



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

August 4, 2015

Mr. Mano Nazar
President and Chief Nuclear Officer
Nuclear Division
NextEra Energy
P.O. Box 14000
Juno Beach, FL 33408-0420

**SUBJECT: ST. LUCIE PLANT - NRC INTEGRATED INSPECTION REPORTS
05000335/2015002, 05000389/2015002; 05000335/2015011,
05000389/2015011; AND ASSESSMENT FOLLOW-UP LETTER FOR
ST. LUCIE NUCLEAR PLANT UNIT 1**

Dear Mr. Nazar:

On June 30, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your St. Lucie Plant Units 1 and 2. On July 17, 2015, the NRC inspectors discussed the results of this inspection with Mr. Christopher Costanzo and other members of your staff. Inspectors documented the results of the inspection in the enclosed inspection report.

NRC inspectors documented two findings of very low safety significance (Green) in this report. Both of these findings involved violations of NRC requirements. Additionally, NRC inspectors documented one Severity Level IV violation with no associated finding. Further, inspectors documented licensee-identified violations which were determined to be of very low safety significance. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violations or significance of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the St. Lucie Power Plant.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region II; and the NRC Resident Inspector at the St. Lucie Nuclear Plant.

After reviewing St. Lucie Plant Unit 1 performance in addressing the White finding subject of Inspection Procedure 95001, "Supplemental Inspection for One or Two White Inputs in a Strategic Performance Area," dated February 11, 2011, the NRC concluded your actions met the objectives of the inspection. This inspection was completed on December 19, 2014 and was documented in NRC supplemental inspection report 05000335/2014011 (Agencywide Documents Access and Management System (ADAMS) ascension number ML15027A197).

Therefore, in accordance with the guidance in Inspection Manual Chapter (IMC) 0305, "Operating Reactor Assessment Program," the White finding will only be considered in assessing plant performance for a total of four quarters. As a result, the NRC determined the performance at St. Lucie Plant Unit 1 to be in the Licensee Response Column the Reactor Oversight Process (ROP) Action Matrix as of July 1, 2015.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Document Access and Management System (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

LaDonna B. Suggs, Branch Chief
Reactor Projects Branch 3
Division of Reactor Projects

Docket Nos.: 50-335, 50-389
License Nos.: DPR-67, NPF-16

Enclosure:
IR 05000335/2015002, 05000389/2015002;
05000335/2015011, 05000389/2015011; and
Assessment Follow-up Letter for St. Lucie
Nuclear Plant Unit 1 w/Attachment:
Supplementary Information

cc: Distribution via Listserv

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PUBLICLY AVAILABLE NON-PUBLICLY AVAILABLE SENSITIVE NON-SENSITIVE
 ADAMS: Yes ACCESSION NUMBER: _____ SUNSI REVIEW COMPLETE FORM 665 ATTACHED

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| OFFICE | DRP:RII | DRP:RII | DRP:RI | DRP:RII | DRP:RII | DRP:RII | DRS:RII |
| SIGNATURE | TXM1 | RJR1 | PCC1 | CRK1 via phone | JER6 | REW1 | WTL via email |
| NAME | TMorrissey | JReyes | PCataldo | CKontz | JRivera-Ortiz | RWilliams | WLoo |
| DATE | 7/30/2015 | 7/30/2015 | 8/3/2015 | 8/03/2015 | 7/31/2015 | 7/30/2015 | 7/26/2015 |
| E-MAIL COPY? | YES NO | YES NO | YES NO | YES NO | YES NO | YES NO | YES NO |
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| SIGNATURE | ADN via email | JXR1 via email | JRP1 via email | GKO via email | AAV | LJB4 | |
| NAME | ANielsen | JRivera | JPanfel | GOTTenberg | AVargas | LSuggs | |
| DATE | 7/30/2015 | 7/30/2015 | 7/30/2015 | 7/30/2015 | 7/30/2015 | 8/3/2015 | |
| E-MAIL COPY? | YES NO | YES NO | YES NO | YES NO | YES NO | YES NO | |

M. Nazar

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Letter to Mano Nazar from LaDonna B. Suggs dated August 4, 2015.

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05000335/2015002, 05000389/2015002; 05000335/2015011,
05000389/2015011; AND ASSESSMENT FOLLOW-UP LETTER FOR
ST. LUCIE NUCLEAR PLANT UNIT 1

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos: 50-335, 50-389

License Nos: DPR-67, NPF-16

Report Nos: 05000335/2015002, 05000389/2015002, 05000335/2015011, and 05000389/2015011

Licensee: NextEra Energy

Facility: St. Lucie Plant, Units 1 & 2

Location: 6501 South Ocean Drive
Jensen Beach, FL 34957

Dates: April 1, 2015 to June 30, 2015

Inspectors: T. Morrissey, Senior Resident Inspector
J. Reyes, Resident Inspector
P. Cataldo, Senior Resident Inspector Seabrook Nuclear Plant (Sections 1R04 and 1R20)
C. Kontz, Senior Project Engineer (Sections 4OA3 and 4OA5)
J. Rivera-Ortiz, Senior Reactor Inspector (Section 4OA2)
R. Williams, Senior Reactor Inspector (Section 1R08)
W. Loo, Senior Health Physicist (Section 2RS2, 2RS4, 4OA1)
A. Nielsen Senior Health Physicist (Section 2RS1, 2RS3, 2RS6, 4OA1)
J. Rivera, Health Physicist (Section 2RS5)
J. Panfel, Health Physicist (In Training) (Section 2RS3)
G. Ottenberg, Senior Reactor Inspector (Section 1R17)

Approved by: LaDonna B. Suggs, Branch Chief
Reactor Projects Branch 3
Division of Reactor Projects

Enclosure

SUMMARY

IR 05000335/2015002, 05000389/2015002 and IR 05000335/2015011, 05000389/2015011; Assessment Follow-up Letter; 04/01/2015 – 06/30/2015; St. Lucie Nuclear Plant, Units 1 & 2; Follow-up of Events and Notice of Enforcement Discretion; Radioactive Gaseous and Liquid Effluent Treatment; Other Activities

The report covered a three-month period of inspection by the resident inspectors and regional inspectors. The significance of inspection findings are indicated by their color (i.e., greater than Green, or Green, White, Yellow, or Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," (SDP) dated April 29, 2015. Cross-cutting aspects were determined using IMC 0310, "Components Within the Cross-Cutting Areas," dated December 4, 2014. All violations of NRC requirements were dispositioned in accordance with the NRC's Enforcement Policy dated February 4, 2015. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

- Green: The NRC identified a non-cited violation of Technical Specification (TS) 3.0.3 for the licensee's failure to take the required actions to shut down the plant in a timely manner. The licensee's failure to perform an adequate operability evaluation in accordance with the requirements of EN-AA-203-1001, "Operability Determinations / Functional Assessments," was a performance deficiency. Specifically, the licensee failed to identify in an Immediate Operability Determination that through-wall leakage on the ASME Class 1 pipe riser for vent valve V3811 rendered both Emergency Core Coolig Systems (ECCS) subsystems inoperable, requiring entry into TS LCO 3.0.3 and performance of the applicable action statements. The licensee entered this into their corrective action program as AR 02021204.

The performance deficiency was more than minor because it was associated with the equipment reliability attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined the finding was associated with the mitigating systems cornerstone and required a detailed risk evaluation because the finding represented a loss of function on the high pressure safety injection system. A detailed risk evaluation determined the significance of the finding was Green. The inspectors determined the finding was related to the cross-cutting aspect of Evaluation (P.2) of the Problem Identification and Resolution area because the licensee's failure to thoroughly evaluate the issue commensurate with its safety significance led to the licensee failing to perform an appropriate operability evaluation. (40A3.2.i)

- Severity Level IV: The NRC identified multiple non-cited violations of regulatory requirements that it has decided to group into an example of a problem associated with the licensee's reporting program. This problem includes violations of 10 CFR 50.73, "Licensee Event Report System," for the licensee's failure to address all the applicable reporting criteria and 10 CFR 50.9, "Completeness and Accuracy of Information," for the licensee's

failure to submit complete and accurate information to the Commission, as part of Licensee Event Report (LER) 050000389/2014-001 dated September 22, 2014 . These violations were material to the NRC because the failure to include the appropriate reporting criteria and provide complete and accurate information had the potential to impede or impact the regulatory process and, therefore, is subject to traditional enforcement as described in the NRC Enforcement Policy. The inspectors used the examples provided in Section 6.9, "Inaccurate and Incomplete Information or Failure to Make a Required Report," of the NRC Enforcement Policy, and concluded that this problem was appropriately categorized as Severity Level (SL) IV. The licensee placed these issues into their corrective action program as AR 02021204 and has submitted a revised LER. (4OA3.2.ii)

Cornerstone: Public Radiation Safety

- Green: The inspectors identified a Green non-cited violation of Technical Specification 6.8.1 for the failure to implement procedures for the monitoring, evaluating, and reporting of gaseous effluents in accordance with the methodology in the Off-Site Dose Calculation Manual. Specifically, there was no program in place to assess potential effluent releases from containment equipment hatch openings during periods when negative pressure was lost. The licensee took immediate corrective actions including placement of a low-volume air sampler near the Unit 1 Reactor Containment Building equipment hatch, and entered the issue into their corrective action program as AR 02037629.

The performance deficiency was more than minor because it was associated with the Public Radiation Safety cornerstone attribute of Programs and Processes and adversely affects the cornerstone objective of ensuring adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation. The finding was assessed using the Public Radiation Safety Significance Determination Process. Based on the fact that routine (i.e. non-accident) effluents released from an equipment hatch are unlikely to contribute significantly to public dose, this finding does not represent a substantial failure to implement the effluent program and was determined to be of very low safety significance (Green). This finding has a crosscutting aspect of Operating Experience (P.5) because the licensee failed to recognize the applicability of regulatory issues experienced by other plants regarding equipment hatch monitoring. (Section 2RS6)

Licensee-Identified Findings

Two violations of very low safety significance were identified by the licensee and reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into their corrective action program. These violations and corrective action tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period in a defueled condition in a planned refueling outage. On April 23, 2015, the unit was restarted and reached 100 percent rated thermal power (RTP) on April 27, 2015. The unit was at 100 percent power for the remainder of the inspection period.

Unit 2 began the inspection period at 100 percent RTP. On April 12, 2015 the unit was shut down to Mode 5 (cold shutdown) to repair a through-wall leak on the 2B2 Safety Injection Tank discharge piping and to replace a control element assembly upper gripper coil. On April 21, the unit was restarted and reached 100 percent RTP on April 22, 2015. On April 30, 2015 for approximately 12 hours, power was lowered to approximately 97 percent to perform a moderator temperature coefficient surveillance. The unit was at 100 percent power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

.1 Hurricane Season Preparations

a. Inspection Scope

During the month of May, the inspectors reviewed and verified the status of licensee actions taken in accordance with their procedural requirements prior to the onset of hurricane season. The inspectors reviewed licensee procedures ADM-04.01, "Hurricane Season Preparation," and OP-AA-102-1002, "Seasonal Readiness." The inspectors performed site walkdowns of the systems and areas listed below to verify the licensee had completed the required preparations. Corrective Action Program (CAP) action requests (ARs) were reviewed to verify the licensee was identifying and resolving conditions associated with adverse weather preparedness. This inspection constitutes one sample associated with site readiness for seasonal extreme weather conditions.

- St. Lucie 230kV switchyard
- Unit 1 and Unit 2 intake cooling water (ICW) systems and structures
- Unit 1 and Unit 2 component cooling water (CCW) systems and structures
- Unit 1 and Unit 2 auxiliary and startup transformer areas
- Unit 1 and Unit 2 turbine decks
- Unit 1 and Unit 2 auxiliary feedwater (AFW) systems and structures
- St. Lucie plant intake canal debris and turtle nets
- St. Lucie plant storm drain retention pond system

b. Findings

No findings were identified.

