protection Significance Determination Process,” dated September 20, 2013, review was required because it was a fire prevention finding. The finding was determined to be of very low safety significance Green, at Step 1.4.1.B because the impact of a fire would be limited to no more than one train of equipment important to safety. The inspector identified a cross-cutting aspect in work management because the licensee failed to ensure that the site’s combustible control requirements were met during the installation and use of wood platforms in the ICW pump house (H.5).

Inspection Report# : [2016011](#) (*pdf*)

Significance: G Mar 31, 2016

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to Provide Detailed Work Instructions Resulted in a Unit Transient (Section 40A2.2)

Green. A self-revealing finding was identified for the licensee’s failure to provide adequate work instructions for the circulating water system 1B1 traveling water screen drive motor replacement. Specifically, the inadequate work instructions resulted in a plant transient in order to remove the associated circulating water pump (CWP) from service. This issue was placed in the licensee’s corrective action program (CAP) as action request (AR) 2095560. The licensee completed the following corrective actions: (1) Counsel all maintenance supervisors in regard to having a questioning attitude and to seek guidance if unsure; (2) Rewire the 1B1 traveling screen drive motor for the proper rotation; (3) Install labels indicating the proper rotation for all eight traveling screen drive motors; (4) Submit document change requests to update the total equipment database; (5) Update all work orders (WO) for the remaining screen drive starter replacements to provide motor rotation direction and mark the post-maintenance test (PMT) step as a critical step, and; (6) Change clearance requests for traveling screen work to include directions to have electricians on station prior to returning the control switch to automatic.

The failure to provide adequate work instructions for replacement of the 1B1 traveling screen motor was a performance deficiency (PD). The PD was more than minor because it was associated with the procedure quality attribute of the initiating events cornerstone and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Specifically, the inadequate WO instructions resulted in installing the 1B1 traveling screen drive motor incorrectly on December 4, 2015. After the maintenance, the system automatically started and the screen rotated backwards. The backward rotation allowed accumulated debris to be transported to the 1B1 debris filter system (DFS) filter and caused it to overload. The resulting high differential pressure (DP) on the DFS filter necessitated the need to lower unit power (plant transient) and required removal of the 1B1 CWP from service. The finding was determined to be of very low safety significance (Green) based on Exhibit 1, "Initiating Events Screening Questions," found in IMC 0609, "Significance Determination Process," Appendix A, "Significance Determination Process (SDP) for Findings At-Power" (June 19, 2012). This was due to the fact that the finding did not cause a loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The inspectors determined the cause of this finding was associated with a cross-cutting aspect of ensuring risks are evaluated and managed before proceeding in the Challenge the Unknown component of the human performance area. Specifically, the licensee did not have a healthy questioning attitude and did not recognize the need to seek guidance when installing a new circulating water system traveling screen motor [H.11]. (Section 40A2.2)

Inspection Report# : [2016001](#) (*pdf*)

Mitigating Systems

Significance: G Apr 29, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Green: The inspectors identified a green non-cited violation of Technical Specification (TS) 3.3.3.1 for failing to take the required TS actions after identifying a condition adverse to quality that

Green: The inspectors identified three examples of a green non-cited violation of Title 10 Code of Federal Regulations (CFR) Part 50.49.e.(5) "aging" for the licensee's failure to assure conformance with the qualification procedures and methods specified in IEEE 323-1974 "IEEE Standard for Qualifying Class 1E Equipment for Nuclear Power Generating Stations" as amended by RG 1.89 "Environmental Qualification of Certain Electric Equipment Important to Safety for Nuclear Power Plants." In response to this issue, the licensee's immediate corrective actions included an immediate determination of operability, in which the licensee concluded that that for the specific examples documented in this violation, the affected components were operable. The licensee entered these issues in the corrective action program for resolution as AR2128753, AR02128366, AR2128755, and AR2135777.