.2 External Flooding Preparations

a. Inspection Scope

The inspectors performed walkdown inspections of Unit 1 and Unit 2 reactor auxiliary buildings (RABs), including doors, flood protection barriers, penetrations, and the integrity of the perimeter structure. The inspectors walked down the temporary flood mitigation barriers (sandbags) installed at three degraded RAB external doors (Unit 1: one door and Unit 2: two doors). A flood hazards reevaluation determined that a local intense precipitation (LIP) event could result in a pooling of water outside both unit's RABs during a LIP event. The sandbags were installed to minimize water entry into the buildings during the event. The inspectors walked down the site's storm drain retention ponds to verify that they were in a satisfactory condition. In addition, the inspectors walked down Unit 1 and Unit 2 emergency diesel generators (EDGs) and fuel oil tanks, Auxiliary Feedwater (AFW) pump areas, and the turbine buildings. The inspectors also reviewed the applicable Updated Final Safety Analysis Report (UFSAR) sections, Technical Specifications (TSs), and other licensing basis documents regarding external flooding and flood protection, including specific plant design features to mitigate the maximum flood level. CAP documents and work orders (WOs) related to actual flooding or water intrusion events over the past year were also reviewed by the inspectors to ensure that the licensee was identifying and resolving severe weather related issues that caused or could lead to external flooding of safety related equipment. This inspection constitutes one sample associated with the site's readiness to cope with external flooding. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.3 Offsite and Alternate AC Power System Readiness

a. Inspection Scope

The inspectors evaluated the summer readiness of both the offsite and onsite alternate AC power systems for extreme summer weather. The inspectors walked down the Unit 1 and Unit 2 safety-related EDGs and the turbine driven AFW pumps to verify that they would be available during a loss of offsite power event. The inspectors performed a walkdown of the switchyard with plant personnel to verify that the material condition of the offsite power sources was adequate. Open WOs for the offsite and onsite AC power systems were reviewed to ensure degraded conditions were properly addressed. The inspectors verified that licensee and transmission system operator procedures contained communication protocols addressing the exchange of appropriate information when issues arise that could impact the offsite

power system. The inspectors verified that no equipment or operating procedure changes had occurred since the last performance of this inspection that would potentially affect the operation or reliability of the offsite or onsite AC power systems. This inspection constitutes one sample associated with the site's summer readiness of offsite and alternate AC power systems. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Partial Equipment Walkdowns

a. Inspection Scope

The inspectors conducted partial alignment verifications of safety-related systems listed below. These verifications included reviews utilizing plant lineup procedures, operating procedures, and piping and instrumentation drawings, which were compared with observed equipment configurations to verify that the critical portions of the systems were correctly aligned to support operability. The inspectors also verified that the licensee had identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and that those issues were documented in the CAP. This inspection constitutes four samples as noted below. Documents reviewed are listed in the Attachment.

- Unit 2, 2A EDG after it was returned to service after performing planned maintenance and testing
- Unit 1, A and B trains of AFW while the C AFW pump was out of service (OOS) for maintenance
- Unit 2, 2A emergency core cooling system (ECCS) during a Yellow online risk configuration: 2A high-pressure safety injection (HPSI), 2A low-pressure safety injection (LPSI) and 2A containment spray pumps; and the 2A refueling water tank (RWT) discharge piping, while the 2B ECCS train and the 2B RWT discharge piping were OOS for surveillance testing
- Unit 2, 2B EDG while the 2A EDG was OOS during a planned 6-day maintenance outage

b. Findings

No findings were identified.

.2 Complete System Walkdown

a. Inspection Scope

The inspectors conducted a detailed walkdown and review of the alignment and condition of the Unit 1 AFW system to verify its capability to meet its design basis function. The inspectors utilized licensee procedures 1-NOP-09.11, "Auxiliary Feedwater System Initial Alignment," as well as other licensing and design documents to verify the system alignment was correct. During the walkdown, the inspectors verified that: 1) valves were correctly positioned and did not exhibit leakage that would impact their function; 2) electrical power was available as required; 3) major portions of the system and components were correctly labeled, cooled, and ventilated; 4) hangers and supports were correctly installed and functional; 5) essential support systems were operational; 6) ancillary equipment or debris did not interfere with system performance; 7) tagging clearances were appropriate; and 8) valves were locked as required by the licensee's locked valve program. Pending design and equipment issues were reviewed to determine if the identified deficiencies significantly impacted the system's functions. Items included in this review were the operator workaround list, the temporary modification list, system health reports, system description, and outstanding maintenance work requests/WOs. In addition, the inspectors reviewed the licensee's CAP to ensure that the licensee was identifying and resolving equipment alignment problems. This inspection constitutes one sample.

b. Findings

No findings were identified.

1R05 Fire Protection

.1 Fire Area Walkdowns

a. Inspection Scope

The inspectors toured the following plant areas during this inspection period to evaluate conditions related to the control of transient combustibles and ignition sources, and the material condition and operational status of fire protection systems including fire barriers used to prevent fire damage or fire propagation. The inspectors reviewed these activities against provisions in the licensee's procedure AP-1800022, "Fire Protection Plan," and Title 10 of the Code of Federal Regulations (CFR), Part 50, Appendix R. The licensee's fire impairment lists, updated on an as-needed basis, were routinely reviewed. In addition, the inspectors reviewed the CAP database to verify that fire protection problems were being identified and appropriately resolved. Documents reviewed are listed in the Attachment. This inspection constitutes eight samples.

- Unit 2 charging pump area
- Unit 1 spent fuel pool area
- Unit 2 ICW pump building
- Unit 1 RAB pipe penetration room
- Unit 1 RAB control element assembly and motor generator set room
- Unit 2 heating and ventilation control room pressure boundary area
- Unit 1 Train A and B ECCS containment spray and HPSI pump areas
- Unit 1 A and B LPSI pump areas

b. Findings

No findings were identified.

.2 Fire Protection - Drill Observation

a. Inspection Scope

The inspectors observed two fire drills. On May 28, 2015, the inspectors observed an unannounced fire drill that simulated a 1B motor-generator set fire. A second announced drill was observed on June 19, 2015, that simulated a fire of the 2B turbine cooling water pump motor. The drills were observed to evaluate the readiness of the plant fire brigade to fight fires. The inspectors verified that the licensee staff identified deficiencies, openly discussed them in a self-critical manner at the post drill critique meeting, and implemented appropriate corrective actions as required. Specific attributes evaluated were: (1) proper wearing of turnout gear and self-contained breathing apparatus (SCBA); (2) proper use and layout of fire hoses; (3) employment of appropriate firefighting techniques; (4) sufficient fire-fighting equipment brought to the scene; (5) effectiveness of command and control; (6) search for victims and propagation of the fire into other plant areas; (7) smoke removal operations; (8) utilization of pre-planned strategies; (9) adherence to the pre-planned drill scenario; and (10) drill objectives. In addition, the inspectors reviewed the storage, training, expectations for use, and maintenance associated with the self-SCBA program. Documents reviewed are listed in the Attachment. This inspection constitutes one sample.

b. Findings

No findings were identified.

1R07 Heat Sink Performance

a. Inspection Scope

The inspectors visually observed and assessed the end-of-cycle as-found conditions of the outlet seawater side of the Unit 1, 1B CCW heat exchanger when it was initially opened for inspection. The inspectors reviewed the licensee's as-found assessment of the seawater inlet side of the heat exchanger condition as documented in ARs

2038983 and 2039627. The inspectors verified the heat exchanger as-found condition was properly characterized and evaluated under the CAP. In addition, the inspectors interviewed engineering personnel responsible for CCW heat exchanger monitoring and performance in order to understand the performance history of the heat exchanger. The inspectors verified that the licensee completed plugging of heat exchanger tubes deemed necessary as determined by eddy current testing. The inspectors verified that periodic maintenance activities were conducted in accordance with licensee procedure 0-PMM-14.01, "Component Cooling Water Heat Exchanger Clean and Repair." The inspectors verified the heat exchanger could perform its safety-related functions by assessing documentation of licensee inspections. The inspectors walked down portions of the system for signs of degradation and to assess overall material condition, as well as to monitor system parameters for proper operation. The inspectors verified that significant heat sink issues were being identified and entered into the CAP. This inspection constitutes one sample under the inspection procedure.

b. Findings

No findings were identified.

1R08 Inservice Inspection Activities (71111.08)

a. Inspection Scope

Non-Destructive Examination Activities and Welding Activities. From March 30 through April 3, 2015, the inspectors conducted an onsite review of the implementation of the licensee's inservice inspection (ISI) program for monitoring degradation of the reactor coolant system (RCS) boundary, risk-significant piping and component boundaries, and containment boundaries in Unit 1. Documents reviewed are listed in the Attachment.

The inspectors either directly observed or reviewed the following non-destructive examinations (NDEs) mandated by the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code of Record: 2001 Edition with 2003 Addenda) to evaluate compliance with the ASME Code, Section XI and Section V requirements, and if any indications or defects were detected, to evaluate if they were dispositioned in accordance with the ASME Code or an NRC-approved alternative requirement. The inspectors also reviewed the qualifications of the NDE technicians performing the examinations, to determine whether they were current and in compliance with the ASME Code requirements.

- Phased-Array Ultrasonic Test (UT) of RC-115-6-503, RC piping loop A weld, ASME Class 1 (observed)
- Liquid Penetrant Test (PT) of SI-141-FW-17, elbow-to-pipe weld, ASME Class 2 (observed)

- PT of SI-141-FW-18, pipe-to-branch connection weld, ASME Class 2 (observed)
- PT of SI-141-FW-2000, pipe-to-tee weld, ASME Class 2 (observed)
- Visual Test (VT-3) of component SI-15-7, restraint (observed)

The inspectors either directly observed or reviewed the following welding activities, qualification records, and associated documents in order to evaluate compliance with procedures and the ASME Code, Section XI and Section IX requirements. Specifically, the inspectors reviewed the work order, repair and replacement plan, weld data sheets, welding procedures, procedure qualification records, welder performance qualification records, and NDE reports.

- WO 40108552-05, weld SI-853 02000, ASME Class 2 (reviewed)

During non-destructive surface and volumetric examinations performed since the previous refueling outage, the licensee did not identify any relevant indications that were analytically evaluated and accepted for continued service; therefore, no NRC review was completed for this inspection procedure attribute.

Pressurized Water Reactor Vessel Upper Head Penetration Inspection Activities. The inspectors observed portions of the bare metal visual examination of the reactor vessel upper head penetrations, and reviewed NDE reports for penetration numbers 44, 45, 52, 53, 61, and 62 to determine if the examinations were performed in accordance with the requirements of ASME Code Case N-729-1 and 10 CFR 50.55a(g)(6)(ii)(D). Additionally, the inspectors reviewed the examination results to determine if the required examination coverage was achieved, and if limitations were recorded in accordance with the licensee procedures.

The licensee did not identify any relevant indications that were accepted for continued service. Additionally, the licensee did not perform any welding repairs to the vessel head penetrations since the beginning of the last Unit 1 refueling outage; therefore, no NRC review was completed for these inspection procedure attributes.

Boric Acid Corrosion Control Inspection Activities. The inspectors reviewed the licensee's boric acid corrosion control (BACC) program activities, to determine if the activities were implemented in accordance with the commitments made in response to NRC Generic Letter 88-05, "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary Components in PWR Plants," and applicable industry guidance documents. Specifically, the inspectors performed an onsite records review of procedures, and the results of the licensee's containment walkdown inspections performed during the current refueling outage. The inspectors also interviewed the BACC program owner, conducted an independent walkdown of containment to evaluate compliance with licensee's BACC program requirements, and verified that degraded or non-conforming conditions, such as boric acid leaks, were properly identified and corrected in accordance with the licensee's BACC and CAP.

The inspectors reviewed the following engineering evaluations, completed for evidence of boric acid leakage, to determine if the licensee properly applied

applicable corrosion rates to the affected components; and properly assessed the effects of corrosion induced wastage on structural or pressure boundary integrity in accordance with the licensee's procedures.

- AR 01844118, Boric acid leak on component V07005
- AR 01982676, Boric acid leak on component FCV-2161
- AR 01998879, Boric acid leak on component SH07283
- AR 01993801, Boric acid leak on component WSTIX1A
- AR 01936594, Boric acid leak on component V3822

The inspectors reviewed the following condition reports, and associated corrective actions, related to evidence of boric acid leakage to evaluate if the corrective actions completed were consistent with the requirements of the ASME Code and 10 CFR Part 50, Appendix B, Criterion XVI.

- AR 02036705, Boric acid leak on component VPT-1161
- AR 02036699, Boric acid leak on component V1294
- AR 02036693, Boric acid leak on component V1284
- AR 02036689, Boric acid leak on component V1217

Steam Generator Tube Inspection Activities. The inspectors verified that for the Unit 1 steam generator tubes, no inspection activities were required this refueling outage, in accordance with the requirements of the ASME Code, the licensee's TSs, and Nuclear Energy Institute 97-06, "Steam Generator Program Guidelines."