The three performance deficiencies were determined to be more than minor because they were associated with the Mitigating Systems cornerstone attribute of Design Control and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, with time in service, significant aging degradation of SSCs increases the likelihood these SSCs could unpredictably fail when called upon to perform their designed safety function. The team used IMC 0609 Attachment 4, "Initial Characterization of Findings," issued June 19, 2012, and IMC 0609 Appendix A, "The

Significance Determination Process (SDP) for Findings At-Power,” issued June 19, 2012, and determined the finding to be of very low safety significance (Green) because the findings were a deficiency affecting the design of a mitigating structure, system, or component (SSC), and the SSC maintained their operability or functionality. This finding was assigned a cross-cutting aspect of H.6 Design Margins in the Human Performance Area because the finding was indicative of current licensee performance and the licensee did not operate and maintain equipment within design margins and margins were not carefully guarded and were changed without a systematic and rigorous process (WP.2).

Inspection Report# : [2016010](#) (pdf)

Significance:  Apr 29, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Define, Justify, and Document Activation

Green: The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” for the licensee’s failure to verify, justify, and document an activation energy used to determine the thermal lifespan of safety related cable insulation. In response to this issue, the licensee’s immediate corrective actions included an immediate determination of operability, in which the licensee concluded that affected components remained operable. The licensee entered this issue in the corrective action program for resolution as AR2128756.

The performance deficiency was determined to be more than minor because it was associated with the Design Control attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, using incorrect activation energies provided erroneous environmental qualification of Class 1E components, which affected the reliability of the acoustic monitor when called upon. The team used IMC 0609 Attachment 4, “Initial Characterization of Findings,” issued June 19, 2012, and IMC 0609 Appendix A, “The Significance Determination Process (SDP) for Findings At-Power,” issued June 19, 2012, and determined the finding to be of very low safety significance (Green) because the findings were a deficiency affecting the design of a mitigating structure, system, or component (SSC), and the SSC maintained their operability or functionality. This finding was not assigned a cross-cutting aspect because the issue did not reflect current licensee performance.

Inspection Report# : [2016010](#) (pdf)

Significance:  Mar 04, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Consider Elevated Temperature Effects on MOV Actuator Output Capability

Green: The NRC identified a non-cited violation of Title 10 Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion III, “Design Control,” for the licensee’s failure to consider the impact of elevated ambient temperatures on motor operated valve (MOV) actuator output. The licensee entered the issue into the corrective action program and also evaluated the elevated ambient temperature effects on several affected station MOVs and determined the MOVs remained operable.

The performance deficiency was determined to be more than minor because it was

associated with the Mitigating Systems cornerstone attribute of Design Control and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee did not ensure the capability of several MOVs scoped into their MOV program because they did not consider reduced actuator output torque due to elevated temperatures. The team determined the finding to be of very low safety significance (Green) because the finding was a deficiency affecting the design of a mitigating structure, system, or component (SSC), and the SSC maintained its operability or functionality. This finding was assigned a cross-cutting aspect of Evaluation in the Problem Identification and Resolution Area because the finding was indicative of current licensee performance, and the licensee did not thoroughly evaluate the issue identified in AR 2030822, such that the design issue of accounting for elevated temperature was resolved [P.2].

Inspection Report# : [2016008](#) (*pdf*)

Significance:  Mar 04, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Inadequate Testing of 125VDC MCCBs

Green: The NRC identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, “Test Control,” for the licensee’s failure to perform testing for safety-related 125 volts direct current (VDC) molded case circuit breakers (MCCBs) to detect deterioration. The licensee entered the issue into the corrective action program and plans to make changes to the procedure to ensure deterioration of the safety-related 125VDC MCCBs is adequately detected.

The performance deficiency was determined to be more than minor because it was associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, cycling the breakers multiple times before electro-mechanical testing could mask degradation of the circuit breakers and thus decrease the reliability of the breakers to perform their safety function when called upon. The team determined the finding to be of very low safety significance (Green), because it was not a deficiency affecting the design or qualification of a structure, system, or component which did not maintain its functionality; did not represent a loss of system and/or function; did not represent an actual loss of function of at least a single train for greater than its Technical Specification (TS) allowed outage time or two separate safety systems out-of-service for greater than its TS allowed outage time; and did not represent an actual loss of function of one or more non-TS trains of equipment designated as high safety-significant in accordance with the licensee’s maintenance rule program for greater than 24 hours. This finding was not assigned a cross-cutting aspect because the issue did not reflect current licensee performance.