Identification and Resolution of Problems. The inspectors reviewed a sample of ISI-related issues entered into the CAP to determine if the licensee had appropriately described the scope of the problem, and had initiated corrective actions. The review also included the licensee's consideration and assessment of operating experience events applicable to the plant. The inspectors performed this review to ensure compliance with 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requirements.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program and Licensed Operator Performance

.1 Resident Inspector Quarterly Review

a. Inspection Scope

On May 14, 2015, the inspectors observed and assessed a licensed operator crew during an evaluated simulator scenario during continuing training on the control room simulator. The simulated scenario included feed water perturbations which required a manual reactor trip due to lowered steam generator levels. The feed water issues

escalated to a total loss of feed water event requiring entering emergency operating procedure EOP-06, "Total Loss of Feed Water." Documents reviewed are listed in the Attachment. The inspectors also reviewed simulator physical fidelity and specifically evaluated the following attributes related to the operating crews' performance:

- Clarity and formality of communication
- Ability to take timely action to safely control the unit
- Prioritization, interpretation, and verification of alarms
- Correct use and implementation of abnormal and emergency operation procedures, and emergency plan implementing procedures
- Control board operation and manipulation, including high-risk operator actions
- Oversight and direction provided by supervision, including ability to identify and implement appropriate TS actions, regulatory reporting requirements, and emergency plan classification and notification
- Crew overall performance and interactions
- Effectiveness of the post-evaluation critique

This inspection constitutes one sample.

b. Findings

No findings were identified.

.2 Control Room Observations

a. Inspection Scope

The inspectors observed and assessed licensed operator performance in the plant and main control room, particularly during periods of heightened activity or risk and where the activities could affect plant safety. Documents reviewed are listed in the Attachment. Specifically, the inspectors observed activities in the control room during the following evolutions:

- April 11-12, 2015, Unit 2 reactor trip from 25 percent RTP following a down power from 100 percent RTP. The unit was taken off line due to a leak in the 2B2 SIT discharge piping
- April 21, 2015, Unit 2 startup activities and power ascension
- April 22-23, 2015, Unit 1 initial criticality and reactor physics testing following a refueling outage

This inspection constitutes three samples. The inspectors focused on the following conduct of operations attributes as appropriate:

- Operator compliance and use of procedures
- Control board manipulations
- Communication between crew members

- Use and interpretation of plant instruments, indications and alarms
- Use of human error prevention techniques
- Documentation of activities, including initials and sign-offs in procedures
- Supervision of activities, including risk and reactivity management

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the performance data and associated ARs for equipment issues as listed below to verify that the licensee's maintenance efforts met the requirements of 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," and licensee administrative procedure ADM-17-08, "Implementation of 10 CFR 50.65, The Maintenance Rule (MR)." The inspectors focused on maintenance rule scoping, characterization of maintenance problems and failed components, risk significance, determination of MR a(1) and a(2) classification, corrective actions, and the appropriateness of established performance goals and monitoring criteria. The inspectors also interviewed responsible engineers and observed some of the corrective maintenance activities. The inspectors attended applicable expert panel meetings and reviewed associated system health reports. The inspectors verified that equipment problems were being identified and entered into the licensee's CAP. This inspection constitutes two samples. Documents reviewed are listed in the Attachment.

- AR 2049452, Revised Maintenance Rule (a)(1) action plan for Unit 1 transformer systems
- AR 2040694, 2C ICW pipe spool piece through-wall leak

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors completed in-office reviews, plant walkdowns, and control room inspections of the licensee's on-line and shutdown risk assessment of emergent or planned maintenance activities. The inspectors verified the licensee's risk assessment and risk management activities using the requirements of 10 CFR 50.65(a)(4); the recommendations of Nuclear Management and Resource Council 93-01, "Industry Guidelines for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants;" and licensee procedure ADM-17.16, "Implementation of the

Configuration Risk Management Program.” The inspectors also reviewed the effectiveness of the licensee’s contingency actions to mitigate increased risk resulting from the degraded equipment. The inspectors interviewed responsible senior reactor operators on-shift, verified actual system configurations, and specifically evaluated results from the online risk monitor (OLRM) for the combinations of OOS risk significant systems, structures, and components (SSCs) listed below. This inspection constitutes six samples. Documents reviewed are listed in the Attachment.

- Unit 1, Yellow Shutdown Safety Assessment (SSA) while the unit was in Mode 6, RCS in a lowered inventory condition, and a time to boil of 52 minutes.
- Unit 2, Qualitative Configuration Risk Management Assessment while in Mode 3 with the RCS less than 1750 psia, and with safety injection tank 2B2, EDG 2A and main condenser water box 2B1 OOS.
- Unit 2, online risk assessment during a Yellow risk condition, while the 2A HPSI pump and the A train of hot leg injection were OOS for maintenance.
- Unit 2, online risk assessment while the 2A EDG was OOS for a 6-day planned engine maintenance outage
- Unit 1, online risk assessment while the 1A EDG was OOS for unplanned corrective maintenance
- Unit 1, Yellow online risk assessment while the B ECCS train was OOS for surveillance testing

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments

a. Inspection Scope

The inspectors reviewed the following ARs’ interim dispositions and operability determinations or functionality assessments to ensure that they were properly supported and the affected SSCs remained available to perform their safety function with no increase in risk. The inspectors verified the operability determinations or functionality assessments were performed in accordance with licensee procedure EN-AA-203-1001, “Operability Determinations and Functionality Assessments.” The inspectors reviewed the applicable UFSAR, and associated supporting documents and procedures, and interviewed plant personnel to assess the adequacy of the interim disposition. This inspection constitutes six samples.

- AR 2035892, Applicability to St. Lucie of an industry operating experience event involving a loss of all charging pumps
- AR 2039954, Evaluate reactor containment building ECCS sump impact due to temporary materials staged/used while in Mode 3
- AR 2045473, Unit 1 AFAS-1 actuated during testing
- AR 2053060, Unit 1 1A EDG abnormal sounds and indication after start
- AR 2052505, Unit 2 2A EDG amperage and Kilowatt meter swings during testing

- AR 2054489, Unit 1 B RPS high containment pre-trip and trip lights did not illuminate during monthly testing

b. Findings

No findings were identified.

1R17 Evaluations of Changes, Tests, and Experiments and Permanent Plant Modifications

.1 (Closed) Unresolved Item (URI) 05000335/2015007-03: Adequacy of 10 CFR 50.59 Screening Performed for Unit 1 SGBD Maximum Flow Evaluation Test (ADAMS Accession Number ML15110A111)

a. Inspection Scope

An unresolved item (URI) was opened regarding the adequacy of a 10 CFR 50.59 screening that was completed for the performance of a test on November 11, 2011, on the Unit 1 steam generator blowdown (SGBD) system. The test used procedure 1-LOI-23.01, "Steam Generator Blowdown Maximum Flow Evaluation Test," Revision 1. At the time of the inspection, a violation of 10 CFR 50.59(d)(1) was identified for the licensee's failure to perform a full written 10 CFR 50.59 evaluation which provided the basis that the test or experiment did not require a license amendment.

Specifically, the test introduced operating conditions that were inconsistent with the analyses described in the station's UFSAR, and a full 10 CFR 50.59 evaluation was not performed. The URI was opened to provide for additional inspection of the licensee's past operability evaluation of the test conditions, and corresponding event re-analyses, to determine if the violation of 10 CFR 50.59 was more than minor. The inspectors reviewed the licensee's evaluation of the test conditions including actual SGBD flow rates achieved during the test, maximum expected time to isolate the SGBD flow path, and actual reactor power during the test. The inspectors also reviewed the results of simulator runs the licensee performed to confirm that the assumed SGBD isolation times were bounding. The licensee determined that if a full 50.59 evaluation of the test or experiment had been completed prior to the test being performed, they would have concluded that the test could have been performed without prior NRC review and approval because the event acceptance criteria would have been met with modification of analysis input assumptions to match the plant conditions during the performance of test. The inspectors reviewed the licensee's evaluation and conclusions to determine their adequacy.

b. Findings

The inspectors determined that the failure to perform a full written 10 CFR 50.59 evaluation prior to performing a test using procedure 1-LOI-23.01 was a performance deficiency and a minor violation of 10 CFR 50.59(d)(1). It required a written evaluation which provided the basis that the test or experiment did not require a license amendment. Specifically, the test procedure in 1-LOI-23.01 introduced operating conditions that were inconsistent with the analyses described in the station's UFSAR, and a full written 10 CFR 50.59 evaluation was not performed. The

licensee performed additional evaluation after the inspectors identified that a full 10 CFR 50.59 evaluation was required and not previously performed. The licensee concluded that if a full 10 CFR 50.59 evaluation of the test had been performed, prior NRC review and approval would not have been required prior to implementing the activity. The NRC Enforcement Manual, Section 2.1.3., "Enforcement of 10 CFR 50.59 and Related FSAR," subsection E.6.b., states, "Violations will be considered minor if there was not a reasonable likelihood that the change requiring 10 CFR 50.59 evaluation would ever require Commission review and approval prior to implementation." The licensee documented the issue in their corrective action program as AR 02030173.

The inspectors also identified an additional example of the Green non-cited violation (NCV) 05000335, 389/2015007-02 documented in the St. Lucie Plant NRC Inspection Report 05000335, 389/2015007 (ADAMS Accession Number ML15110A111). Specifically, 10 CFR 50, Appendix B, Criterion III, required, in part, that measures shall be established to assure that the design bases, as defined in 10 CFR 50.2, are correctly translated into procedures and instructions. Contrary to this, on November 11, 2011, the licensee did not assure that design basis assumptions for SGBD flow rate were translated into guidance in procedure 1-LOI-23.01. This additional example of the previously identified performance deficiency was determined to be more than minor because it was associated with the procedural quality attribute of the Mitigating Systems cornerstone and adversely affected the objective of ensuring reliability, availability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee did not ensure the capability of the secondary side heat removal systems to respond to design basis non-LOCA events because analysis assumptions were not translated into procedural limitations for the SGBD system. The finding was assessed using Inspection Manual Chapter (IMC) 0609, Attachment 4 and IMC 0609, Appendix A, and was determined to be Green because it was a deficiency affecting the design or qualification of a mitigating SSC and the SSC maintained its operability or functionality. The licensee documented this additional example of the previous NCV in their corrective action program as ARs 02041916 and 02056129.

1R18 Plant Modifications

a. Inspection Scope

The inspectors reviewed the engineering change (EC) documentation for the permanent modifications listed below. The inspectors reviewed the modifications to verify they were implemented as described in procedure EN-AA-205-1100, "Design Change Package." The inspectors reviewed the 10 CFR 50.59 screenings and evaluations, fire protection reviews, and environmental reviews, to verify that the modifications had not affected system operability and availability. The inspectors reviewed associated plant drawings and UFSAR documents impacted by these modifications and discussed the changes with licensee personnel to verify the installations were consistent with the modification documents. The inspectors

observed portions of each modifications' installation. Additionally, the inspectors verified that any issues associated with the modifications were identified and entered into the licensee's CAP. This inspection constitutes three samples.

- EC 280770, Unit 1 480 VAC Generator Load Center Connection
- EC 279190, Unit 1 FLEX Connections (Reviewed AFW connection only)
- EC 283720, Unit 2 Safety Injection Tank discharge header piping repair and new support

b. Findings

No findings were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the maintenance WOs listed below, the inspectors reviewed the test procedures and either witnessed the testing or reviewed test records to determine whether the scope of testing adequately verified that the work performed was correctly completed and demonstrated that the affected equipment was functional and operable. The inspectors verified that the requirements of licensee procedure ADM-78.01, "Post Maintenance Testing," were incorporated into test requirements. This inspection constitutes seven samples.

- WO 40018605, Unit 1, 1A EDG governor replacement
- WO 40154215, Unit 1, 1A AFW pump motor replacement
- WO 40376449, Unit 2, 2A EDG replace various engine filters to address overdue PM
- WO 40380539, Unit 1, 1A AFW pump switch maintenance
- WO 40234109, Unit 1, AFAS channel A manual actuation switch replacement
- WO 40394889, Unit 1, 1A EDG troubleshoot and replace speed switch
- WO 40217696, Unit 2, 2A EDG troubleshooting and repair of kilowatt and amperage spikes observed during surveillance testing

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities

.1 Unit 1 Refueling Outage SL1-26

a. Inspection Scope

The Unit 1 planned refueling outage started on March 23, 2015. Additional inspection activities associated with this outage were documented in NRC Integrated Inspection

Report 05000335/2015001 and 05000389/2015001 (ADAMs accession No. ML15126A323). Documents reviewed are listed in the Attachment.

Control and Risk Assessment. The inspectors reviewed the risk reduction methodology employed by the licensee during various refueling outage SL1-26 meetings including the outage command center (OCC) morning meetings and operations daily team meetings. The inspectors examined the licensee implementation of shutdown safety assessments during SL1-26 in accordance with licensee procedure OM-AA-101-1000, "Shutdown Risk Management," to verify whether a defense in depth concept was in place to ensure safe operations and avoid unnecessary risk. In addition, the inspectors regularly monitored OCC activities, and interviewed responsible OCC management, to ensure system, structure, and component configurations and work scope were consistent with TS requirements, site procedures, and outage risk controls.

Outage Activities. The inspectors examined outage activities to verify that they were conducted in accordance with TSs, licensee procedures, and the licensee's outage risk control plan. Some of the more significant inspection activities accomplished by the inspectors were as follows:

- Walked down selected safety-related equipment clearance orders
- Verified operability of RCS pressure, level, flow, and temperature instruments during various modes of operation
- Verified electrical systems availability and alignment
- Verified shutdown cooling system and spent fuel pool cooling system operation
- Evaluated implementation of reactivity controls
- Reviewed control of containment penetrations
- Examined foreign material exclusion controls put in place inside containment (e.g., around the refueling cavity, near sensitive equipment and RCS breaches)
- Verified workers fatigue was properly managed.

Containment Closure. The inspectors evaluated the licensee's ability to close the containment equipment, personnel, and emergency hatches in a timely manner per procedure 1-GMM-68.02, "Emergency Closure of Containment Penetrations, Personnel Hatch, and Equipment Hatches."

Lowered Inventory Condition. The inspectors reviewed the planned activities associated with one period of lowered inventory condition established in order install the reactor vessel head. The inspectors verified the licensee had controls in place to govern lowered inventory operation. The inspectors verified the necessary level instrumentation and means of adding inventory to the RCS were available.

Heat-up, Mode Transition, and Reactor Startup Activities. The inspectors examined selected TSs, license conditions, license commitments and verified administrative prerequisites were being met prior to mode changes. The inspectors also reviewed measured RCS leakage rates, and verified containment integrity was properly established. The inspectors performed a containment sump closeout inspection prior

to reactor plant startup and conducted a containment walkdown while Unit 1 was at normal operating pressure and temperature. The results of low power physics testing were discussed with Reactor Engineering and Operations personnel to ensure that the core operating limit parameters were consistent with the design. The inspectors witnessed portions of the RCS heat up, reactor startup, and power ascension in accordance with the following plant procedures:

- 1-PTP-81, "Reload Startup Physics Testing"
- 1-PTP-91, "Unit 1 Initial Criticality Following Refueling"
- 1-GOP-302, "Reactor Startup Mode 3 to Mode 2"
- 1-GOP-201, "Reactor Plant Startup Mode 2 to Mode 1"

Corrective Action Program. The inspectors reviewed ARs generated during SL1-26 to evaluate the licensee's threshold for initiating ARs. The inspectors reviewed ARs to verify priorities, mode holds, and significance levels were assigned as required. Resolution and implementation of corrective actions of several ARs were also reviewed for completeness. The inspectors routinely reviewed the results of Quality Assurance (QA) daily surveillances of outage activities.

b. Findings

No findings were identified.

.2 Unit 2 Forced Outage: Repair Safety Injection Tank 2B2 Discharge Piping Leak

a. Inspection Scope

On April 11, 2015, during an investigation of a leakage from Safety Injection Tank (SIT) 2B2, the licensee identified a leak on the SIT's discharge piping located inside containment. The SIT was declared inoperable per TSs and the unit was shut down on April 12, 2015. The RCS was cooled down to Mode 5 (<200°F) in order to also replace a control element assembly upper gripper coil. The unit was restarted and returned to service on April 21, 2015. Documents reviewed are listed in the Attachment.

Outage Planning, Control and Risk Assessment. The inspectors reviewed the licensee's outage risk control plan and schedule to verify that the licensee had appropriately considered risk, industry operating experience, and previous site specific problems.

Monitoring of Shutdown Activities. The inspectors observed portions of the cooldown process to verify that TS cooldown restrictions were followed. The inspectors conducted a containment walkdown after the shutdown to assess the condition of the systems within containment that are inaccessible with the unit at power. The inspectors performed walkdowns of important systems and components used for decay heat removal from the reactor core during the shutdown period including the ICW system and CCW system.

Outage Activities. The inspectors examined outage activities to verify that they were conducted in accordance with TSs, licensee procedures, and the licensee's outage risk control plan. Some of the more significant inspection activities accomplished by the inspectors were as follows:

- Verified operability of RCS pressure, level, flow, and temperature instruments during various modes of operation
- Verified electrical systems availability and alignment
- Verified shutdown cooling system operation
- Evaluated implementation of reactivity controls
- Examined containment foreign material exclusion controls put in place for the limited work inside containment

Heat-up, Mode Transition, and Reactor Startup Activities. The inspectors examined selected TSs, license conditions, license commitments and verified administrative prerequisites were being met prior to mode changes. The inspectors also verified containment integrity was properly established. The inspectors performed a containment closeout inspection prior to reactor plant startup. The inspectors witnessed portions of the RCS heat up, reactor startup, and power ascension. During the Unit 2 restart on April 21, 2015, the inspectors verified that startup activities were performed in accordance with licensee general operating procedure 2-GOP-201, "Reactor Plant Startup - Mode 2 to Mode 1."

b. Findings

No findings were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors either reviewed or witnessed the following surveillance tests to verify that the tests met TSs, UFSAR, and licensee procedural requirements. The inspectors verified the tests demonstrated the systems were capable of performing their intended safety functions and their operational readiness. In addition, the inspectors evaluated the effect of the testing activities on the plant to ensure that conditions were adequately addressed by the licensee staff and that after completion of the testing activities, equipment was returned to standby alignment required for the system to perform its safety function. The inspectors verified that surveillance issues were documented in the CAP. This inspection constitutes five samples. Documents reviewed are listed in the Attachment.

Surveillance Tests:

- 1-OSP-69.12, ESF - 18 Month Surveillance for AFAS - Both Trains
- 1-OSP-63.02, RPS - Loss of Load/EH Fluid Pressure Low- Offline Test

- 1-OSP-69.13A, ESF - 18 Month Surveillance For SIAS/CIS/CSAS - Train A
- 2-SMI-09.40, Auxiliary Feedwater Actuation System Actuation Relay Test

Containment Isolation Valve Tests:

- 1-OSP-68.02, Local Leak Rate Test (Penetration 31, waste gas containment isolation valve V6554)

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

Emergency Preparedness Drills

a. Inspection Scope

On May 05, 2015, the inspectors observed the simulator control room, technical support center, and emergency operations facility staff during a drill of the site emergency response organization to verify the licensee was properly classifying emergency events, making the required notifications, and making appropriate protective action recommendations. The scenario included a secondary side steam leak in containment, a manual reactor trip, a control assembly ejection from the core, a station black out condition, a major secondary steam rupture in containment, and a monitored release via the plant vent. An Alert, a Site Area Emergency, and later, a General Emergency were declared due to degrading plant conditions. During the drill the inspectors assessed the licensee's actions to verify that emergency classifications and notifications were made in accordance with licensee emergency plan implementing procedures (EIPs) and 10 CFR 50.72 requirements. The inspectors specifically verified the Alert, Site Area Emergency, and General Emergency classifications and notifications were made in accordance with licensee procedures EPIP-01, "Classification of Emergencies" and EPIP-02, "Duties and Responsibilities of the Emergency Coordinator." The inspectors also observed whether the initial activation of the emergency response centers was timely and as specified in the licensee's emergency plan. The inspectors also verified that the licensee identified critique items and drill weaknesses were captured in their CAP. This inspection constitutes one sample.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstones: Occupational Radiation Safety

2RS1 Radiological Hazard Assessment and Exposure Controls

a. Inspection Scope

Hazard Assessment and Instructions to Workers. During facility tours, the inspectors directly observed labeling of radioactive material and postings for radiation areas and high radiation areas (HRAs) established within the radiologically controlled area (RCA) of the Unit 1 (U1) Reactor Containment Building (RCB) and Unit 2 (U2) Reactor Auxiliary Buildings (RABs), Independent Spent Fuel Storage Installation (ISFSI), and radioactive waste (radwaste) processing and storage locations. The inspectors independently measured radiation dose rates or directly observed conduct of licensee radiation surveys for selected RCA areas. The inspectors reviewed survey records for several plant areas including surveys for alpha emitters, discrete radioactive particles, airborne radioactivity, gamma surveys with a range of dose rate gradients, neutron exposure, and pre-job surveys for upcoming tasks. The inspectors also discussed changes to plant operations that could contribute to changing radiological conditions since the last inspection. For selected outage jobs and for a U2 at-power entry, the inspectors attended pre-job briefings and reviewed radiation work permit (RWP) details to assess communication of radiological control requirements and current radiological conditions to workers.

Hazard Control and Work Practices. The inspectors evaluated access barrier effectiveness for selected Locked High Radiation Area (LHRA) locations and discussed changes to procedural guidance for LHRA and Very High Radiation Area controls with health physics (HP) supervisors. The inspectors reviewed implementation of controls for the storage of irradiated material within the spent fuel pools (SFPs). Established radiological controls (including airborne controls) were evaluated for selected U1 Refueling Outage 26 (SL1-26) tasks including secondary side steam generator work and various activities inside the reactor cavity, and for an at-power entry into the U2 RCB. In addition, the inspectors reviewed licensee controls for areas where dose rates could change significantly as a result of plant shutdown and refueling operations.

Through direct observations and interviews with licensee staff, inspectors evaluated occupational workers' adherence to selected RWPs and HP technician proficiency in providing job coverage. Electronic dosimeter (ED) alarm set points and worker stay times were evaluated against area radiation survey results for selected SL1-26 job tasks. The inspectors also reviewed the use of personnel dosimetry (ED alarms, extremity dosimetry, multibadging in high dose rate gradients, etc.) and evaluated worker responses to dose and dose rate alarms during selected work activities.

Control of Radioactive Material. The inspectors observed surveys of material and personnel being released from the RCA using small article monitor (SAM), personnel contamination monitor (PCM), and portal monitor (PM) instruments. The inspectors reviewed calibration records for selected release point survey instruments and discussed equipment sensitivity, alarm setpoints, and release program guidance with licensee staff. The inspectors compared recent Title 10, CFR Part 61 results for the Dry Active Waste radioactive waste stream with radionuclides used in calibration sources to evaluate the appropriateness and accuracy of release survey instrumentation. The inspectors also reviewed records of leak tests on selected sealed sources and discussed nationally tracked source transactions with licensee staff.

Problem Identification and Resolution. The inspectors reviewed and assessed ARs associated with radiological hazard assessment and control. The inspectors evaluated the licensee's ability to identify and resolve the issues in accordance with licensee procedures. The inspectors also reviewed recent self-assessment results.

Radiation protection (RP) activities were evaluated against the requirements of UFSAR Section 12; TSs Sections 6.8 and 6.12; 10 CFR Parts 19 and 20; and approved licensee procedures. Licensee programs for monitoring materials and personnel released from the RCA were evaluated against 10 CFR Part 20 and IE Circular 81-07, "Control of Radioactively Contaminated Material." Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

2RS2 As Low As Reasonably Achievable

a. Inspection Scope

As Low As Reasonably Achievable (ALARA) Program Status. The inspectors reviewed and discussed plant exposure history and current trends including the site's three-year rolling average (TYRA) collective exposure history for calendar year (CY) 2011 through CY 2013. Current and proposed activities to manage site collective exposure and trends regarding collective exposure were evaluated through review of previous TYRA collective exposure data and review of the licensee's 5-year ALARA program implementing plan. Current ALARA program guidance and recent changes, as applicable, regarding estimating and tracking exposure were discussed and evaluated.

Radiological Work Planning. The inspectors reviewed planned work activities and their collective exposure estimates for SL1-26 and the station's applications of lessons learned from work performed during U1 Refueling Outage 25 (SL1-25). Work activities, exposure estimates and mitigation activities were reviewed for the following high collective exposure tasks: 1A2 Reactor Coolant Pump (RCP) rotating assembly; Upper Guide Structure activities; and reactor head lift and set.