Inspection Report# : [2016008](#) (*pdf*)

Significance:  Mar 04, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Identify Degraded Condition of Unit 1 Electrical Equipment Room Supply Fan Gravity Dampers

Green: The NRC identified a non-cited violation of 10 CFR Part 50, Appendix B,

Criterion XVI, "Corrective Action," for the licensee's failure to identify a condition adverse to quality, which prevented the Unit 1 electrical equipment room (EER) supply fan dampers from performing their safety-related function to close. The licensee entered the issue into their corrective action program and implemented compensatory measures to prevent reverse flow of air through the degraded dampers in the event of a failure of their supply fan. This compensatory measure will remain in place until the licensee is able to replace both gravity dampers.

This performance deficiency was determined to be more than minor because it was associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the inability of the gravity dampers to close upon failure of one of the supply fans would result in room temperatures above the design temperature of 104°F. The team determined the finding to be of very low safety significance (Green) because the finding was a deficiency affecting the design of a mitigating structure, system, or component (SSC), and the SSC maintained its operability or functionality. This finding was not assigned a cross-cutting aspect because the issue did not reflect current licensee performance.

Inspection Report# : [2016008](#) (pdf)

Significance:  Mar 04, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Verify the Adequacy of Design of Unit 1 Electrical Equipment Room Ventilation System

Green: The NRC identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to verify the adequacy of the Unit 1 electrical equipment room (EER) ventilation system design when performing a design calculation. The licensee entered the issue into the corrective action program and plans to re-balance flow rates in the EERs or revise the equipment qualification temperatures for equipment located in the EERs.

The performance deficiency was determined to be more than minor because it was associated with the Design Control attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the re-analysis of the ventilation system resulted in a reduction in temperature margin, which could impact the reliability and capability of emergency electrical equipment in the EERs. The team determined the finding to be of very low safety significance (Green) because the finding was a deficiency affecting the Inspection Report# : [2016008](#) (pdf)

Significance:  Mar 04, 2016

Identified By: NRC

Item Type: FIN Finding

Failure to Provide a Missile-Protected Intertie

Green: The NRC identified a finding for the licensee's failure to properly provide a completely missile-protected intertie from the Unit 1 diesel oil transfer pumps to the Unit 2 diesel oil storage tanks. The licensee entered the issue into the corrective action program.

The performance deficiency was determined to be more than minor because it adversely

affected the Protection Against External Factors attribute of the Mitigating Systems cornerstone objective which of ensuring the availability, reliability, and capability of systems that respond to initiating events. Specifically, a postulated tornado missile could fail the unprotected section of piping, rendering the intertie unable to complete its intended function, thereby reducing the licensee's capability to mitigate a design basis tornado event. The team determined the finding to be of very low safety significance (Green) because it did not involve the total loss of any safety function, nor was it identified by the licensee through probabilistic risk assessment, Individual Plant Evaluation of External Events (IPEEE), or similar analysis that would have contributed to external event initiated core damage accident sequences. This finding was not assigned a cross-cutting aspect because the issue did not reflect current licensee performance. Inspection Report# : [2016008](#) (*pdf*)

Barrier Integrity

Significance:  Sep 30, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Reactor Coolant System Leakage Technical Specification Violation

Green: An NRC-identified Green non-cited violation (NCV) of Unit 1 Technical Specification 3.4.6.2 "Reactor Coolant System Leakage" was identified. Specifically, the licensee failed to enter TS 3.4.6.2 Action "c" for reactor coolant system pressure isolation valve (V3217) when the valve experienced operational seat leakage of approximately 30 gpm during flushing and cooling the shutdown cooling system. Immediate corrective actions were not required since the valve was later determined to be inoperable and repaired. The licensee entered this issue into the licensee's corrective action program.