For the selected tasks, the inspectors reviewed dose mitigation actions and established dose goals. During the inspection, use of remote technologies including teledosimetry and remote visual monitoring were verified as specified in RWP or procedural guidance. Selected temporary shielding permit forms were reviewed, observed, and discussed with cognizant licensee representatives as a method to assist with dose rate reduction in selected areas of the plant. Current collective dose data for selected tasks were compared with established estimates and, where applicable, changes to established estimates were discussed with responsible licensee ALARA planning representatives. The inspectors reviewed previous post-job reviews conducted for the SL1-25 and verified that the items were entered into the licensee's CAP for evaluation.

Verification of Dose Estimates and Exposure Tracking Systems. The inspectors reviewed select ALARA work packages and discussed assumptions with responsible planning personnel regarding the bases for the current estimates. The licensee's on-line RWP cumulative dose data bases used to track and trend current personal and cumulative exposure data and/or to trigger additional ALARA planning activities in accordance with current procedures were reviewed and discussed.

Source Term Reduction and Control. The inspectors reviewed historical dose rate trends for shutdown chemistry, cleanup, and resultant chemistry and radiation protection trend-point data against the current SL1-26 data as well as licensee's implementation and evaluation of the results of implementation of zinc injection. Licensee programs implementing noble gas and iodine mitigation strategies to minimize exposures resulting from fuel leaks were discussed with plant staff.

Problem Identification and Resolution. The inspectors reviewed and assessed selected CAP documents associated with ALARA program implementation and discussed those with cognizant licensee staff. The reviewed items included selected ARs, self-assessments, and quality assurance audit documents. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with licensee procedures.

The licensee's ALARA program activities and results were evaluated against the requirements of UFSAR Chapter 12; TSs Sections 5.4 and 5.7; 10 CFR Parts 19 and 20; and approved licensee procedures. Records reviewed are listed in the Attachment.

Radiation worker performance was reviewed as part of observations conducted for Inspection Procedure (IP) 71124.01 and is documented in section 2RS1.

b. Findings:

No findings were identified.

2RS3 In-Plant Airborne Radioactivity Control and Mitigation

a. Inspection Scope

Engineering Controls. The inspectors reviewed the use of temporary and permanent engineering controls to mitigate airborne radioactivity during the SL1-26 refueling outage. The inspectors observed the use of portable air filtration units for work in contaminated areas of the containment building and reviewed filtration unit testing certificates. The inspectors evaluated the effectiveness of continuous air monitors and air samplers placed in work area “breathing zones” to provide indication of increasing airborne levels. The evaluation included procedural guidance, operability testing, and established configurations.

Respiratory Protection Equipment. The inspectors reviewed the use of respiratory protection devices to limit the intake of radioactive material. This included review of devices used for routine tasks and devices stored for use in emergency situations. The inspectors reviewed Total Effective Dose Equivalent (TEDE)-ALARA evaluations for the use of respiratory protection devices during work in the reactor water storage tank and lower cavity. Selected Self-Contained Breathing Apparatus (SCBA) units and negative pressure respirators (NPRs) staged for routine and emergency use in the main control room and other locations were inspected for material condition, SCBA bottle air pressure, number of units, and number of spare masks and air bottles available. The inspectors reviewed maintenance records for selected SCBA units for the past two functional tests and evaluated SCBA and NPR compliance with National Institute for Occupational Safety and Health certification requirements. The inspectors also reviewed records of Grade D (or better) air quality testing for supplied-air devices and SCBA bottles. In addition, the inspectors walked-down the compressor used for filling SCBA bottles.

The inspectors observed the use of air-supplied suits during SL1-26 outage activities. The inspectors discussed training for various types of respiratory protection devices with HP staff and interviewed radworkers and control room operators on use of the devices including SCBA bottle change-out and use of corrective lens inserts. The inspectors reviewed respirator qualification records (including medical qualifications) for several main control room operators and emergency responder personnel in the Maintenance and HP departments. In addition, inspectors evaluated qualifications for individuals responsible for testing and repairing SCBA vital components.

Problem Identification and Resolution. The inspectors reviewed and assessed ARs associated with airborne radioactivity mitigation and respiratory protection. The inspectors evaluated the licensee’s ability to identify and resolve the issues in accordance with licensee procedures. The inspectors also reviewed recent self-assessment results.

Licensee activities associated with the use of engineering controls and respiratory protection equipment were reviewed against UFSAR Chapters 11 and 12; applicable TSs; 10 CFR Part 20; Regulatory Guide 8.15, "Acceptable Programs for Respiratory Protection"; and applicable licensee procedures. Documents reviewed during the inspection are listed in the Attachment.

b. Findings:

No findings were identified.

2RS4 Occupational Dose Assessment

a. Inspection Scope

The inspectors evaluated current RP program activities and results associated with internal and external radiation exposure monitoring of occupational workers. The review included program guidance, equipment and changes, as applicable; quality assurance activities, results, and responses to identified issues; and individual dose results for occupational workers.

External Dosimetry. The inspectors reviewed and discussed RP program guidance for monitoring external and internal radiation exposures of occupational workers. The inspectors verified National Voluntary Laboratory Accreditation Program certification data and discussed program guidance for storage, processing and results for active and passive personnel dosimeters currently in use. Comparisons between ED and thermoluminescent dosimeter data were reviewed and discussed with cognizant licensee representatives.

Internal Dosimetry. Program guidance, instrument detection capabilities, and select results for the internally deposited radionuclides were reviewed. The inspectors reviewed routine termination and follow-up *in vivo* (WBC). In addition, guidance for collection and conduct of special bioassay sampling were discussed with cognizant licensee representatives.

Special Dosimetric Situations. The inspectors reviewed monitoring conducted and results for special dosimetric situations. The methodology and results of monitoring occupational workers within non-uniform external dose fields were evaluated for SL1-26 to include the initial entry into the lower cavity of U1, and 1A2 RCP rotating assembly. In addition, the adequacy of dosimetry program guidance and implementation were reviewed for shallow dose assessments and calculations for discrete radioactive particle skin contamination events. Neutron monitoring conducted in support of selected work activities that included ISFSI loading and transport operations and power entries from 2013 through the date of the onsite inspection were reviewed and discussed with cognizant licensee representatives. There had been no declarations of pregnancy by workers during the last two (2) years; however, inspectors reviewed licensee procedures for monitoring declared pregnant workers and discussed their implementation, if needed, with cognizant licensee representatives. In addition, proficiency of RP staff involved in conducting

skin dose assessments, neutron monitoring, and WBC equipment operations was evaluated through direct interviews, onsite observations, and review and discussions of completed records and supporting data.

Problem Identification and Resolution. The inspectors reviewed and discussed selected CAP documents associated with occupational dose assessment. The reviewed items included ARs, self-assessments, and quality assurance audit documents. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve identified issues in accordance with licensee procedures.

RP program occupational dose assessment guidance and activities were evaluated against the requirements of the UFSAR Chapter 12; TS Section 6.11; 10 CFR Parts 19 and 20; and approved licensee procedures. Records reviewed are listed in the Attachment.

b. Findings:

No findings were identified.

2RS5 Radiation Monitoring Instrumentation

a. Inspection Scope

Walkdowns and Observations. During tours of the RAB, SFP areas, control room, and RCA exit points, the inspectors observed installed radiation detection equipment, including the following instrument types: area radiation monitors (ARMs), continuous air monitors (CAMs), PCMs, SAMs, PMs, and liquid and gaseous effluent monitors. The inspectors observed the physical location of the components, noted the material condition, noted flow measurement devices, input and output of flow to monitors, and compared sensitivity ranges with UFSAR requirements. In addition to equipment walkdowns, the inspectors observed source checks and alarm setpoint testing of various portable and fixed detection instruments, including ion chambers, a telepole, GEM-5s, ARGOSTM-ABs, and SAMs. Material condition of source check devices, device operation, and establishment of source check acceptance ranges were also discussed with calibration lab personnel.

Calibration and Testing. The inspectors reviewed the last two calibration records for selected ARMs, PCMs, PMs, SAMs, and whole body counters. Inspectors reviewed records of survey instrument function/source checks and observed and discussed performance of required checks with calibration lab personnel. Calibration documentation was reviewed for the Caesium-137 (J.L. Shepherd) calibrator used for portable instruments. Calibration stickers on portable survey instruments were reviewed and inspections of storage areas for "ready-to-use" equipment were completed during walkdowns. The inspectors reviewed alarm setpoint values for selected ARMs, PCMs, PMs, SAMs, and effluent monitors. The inspectors also reviewed count room Quality Control records for count room instrumentation.

Problem Identification and Resolution. The inspectors reviewed selected CAP documents in the area of radiological instrumentation. The inspectors evaluated the licensee's ability to identify and resolve issues in accordance with licensee procedures. The inspectors also evaluated the scope of the licensee's internal audit program and reviewed recent assessment results.

Operability and reliability of selected radiation detection instruments were reviewed against details documented in the following: 10 CFR Part 20; NUREG-0737, "Clarification of TMI Action Plan Requirements"; FSAR Chapters 11 and 12; TSs Section 3, and applicable licensee procedures. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

2RS6 Radioactive Gaseous and Liquid Effluent Treatment

a. Inspection Scope

The inspectors performed walkdowns of the U1 RCB, observed airborne monitoring equipment near the equipment hatch, and discussed effluent accounting techniques with licensee staff.

b. Findings

Introduction: The inspectors identified a Green NCV of TS 6.8.1 for the failure to implement procedures for the monitoring, evaluating, and reporting of gaseous effluents in accordance with the methodology in the Off-Site Dose Calculation Manual (ODCM). Specifically, there was no program in place to assess potential effluent releases from containment equipment hatch openings during periods when negative pressure was lost.

Description: During walkdowns of U1 containment, the inspectors observed that a CAM had been located close to the equipment hatch opening, but that there was no low-volume air sampler nearby. Discussions with licensee staff revealed that the CAM was used for real-time indication only, to warn workers inside containment of high airborne conditions, and that the filters inside the CAM were not being routinely counted for activity or gamma-scanned to identify individual radionuclides. Further discussions indicated that no procedures had been created to account for effluent releases from the equipment hatch and no evaluation of outward air flow during times when negative pressure was lost (purge fans de-energized) had been performed. Therefore, during these time periods, even if indications of elevated airborne levels had been received (e.g. a CAM alarm or air samples trending up), the licensee would have been unprepared to identify the potential effluents and evaluate the magnitude of the release to the environment. The inspectors noted that the U1 containment purge fans had been turned off multiple times during SL1-26 and at one point they were off for approximately seven days. The inspectors reviewed air sample results

from various locations inside containment for this period and determined that detectable levels of airborne contamination below the CAM alarm set point (0.3 Derived Air Concentration for Cobalt-60) had occasionally existed. However, the inspectors noted that the licensee maintained the capability to rapidly close the equipment hatch during accident conditions (e.g., fuel assembly drop), thereby limiting the quantity of radioactive material that could be released while containment purge was turned off.

Analysis: The inspectors determined that the failure to implement ODCM methodology to assess potential effluent releases through RCB equipment hatch openings during periods when negative pressure was lost was a performance deficiency. The performance deficiency was more than minor because it was associated with the Public Radiation Safety cornerstone attribute of Programs and Processes and adversely affects the cornerstone objective of ensuring adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation. Without a process in place to evaluate low-level effluent releases from the equipment hatch, effluent reporting might not be accurate. The finding was assessed using the Public Radiation Safety Significance Determination Process (SDP). The finding was determined to be of very low safety significance (Green) because routine (i.e. non-accident) effluents released from an equipment hatch are unlikely to contribute significantly to public dose. Therefore this finding does not represent a substantial failure to implement the effluent program. This finding was assigned a cross-cutting aspect of Operating Experience (P.5) because the licensee failed to recognize the applicability of regulatory issues experienced by other plants regarding equipment hatch monitoring.

Enforcement: Technical Specification 6.8.1 states that written procedures shall be established, implemented and maintained, including procedures for implementation of the ODCM. ODCM sections 2 and 4 contain methodology for monitoring, evaluating, and reporting gaseous effluent releases. Contrary to the above, from March 23 to April 17, 2015, no procedures were implemented for monitoring, evaluating, and reporting gaseous effluent releases from the U1 and U2 equipment hatch openings during periods when negative pressure was lost. The licensee took immediate corrective actions including placement of a low-volume air sampler near the U1 RCB equipment hatch. This violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy. This violation was entered into the licensee's corrective action program as AR 02037629. (NCV 05000335/2015002-01; 05000389/2015002-01, Failure to Assess Potential Gaseous Effluents Released from Containment Equipment Hatch Openings During a Loss of Negative Pressure).

4OA1 Performance Indicator Verification

.1 Barrier Integrity

a. Inspection Scope

The inspectors checked licensee submittals for the performance indicators (PIs) listed below for the period April 1, 2014 through March 31, 2015, to verify the accuracy of the PI data reported during that period. PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," and licensee procedures ADM-25.02, "NRC Performance Indicators," and LI-AA-204-1001, "NRC Performance Indicator Guideline," were used to check the reporting for each data element. The inspectors checked operator logs, plant status reports, condition reports, system health reports, and PI data sheets to verify that the licensee had identified the required data, as applicable. The inspectors interviewed licensee personnel associated with PI data collection, evaluation, and distribution. This inspection constitutes two samples in each PI area.

- Unit 1 RCS Leakage
- Unit 2 RCS Leakage
- Unit 1 RCS Activity
- Unit 2 RCS Activity

b. Findings

No findings were identified.

.2 Radiation Safety

a. Inspection Scope

Occupational Radiation Safety Cornerstone. The inspectors reviewed the Occupational Exposure Control Effectiveness PI results for the Occupational Radiation Safety Cornerstone between April 1, 2014 and March 31, 2015. For the assessment period, the inspectors reviewed ED alarm logs and selected ARs documents related to controls for exposure significant areas and events. The inspectors also reviewed licensee procedural guidance for collecting and documenting PI data. Documents reviewed are listed in the Attachment.

Public Radiation Safety Cornerstone. The inspectors reviewed recent Radiological Control Effluent Release Occurrences PI results and reviewed PI records compiled between April 1, 2014 and March 31, 2015. For the assessment period, the inspectors reviewed cumulative and projected doses to the public contained in liquid and gaseous release permits and CAP documents related to Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual issues. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems

.1 Daily Review

a. Inspection Scope

As required by IP 71152, "Identification and Resolution of Problems," and to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a screening of items entered daily into the licensee's CAP. This review was accomplished by reviewing daily printed summaries of action requests and by reviewing the licensee's electronic AR database. Additionally, RCS unidentified leakage was checked on a daily basis to verify no substantive or unexplained changes.

b. Findings

No findings were identified.

.2 Annual Sample Review: Tracking and Correction of Corrosion Related Issues

a. Inspection Scope

The inspectors selected various equipment corrosion related ARs for review to verify the licensee was appropriately managing corrosion related degradation of equipment. During routine site walkdowns, the inspectors had observed areas of visible corrosion on both safety and non-safety related equipment. The licensee placed the issues identified by the resident inspectors in the CAP. In most cases, the licensee determined that the degraded equipment had already been identified and placed in the CAP. The inspectors reviewed the corrosion related ARs listed in the Attachment of this report in order to determine whether the licensee was properly managing corrosion of plant systems. The ARs documented corrosion on the liquid nitrogen tank supports, fire protection system, a Unit 1 RWT piping spring can support, and conduit containing Unit 2 RWT level transmitter wiring. The inspectors verified the licensee's actions were in accordance with licensee procedures, PI-AA-104-1000, "Corrective Action," and EN-AA-203-1001, "Operability Determinations/Functionality Assessments."

b. Findings and Observations

No findings were identified. The inspectors did not identify any current equipment operability/functionality issues associated with the ARs reviewed. In each case, the licensee properly determined operability/functionality and documented the issue in the CAP. The ARs were closed to work requests (WRs) to repair, recoat, or replace the degraded components as applicable. The inspectors determined that the WRs

and associated WOs, in several cases, had not been scheduled for completion. For example, AR 1948190, Unit 2 RWT pipe spring can corrosion, was identified in March 2014. The AR notes specified that the spring can would be cleaned/coated and the can would be replaced during the next refueling outage (Fall 2015). The inspectors determined that the support corrosion was not mitigated by cleaning/recoating and had not been added to the outage scope. AR 1775136, Unit 2 RWT conduit damaged (corroded), was identified June 2012. The AR recommended repair during the next refueling outage (Fall 2012). The inspectors noted that the work had not been scheduled for completion. The inspectors found similar examples associated with the fire protection system corrosion. As a result of these observations, the inspectors identified a gap in the licensee's program in implementing corrective actions for items that are actively being degraded by corrosion. When corroded equipment is initially identified, the component may be found to be fully functional/operable. If not mitigated, over time, this may not continue to be the case. The licensee agreed that there was vulnerability in the work control process with respect to corrosion. They also recognized that St. Lucie was more vulnerable to corrosion than most nuclear plant sites due to its location on the ocean and the salt air environment. The issue has been added to the CAP as AR 2049280.

.3 Semi-Annual Trend Review:

a. Inspection Scope

As required by IP 71152, "Identification and Resolution of Problems," the inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in section 40A2.1, plant status reviews, plant tours, and licensee trending efforts. The inspectors' review nominally considered the six month period of January 2015 through June 2015, although some examples expanded beyond those dates when the scope of the issue warranted. The inspectors evaluated the licensee's administration of these selected condition reports in accordance with the CAP as specified in licensee procedure PI-AA-104-1000, "Corrective Action." Documents reviewed are listed in the Attachment.

b. Findings and Observations

No findings were identified. The inspectors, as well as the licensee, noted an adverse trend with respect to ICW pipe through-wall leaks. In the last year, there have been three ICW through-wall pipe leaks. As a result of this and other corrosion issues, the licensee has downgraded ICW system health from White to Yellow (marginal) in their system health monitoring program. This issue is in the licensee's CAP as AR 2071027, ICW pipe inspection and repair strategies.

.4 Annual Sample Review: Unit 1 1C Auxiliary Feedwater Pump Failure during Surveillance Testing

a. Inspection Scope

The inspectors reviewed the Unit 1 entry into Technical Specification 3.0.3 during surveillance testing of the AFW system due to the failure of the 1C AFW pump coincident with a failure of 1A AFW pump flow control valve MV-09-9A. The review focused on the investigation of the failure of the 1C AFW pump and the subsequent corrective actions. The inspectors reviewed apparent cause evaluation AR 02042311 describing the failure of the 1C AFW pump, past operability reports AR 02042286 and 02042282 for the 1C AFW and 1A AFW pumps, respectively. The inspectors verified the licensee's actions were in accordance with licensee procedures, PI-AA-104-1000, "Corrective Action," and EN-AA-203-1001, "Operability Determinations/Functionality Assessments."

b. Findings and Observations

On April 21, 2015, the auxiliary feedwater actuation system (AFAS) was initiated during performance of surveillance procedure 1-OSP-69.12, "ESF - 18-Month Surveillance for AFAS - Both Trains." Valve MV-09-9A did not fully open as required and the licensee declared the 1A AFW pump inoperable. As a result of the coincident failure of the 1C AFW pump that tripped during the AFAS signal initiation, the licensee entered Technical Specification 3.0.3 due to having two inoperable AFW pumps. It was determined that the failure of the valve MV-09-9A was due to a torque switch issue that was a condition identified at the time of discovery. The licensee identified a vulnerability with the torque switch and implemented an engineering change as part of the corrective actions to eliminate the vulnerability. All testing of the modified torque switch was completed within 25 hours of the AFAS initiated signal that caused the failure of MV-09-9A. The inspectors did not identify a performance deficiency associated with the MV-09-9A failing to fully open.

The over speed trip of the 1C AFW pump was due to having an incorrect valve lineup which resulted in excessive condensation build up in the B side steam warmup piping. Specifically, valve V08373, 1C AFW pump turbine feed from 1B steam generator warm-up, had been left in the closed position after performing surveillance 1-OSP-09.13, "Steam Supply to AFW Pump Turbine Check Valve Close Test." The work instructions on WO 40296976-01 specified to complete the valve lineup on attachment 10 using procedure 1-PMM-09.04, "Auxiliary Feedwater Turbine Mechanical and Electrical Over speed Trip Tests." It was later determined in the field that opening V08373 using attachment 10 was not required because the valve would be opened using another procedure that was scheduled to be completed on the AFW system. Unbeknownst to the operators, the section of the other procedure that would have opened V08373 had already been completed. The step on attachment 10 to open valve V08373 was marked as not applicable (N/A). Valve V08373 was not opened, and as a result, during the subsequent execution of surveillance procedure 1-OSP-69.12, the C AFW pump over sped and tripped, making the pump inoperable. The incorrect valve lineup was identified and corrected and the pump was tested and

declared operable. It was shown that the period the C pump was inoperable was less than the Technical Specification allowed outage time of 72 hours. That is, from the time the Unit entered Mode 3 when the Technical Specification was applicable, through the time of the over speed trip and up to the time the pump was declared operable, the total pump inoperability time did not exceed the Technical Specification allowed outage time. However, the inspectors identified a violation of NRC requirements that is documented in section 4OA7 of this report.

.5 Annual Sample Review: Unit 2 Steam Generator Feedwater Ring Support Damage Root Cause Analysis

a. Inspection Scope

The NRC's inspection report 05000389/2015001 (ADAMS Accession Number ML15126A323) documented the initial review of condition report (CR) 1951667, "Feeding Supports," and the corresponding root cause evaluation (RCE), Areva CR 2014-2213, "St. Lucie Unit 2 Feedwater Ring Support Damage Root Cause Analysis." At the time report 2015001 was issued, the inspectors were still reviewing the RCE and corrective actions for this annual sample.

On May 28, 2015, the inspectors completed the review of the licensee's evaluations and circumstances associated with the condition evaluated in AR1951667. The inspectors verified that the licensee had planned, and/or implemented, corrective actions commensurate with the significance of the identified issue. The inspectors interviewed plant personnel and evaluated the AR, in accordance with the requirements of the licensee's corrective action process as specified in procedure PI-AA-104-1000, "Corrective Action."

b. Findings and Observations

No findings were identified.

4OA3 Follow-up of Events and Notice of Enforcement Discretion

.1 (Closed) Licensee Event Report 05000389/2014-002-00 and Supplement 01, Unit 2 Shutdown Due to Spurious Closure of Main Feed Isolation Valve (MFIV)

On November 12, 2014 while Unit 2 was at 100 percent power, the reactor was manually tripped by operators in the control room due to lowering 2B steam generator level due to the slow closure of 2B main feedwater isolation valve (MFIV) HCV-09-2B. The manual reactor trip was uncomplicated and all control element assemblies fully inserted. The licensee submitted Licensee Event Report (LER) 05000389/2014002-00 and associated Supplement 01 to the NRC as an event or condition that resulted in manual actuation of the reactor protection system including reactor scram or reactor trip. The licensee attributed the 2B MFIV slow closure to moisture induced shorting between terminals internal to the 2B MFIV relay cover. The moisture was not from water intrusion but due to condensation. Previous inspections of this relay box found no signs of moisture. The root cause was determined to be that there is no

preventative maintenance strategy that can be completed with the unit offline every 18 months that would prevent reoccurrence with the current design. As a temporary measure, portable heaters were placed in front of the relay boxes to keep them warm to prevent condensation. Permanent corrective actions planned include modifying the MFIV closure circuit to disable the non-safety slow closure function. The modification will result in Unit 2 MFIV operation similar to that of Unit 1 that does not have a MFIV slow closure feature. St. Lucie Unit 2 experienced a similar manual trip following a spurious closure of MFIV HCV-09-2A in 2013 (LER 05000389/2013004-00). This LER was closed with an associated corrective action violation in NRC Problem Identification and Resolution Inspection Report 05000335/2014007 and 05000389/2014007 (ADAMS Accession Number ML14080A131). The water intrusion into the HCV-09-2A relay box was through flexible ServAir conduits exposed to rainfall. ServAir conduits had previously been identified as a source of water intrusion. Flexible SEALTITE conduits, that do not have a history of water intrusion, were used in the areas exposed to rain for the HCV-09-2B relay box. The inspectors evaluated the licensee's corrective actions to determine if the actions appropriately addressed the causes that were identified in the licensee's root cause evaluation. The LER was reviewed and no findings or violations of NRC requirements were identified. This LER is closed.