The licensee's failure to recognize that gross seat leakage from check valve V3217 indicated of a major problem with valve seat alignment and that higher differential pressure would not help seat the valve was a performance deficiency (PD). The performance deficiency is more than minor because it is associated with the barrier integrity cornerstone attribute of human performance and adversely affected the cornerstone objective of providing reasonable assurance that physical barriers such as the containment, protected the public from radionuclide releases caused by accidents or events. The PD resulted in 46 additional hours of operation with V3217 seat leakage outside of TS acceptance criteria which required the unit to be in cold shutdown. The finding involved the cross-cutting area of human performance and specifically within that area was associated with conservative bias because the operability evaluation did not demonstrate it was safe to proceed with valve V3217 experiencing gross seat leakage [H.14].

Inspection Report# : [2016003](#) (*pdf*)

Emergency Preparedness

Significance:  Apr 29, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Comply with TS requirements for Containment High-Range Radiation Monitors (CHRRM)

Green: The inspectors identified a green non-cited violation of Technical Specification (TS) 3.3.3.1 for failing to take the required TS actions after identifying a condition adverse to quality that affected the operability of the containment high range radiation monitors (CHRRMs) (RD-26-40 and RD-26-41). The licensee declared the CHRRMs for both Unit 1 and Unit 2 inoperable and identified alternate methods for assessing emergency action levels, performing core damage assessment and dose assessment. The licensee entered these issues in the corrective action program for resolution as AR2128751 and AR2135780.

The performance deficiency was determined to be more than minor because it was associated with the Emergency Response Organization Performance attribute of the Emergency Preparedness Cornerstone and adversely affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The finding was evaluated using IMC 0609, Appendix B, "Emergency Preparedness Significance Determination Process." The finding is of very low safety significance (Green) because the finding affected an EAL that was rendered ineffective such that any Site Area Emergency would not be declared for a particular off-normal event, but because of other EALs, an appropriate declaration could be made in a degraded manner (e.g., delayed). This finding was not assigned a cross-cutting aspect because the issue did not reflect current licensee performance.

Inspection Report# : [2016010](#) (*pdf*)

Occupational Radiation Safety

Significance: G Mar 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Unauthorized Entry into a High Radiation Area

A self-revealing, Green non-cited violation (NCV) of Technical Specifications (TS) 6.12.1.b occurred when a worker entered a high radiation area (HRA) without being made knowledgeable of dose rates in the area prior to entry. Specifically, on 11/09/2015, a worker performing a plant surveillance under radiation work permit (RWP) 15-004, "Clearance Tags, Surveillances and Inspections," climbed into overhead in the Unit 2 (U2) Pipe Penetration room and received a electronic dosimeter (ED) dose rate alarm. The licensee entered this issue into the corrective action program (CAP) as Action Request (AR) 02090225 and took immediate corrective actions which included restricting the operator's access to the radiological control area (RCA), performing followup surveys and convening a human performance review board to examine causal factors for the purpose of determining corrective actions.

This finding was determined to be more than minor because it is associated with the Occupational Radiation Safety Cornerstone attribute of Human Performance 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. Workers permitted entry into HRAs with inadequate knowledge of current radiological conditions could receive unintended occupational exposures. The finding was evaluated using the Occupational Radiation Safety Significance Determination Process (SDP). The finding was not related to ALARA planning, nor did it involve an overexposure or substantial potential for overexposure, and the ability to assess dose was not compromised. Therefore, the inspectors determined the finding to be of very low safety significance (Green). The inspectors noted that the operator responded properly to the ED dose rate alarm thereby limiting his potential for unintended exposure. This finding involved the cross cutting aspect of [H8] procedure adherence because the

individual understood the RWP requirements but failed to comply with them. (2RS1)
Inspection Report# : [2016001](#) (*pdf*)

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

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