.2 (Closed) Licensee Event Report 05000389/2014-001-00 and Supplement -01, "Unit Shutdown Due to Leak on Safety Injection Tank Vent Valve Piping"

a. Inspection Scope

On June 22, 2014, Unit 2 was operating at 100 percent power, when the licensee received indications of a leak inside primary containment. On July 25, 2014, the licensee confirmed that the leak was on a 1-inch pipe between the emergency core cooling system cold leg injection header and vent valve V3811 rendering the 2B1 safety injection tank (SIT) inoperable. The licensee entered TS limiting condition for operation (LCO) 3.5.1, "Safety Injection Tank," and performed a reactor shutdown in accordance with action b.1. The licensee submitted LER 05000389/2014-001-00 on September 22, 2014. The inspectors' review of the original LER determined that there was a performance deficiency (PD) associated with the installation of vent valve V3811. The regulatory significance of this PD was documented in inspection report 05000335/2014005 and 05000389/2014005 (ADAMS Accession Number ML15030A323). During the review of the original LER, the inspectors raised several questions concerning the selected reporting criteria and the accuracy of the information in the Analysis of the Event and Safety Significance sections of the submittal. The licensee initiated AR 02021204 and performed a condition evaluation to evaluate the basis for additional reportability as one of the corrective actions. Subsequently, the licensee submitted Supplement -01 to the LER which revised the applicable reporting criteria, as well as the Event Description, Analysis of the Event, and Safety Significance sections of the LER. The inspectors evaluated the accuracy of the information submitted in the LER supplement and the licensee's conformance with regulatory requirements. The inspectors also evaluated the licensee's condition evaluation and corrective actions to determine if the actions appropriately addressed the issues with the original LER. The inspectors determined that the LER supplement

was complete and accurate and the corrective actions were appropriate to address the reportability issue. Two violations of regulatory requirements are documented below. The LER and its supplement are closed.

b. Findings

(i) Failure to Comply with Technical Specification 3.0.3

Introduction: The NRC identified a Green non-cited violation (NCV) of Technical Specification (TS) 3.0.3 resulting from the licensee's failure to perform an adequate operability evaluation in accordance with the requirements of EN-AA-203-1001, "Operability Determinations / Functional Assessments."

Description: The pipe riser for V3811 is ASME Class 1 piping located upstream of the final ECCS check valve (V3237) prior to connecting with the RCS cold leg downstream of reactor coolant pump (RCP) 2B1. The leak was located on the 1-inch pipe riser that connects V3811 to the 2B1 SIT Safety Injection line.

On July 25, 2014, the licensee verified a leak on the 1-inch pipe riser for vent valve V3811 and performed an Immediate Operability Determination (IOD). After completion of the IOD, at 11:29 a.m., the licensee declared the 2B1 SIT inoperable due to the through-wall leak on the V3811 pipe riser and entered Action Statement b.1 for TS LCO 3.5.1, "Safety Injection Tank." The action statement required restoration of the inoperable SIT to operable status within 24 hours; otherwise be in at least Hot Standby within the next six hours and in Hot Shutdown within the following six hours. At 12:07 a.m., on July 26, 2014, the licensee initiated a reactor shutdown of Unit 2, achieved Hot Standby at 4:14 a.m., and reached Hot Shutdown conditions at 10:00 a.m., on July 26, 2014. The plant achieved Cold Shutdown at 8:42 p.m., on July 26, 2014.

During the LER review, the inspectors noted that the licensee's IOD focused on the small observed leak rate (approximately 0.18 gpm) from the pipe riser for V3811 and its close proximity to the 2B1 SIT. The basis for declaring the 2B1 SIT inoperable was due to the potential for the leak to drain the 2B1 SIT. However, the IOD failed to address the TS Surveillance Requirement (SR) 4.0.5, which required the Class 1 piping to meet the requirements of Section XI of the ASME Code. Upon discovery of the through-wall leak, the Class 1 piping and associated components should have been declared inoperable since the piping was no longer in compliance with Section XI and TS SR 4.0.5. Since the pipe riser communicates with the 2B1 Safety Injection line, the operability of all systems using the 2B1 Safety Injection line would be affected. The IOD failed to consider that the 2B1 Safety Injection line was common to both trains of the high pressure safety injection (HPSI) system and the "B" train of the low pressure safety injection (LPSI) system as well as the 2B1 SIT, which rendered these ECCS subsystems inoperable. As a result, the licensee failed to enter LCO 3.5.2, "ECCS Subsystems." Because none of the action statements associated with LCO 3.5.2 addressed the condition where two trains of an ECCS subsystem were inoperable, entry into LCO 3.0.3 was required. LCO 3.0.3 stated that when an LCO was not met, except as provided in the associated action statements, within one hour

action shall be taken to place the unit in a mode in which the specification does not apply. This requirement could be met by placing the unit, as applicable, in at least Hot Standby within the next six hours, and at least Hot Shutdown within the following six hours, and at least Cold Shutdown within the subsequent 24 hours. Since TS LCO 3.5.2 was applicable during Hot Standby conditions, the plant needed to reach Hot Shutdown conditions within 13 hours of entry into TS LCO 3.0.3. However, the licensee did not initiate a reactor shutdown for more than 12 hours and did not reach Hot Shutdown conditions until over 24 hours had elapsed from the time of discovery.

Analysis: The licensee's failure to perform an adequate operability evaluation in accordance with the requirements of EN-AA-203-1001, "Operability Determinations / Functional Assessments," was a performance deficiency. Specifically, the licensee failed to identify in an IOD that through-wall leakage on the Class 1 pipe riser for vent valve V3811 rendered both ECCS subsystems inoperable and required entry into TS LCO 3.0.3 and performance of the applicable action statements. The performance deficiency was more than minor because it was associated with the equipment reliability attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined the finding was associated with the mitigating systems cornerstone and screened it utilizing IMC 0609 Attachment 4, "Initial Characterization of Findings," and IMC 0609 Appendix A, "The Significance Determination Process for Findings at Power," and determined a detailed risk evaluation was necessary because the finding represented a loss of function on the HPSI system.

Consequently the inspectors forwarded the issue to a Senior Reactor Analyst (SRA) who performed a detailed risk evaluation of the performance deficiency. The SRA used the St. Lucie Unit 2 SPAR model, and made the following adjustments: 1) The exposure time was set equal to 11 hours which represented the time in excess of the 13 hours allowed by Technical Specification 3.0.3; 2) the basic events for the common cause failure of both High Pressure Safety Injection Pumps and the Reactor Coolant System check valves failing to open were set equal to 1.0; and 3) no adjustment was made to the likelihood of small break loss of coolant event (or any other sequences which were evaluated) because the V-3811 valve was upstream of the RCS check valve and could not cause an initiating event itself. The SRA concluded that the issue had a change in core damage frequency of $7E-7$, which was of very low risk significance (Green). External events contributions did not increase the risk above the green/white threshold of $1E-6$ and large early release frequency contributions from steam generator tube rupture sequences remained below the $1E-7$ threshold.

The inspectors determined the finding was related to the cross-cutting aspect of Evaluation (P.2) of the Problem Identification and Resolution area because the licensee's failure to thoroughly evaluate the issue commensurate with its safety significance led to the licensee failing to perform an appropriate operability evaluation.

Enforcement: TS LCO 3.0.3 states in part, that when an LCO is not met, except as provided in the associated action statements, within one hour, action shall be taken to place the unit in a mode in which the specification does not apply by placing it, as applicable, in at least Hot Standby within the next six hours, and Hot Shutdown within the following six hours. Contrary to the above, on July 25, 2015, the licensee failed to initiate a reactor shutdown for more than 12 hours, and did not reach Hot Shutdown conditions on the plant until over 24 hours had elapsed from the time a condition was discovered requiring a plant shutdown in accordance with TS 3.0.3. This violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy. The violation was entered into the licensee's corrective action program as AR 02021204. (NCV 05000389/2015002-02, Failure to Comply with Technical Specification 3.0.3)

(ii) Problem with LER Reporting

Introduction: The NRC identified multiple NCVs of regulatory requirements that it has decided to group into a problem associated with the licensee's reporting program. This problem includes violations of 10 CFR 50.73, "Licensee Event Report System," for the licensee's failure to address all the applicable reporting criteria and 10 CFR 50.9, "Completeness and Accuracy of Information," for the licensee's failure to submit complete and accurate information to the Commission, as part of LER 050000389/2014-001 dated September 22, 2014 .

Description: On July 26, 2015, Unit 2 was shut down due to a through-wall leak on the pipe riser to SIT 2B1 vent valve V3811. Following the shutdown, the licensee removed the degraded piping and sent it to a testing laboratory for failure analysis. On September 8, 2014, the licensee received the results of the failure analysis for the cracked pipe riser, which indicated that the vent line piping exhibited through-wall cracking of approximately 225° with partial wall cracking of approximately 67.5° of the remaining circumference. The failure analysis indicated the flaw was much more significant than the licensee originally believed; however, the licensee did not incorporate this information into the LER when developing the "Analysis of Event" and "Safety Significance" sections. As such, the licensee focused on the relatively small leak rate (approximately 0.18 gpm) and relied on the initial assessment in the IOD, which was based solely on the engineering judgement of the on-shift senior reactor operator. On September 22, 2014, the licensee submitted the initial licensee event report (LER 05000389/2014-001-00), for the through-wall leak on the pipe riser for vent valve V3811. The inspectors determined the event resulted in both trains of the HPSI system being inoperable and unable to perform its safety function as well as placing the plant in an unanalyzed condition. The inspectors identified that the following reporting criteria on NRC Form 366 were also applicable and should have been checked: 1) 10 CFR 50.73(a)(2)(v)(D), Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate an accident; 2) 10 CFR 50.73(a)(2)(ii)(B), An event or condition that resulted in the nuclear power plant being in an unanalyzed condition that significantly degraded plant safety; and 3) 10 CFR 50.73(a)(2)(vii)(B), Any event where a single cause or condition caused at least one independent train or channel to

become inoperable in multiple systems or two independent trains or channels to become inoperable in a single system designed to remove residual heat.

In addition, the original LER stated that, "The SIT discharge and the high pressure safety injection flow rates remained capable of satisfying their design requirements during loss of coolant accident (LOCA) events." It also stated, "... the HPSI system would have been able to deliver sufficient flow to the reactor core, under accident conditions, to meet its safety-related functions."

Following inspector questioning it was determined that insufficient information existed to support those assertions. Following additional engineering analysis and inspection, the inspectors concluded enough evidence existed to determine that both of these statements were erroneous and the systems would not be capable of satisfying their design requirements nor would they meet their safety-related functions.

Analysis: The licensee's failure to identify all applicable reporting criteria on LER 05000389/2014-001-00, was a violation 10 CFR 50.73(d), "Submission of Reports." The violation was material to the NRC because the failure to include the appropriate reporting criteria had the potential to impede or impact the regulatory process and therefore is subject to traditional enforcement as described in the NRC Enforcement Policy, dated February 4, 2015. The inspectors used the examples provided in Section 6.9, "Inaccurate and Incomplete Information or Failure to Make a Required Report," of the NRC Enforcement Policy, and concluded that the violation was a Severity Level (SL) IV violation based on example d.10, which states, "A failure to identify all applicable reporting codes on a Licensee Event Report that may impact the completeness or accuracy of other information (e.g., performance indicator data) submitted to the NRC."

The inspectors determined that the failure to provide complete and accurate information to the NRC was contrary to the requirements of 10 CFR 50.9, and was a violation. Because violations of 10 CFR 50.9 are considered to be violations that potentially impede or impact the regulatory process, they are dispositioned using the NRC Enforcement Policy. The inspector determined this issue was more than minor because the information was material to the NRC and impacted the regulatory process in that, the information directly contributed to an inaccurate risk characterization of a previous violation. The inspectors used the examples provided in Section 6.9, "Inaccurate and Incomplete Information or Failure to Make a Required Report," of the NRC Enforcement Policy, dated February 4, 2015, and concluded that the violation was a SL IV because evaluation of the effect that the inaccurate or incomplete information had on the disposition of the previous violation did not result in a change of the color of the finding. Such a change would have resulted in a SL III violation, therefore, this violation was determined to be SL IV.

Because these violations were associated with traditional enforcement, a cross-cutting aspect was not assigned to this issue.

Enforcement: As required, in part, by 10 CFR 50.73(d), "Submission of Reports," Licensee Event Reports must be prepared on NRC Form 366. Section 11 of NRC Form 366 directs the licensee to check all of the reporting criteria that apply to the event. Contrary to the above, on September 22, 2014, the licensee's original submittal of LER 050000389/2014-001 failed to check all of the reporting criteria that applied to the event. Specifically, the following reporting criteria were applicable to the leaking vent valve piping but were not checked: 1) 10 CFR 50.73(a)(2)(v)(D), Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate an accident; 2) 10 CFR 50.73(a)(2)(ii)(B), An event or condition that resulted in the nuclear power plant being in an unanalyzed condition that significantly degraded plant safety; and 3) 10 CFR 50.73(a)(2)(vii)(B), Any event where a single cause or condition caused at least one independent train or channel to become inoperable in multiple systems or two independent trains or channels to become inoperable in a single system designed to remove residual heat.

As required, in part, by 10 CFR 50.9, "Completeness and accuracy of information," information provided to the Commission by an applicant for a license or by a licensee or information required by statute or by the Commission's regulations, orders, or license conditions to be maintained by the applicant or the licensee shall be complete and accurate in all material respects. Contrary to the above, on September 22, 2014, the original submittal of LER 050000389/2014-001 was provided to the Commission without being complete and accurate in all material respects. Specifically, the licensee made statements asserting the capabilities of degraded ECCS systems to meet their design requirements during accident conditions which were determined to be neither complete nor accurate.

This issue is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy. These violations were entered into the licensee's corrective action program as AR 02021204. The licensee has submitted an updated LER. (NCV 05000389/2015002-03, Problem with LER Reporting)

4OA5 Other Activities

.1 Update to Finding/Violation

NCV 05000389/2014005-01, Failure to Follow Work Instructions during Installation of Unit 2 Vent Valve V3811, was dispositioned as a Green violation in inspection report ST. LUCIE PLANT - NRC INTEGRATED INSPECTION REPORT 05000335/2014005 AND 05000389/2014005 (ADAMS Accession Number ML15030A323). Although the final significance determination was correct it contained some erroneous information in the assessment of the finding. Refer to Section 4OA3 of this report for discussion on the regulatory significance of issue. The appropriate risk assessment of the finding is described below.

A Senior Reactor Analyst (SRA) performed a detailed risk evaluation of the performance deficiency. The SRA used the St. Lucie Unit 2 SPAR model, and made the following adjustments: 1) The exposure time was set equal to 101 days which

represented the time the affected weld was in service; 2) the basic event for a single High Pressure Safety Injection Pump was set equal to 1.0 which approximated that under certain Loss of Coolant Accident (LOCA) scenarios, core damage would occur if both pumps were not available; 3) an apportionment factor was applied to represent the LOCA break sizes of concern, i.e., greater than 2.5" and less than 3.5". The SRA concluded that the issue had a change in core damage frequency (CDF) of 3E-7, which was of very low risk significance (Green). External events contributions did not increase the risk above the Green/White threshold of 1E-6 and Large Early Release Frequency (LERF) contributions from steam generator tube rupture sequences remained below the 1E-7 threshold."

.2 Follow-up Inspection for a Severity Level III Traditional Enforcement Violation

a. Inspection Scope

The inspectors performed a follow-up inspection for the SL III Traditional Enforcement violation (EA-14-131) discussed in letter dated November 19, 2014 (ADAMS Accession Number ML14323A786) associated with Completeness and Accuracy of Information, regarding the safety impact of Unit 1 and Unit 2 degraded and missing flood barriers. The NRC staff performed this follow up inspection in accordance with Inspection Procedure 92702, "Follow-up on Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, Confirmatory Orders, and Alternate Dispute Resolution Confirmatory Orders."

The inspection objectives were to verify the licensee's actions to provide assurance that (as appropriate):

- adequate corrective actions have been implemented for the traditional enforcement violations;
- the root causes of these enforcement actions have been identified;
- that generic implications have been addressed; and
- that the licensee's programs and practices have been appropriately enhanced to prevent recurrence.

The inspector reviewed the licensee's RCAs associated with the violations in addition to other evaluations conducted in support of and as a result of the RCA. The inspectors reviewed corrective actions that were taken and implemented to address the identified causes. The inspectors verified that corrective actions planned and implemented were appropriate to address the causes and prevent recurrence. Documents reviewed are listed in the Attachment.

b. Findings and Observations

No findings were identified.

The inspectors concluded that the licensee completed an adequate evaluation of the issue and used a systematic method to identify the causes of the Traditional

Enforcement violation. The licensee conducted an investigation into the cause of the violation and conducted interviews with relevant station personnel and contractors. The inspectors determined that the station adequately assessed the extent of condition and extent of cause of the violations. The inspectors concluded that the licensee's actions were sufficient to address the identified cause and that the completed and planned corrective actions were appropriate to address recurrence.

4OA6 Meetings

Exit Meeting Summary

The resident inspectors presented the inspection results to Mr. Costanzo and other members of licensee management on July 17, 2015. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary information. The licensee did not identify any proprietary information.

4OA7 Licensee-Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are violations of NRC requirements which meet the criteria of the NRC Enforcement Policy, for being dispositioned as NCVs.

- .1 The St. Lucie Unit 1 Technical Specification 6.8.1(a) states, in part, that the licensee shall establish, implement, and maintain the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Rev. 2, 1978. Section 9(a) of Appendix A to Regulatory Guide 1.33, Rev.2, states, in part, that maintenance that can affect the quality of safety-related equipment should be properly preplanned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances. Contrary to the above requirements, on April 12, 2015, the licensee did not implement adequate maintenance instructions that were appropriate to the circumstances as specified by WO 40296976 to ensure that the 1C AFW pump was correctly aligned and returned to service. Specifically, the work order instructions required Attachment 10 of procedure 1-PMM-09.04, "Auxiliary Feedwater Turbine Mechanical and Electrical Over speed Trip Tests," to be completed as part of the pump restoration. Attachment 10 of procedure 1-PMM-09.04 included a step to position valve V08385 to the open position, and this step was not completed. The licensee entered this issue into the CAP as AR 02042311. The failure to adequately implement the work instructions in WO 40296976 requiring completion of Attachment 10 of procedure 1-PMM-09.04, to ensure the valve was correctly aligned was a performance deficiency. The performance deficiency was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and adversely impacted the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events. The finding was of very low safety significance (Green) because the inspector answered "No" to all of the associated Mitigating Systems screening questions within IMC 0609,

Attachment 4, Initial Characterization of Findings. Because this violation was of very low safety significance and was entered CAP, this violation is being treated as a NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy.

- .2 Technical Specification 6.12.1 requires an area with dose rates greater than 100 millirem per hour (mrem/hr) at 30 centimeters (cm) to be barricaded and conspicuously posted as an HRA. Contrary to this, on January 31, 2015, the licensee identified dose rates in excess of 100 mrem/hr at 30 cm on a five gallon bucket containing drain hoses in a Radiation Area within the U2 Pipe Tunnel, which was not barricaded or posted as a High Radiation Area (HRA). A survey of the bucket identified dose rates of up to 120 mrem/hr at 30 cm. Immediate corrective actions included relocating the bucket to a locked location in a designated HRA. This condition was documented in AR 02022248. This violation was evaluated using the guidance in IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," and was determined to be of very low safety significance (Green) because there was no substantial potential for overexposure and the licensee's ability to assess dose was not compromised. Because this violation was of very low safety significance and was entered CAP, this violation is being treated as a NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel:

G. Alexander, Supervisor Fleet Programs Engineering
M. Baughman, Training Manager
D. Cecchet, Licensing Engineer
B. Coffey, Plant General Manager
C. Costanzo, Site Vice President
K. Frehafer, Licensing Engineer
R. Gil, Steam Generator Program Manager
D. Griffin, Boric Acid Program Owner
M. Haskin, Projects Site Manager
M. Jones, Engineering Director
E. Katzman, Licensing Manager
C. Martin, Health Physics Manager
R. McDaniel, Fire Protection Supervisor
K. Mooring, ALARA Analyst, RP
J. Piazza, Maintenance Director
P. Polfleit, Corporate Emergency Preparedness Manager
G. Pry, Acting Plant General Manager
P. Rasmus, Operations Director
B. Robinson, Supervisor – Technical, RP
R. Sciscente, Licensing Engineer
M. Snyder, Nuclear Quality Assurance Manager
C. Workman, Security Manager

NRC personnel:

T. Gody, Director, Division of Reactor Safety
T. Morrissey, Sr. Resident Inspector
J. Munday, Director, Division of Reactor Projects
R. Reyes, Resident Inspector
L. Suggs, Branch Chief, Branch 3, Division of Reactor Projects
L. Wert, Deputy Regional Administrator for Operations, Region 2

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened and Closed

| | | |
|--------------------------|-------|--|
| 05000335, 389/2015002-01 | NCV | Failure to Assess Potential Gaseous Effluents Released from Containment Equipment Hatch Openings during a Loss of Negative Pressure (Section 2RS6) |
| 05000389/2015002-02 | NCV | Failure to Comply with Technical Specification 3.0.3 (Section 4OA3.2.i) |
| 05000389/2015002-03 | SL IV | Problem with LER Reporting (Section 4OA3.2.ii) |

Closed

| | | |
|--------------------------|-----|--|
| 05000389/2014-002-00,-01 | LER | Unit 2 Shutdown Due to Spurious Closure of Main Feed Isolation Valve (MFIV) (Section 4OA3.1) |
| 05000389/2014-001-00,-01 | LER | Unit Shutdown Due to Leak on Safety Injection Tank Vent Valve Piping (Section 4OA3.2) |
| 05000335/2015007-03 | URI | Adequacy of 10 CFR 50.59 Screening Performed for Unit 1 SGBD Maximum Flow Evaluation Test (Section 1R17) |

Discussed

| | | |
|--------------------------|-----|--|
| 05000389/2014005-01 | NCV | Failure to Follow Work Instructions during Installation of Unit 2 Vent Valve V3811 (Section 4OA5.1) |
| 05000335, 389/2015007-02 | NCV | Failure to Establish Appropriate Procedural Limitations to Prevent Exceeding Non-LOCA Event Analysis Assumptions for Steam Generator Blowdown Flow Rate (Section 1R17) |

LIST OF DOCUMENTS REVIEWED

Section 1R01 Adverse Weather Protection

0-AOP-53.02, Low Voltage Switchyard Voltage
0-AOP-53.03, High Voltage Switchyard Voltage
ADM-16.01, PSL Switch Yard Access / Work Control
AR 2047934, Engineering guidance to mitigate the effects of local intense precipitation flooding
OP-AA-102-1002, Seasonal Readiness
WM-AA-200, Work Management Process Overview

Section 1R04 Equipment Alignment

1-NOP-09.11, Auxiliary Feedwater System Initial Alignment
2-NOP-03.11, High Pressure Safety Injection Initial Alignment
2-NOP-03.21, Low Pressure Safety Injection Initial Alignment
2-NOP-07.11, Refueling Water Tank Initial Alignment
2-NOP-07.41, Containment Spray System Initial
2-NOP-59.01A, 2A Emergency Diesel Generator Standby Alignment
2-NOP-59.01B, 1B Emergency Diesel Generator Standby Alignment
8770-G-079 Sheet 1, Flow Diagram Main Steam System
Drawing 8770-G-080 Sheet 4, Flow Diagram Feedwater & Condensate Systems

Section 1R05 Fire Protection

ADM-0005728, Fire Protection Training, Qualification and Requalification
ADM-1800022, Fire Protection Plan
AP-1-1800023, Unit 1 Fire Fighting Strategies
AP-2-1800023, Unit 2 Fire Fighting Strategies
RP-SL-106-1004, Inspection and Maintenance of Respiratory Protection Equipment

Section 1R08 Inservice Inspection Activities

Procedures

ADM-29.03, Boric Acid Corrosion Control Program, Rev. 12
NDE-3.3, Liquid Penetrant Examination Solvent Removable Visible Dye Technique, Rev. 14
NDE-4.15, Visual Examination (VE) ASME Section XI Code Case N-722-1 and N-729-1, Rev. 4
NDE-4.3, Visual Examination VT-3, Rev. 12
NDE-5.39, Fully Encoded Phased Array Examination of Dissimilar Meta Piping Welds, Rev. 0

Drawings

01-002-B, Reactor Vessel Closure Head, Rev. 6

Condition Reports

AR 01908447 – 2013 BAC FSA AFI Revise Site BACCP for Inaccessible Areas
AR 02037383 – VT-2 Certification Requirement in the BACC Program
AR 02037617 – NRC BACC Program Observations
AR 02037745 – U/1 ISI NRC Inspector Coordination

Self-Assessments

Certificate of Calibration: Thermometer SN 284637, Light Meter SN 070704768

Certificate of Conformance: Spotcheck Penetrant Batch 08K19K, Spotcheck Developer Batch 08F03K, Spotcheck Cleaner Batch 10J02K

Certificate of NDE Personnel Qualification for Examiners: D. Griffin, S. Duvall, T. Blechinger, M. Orth, T. Coburn

Focused Self-Assessment 01837244, Boric Acid Corrosion Control Program

Liquid Penetrant Examination Data Sheet No. 3.3-001

Visual Examination Record No. 4.3-010

Section 1R11 Licensed Operator Regualification Program and Licensed Operator Performance

1-GOP-302, Reactor Plant Startup – Mode 3 to Mode 2

1-PTP-81, Reload Startup Physics Testing

1-PTP-91, Unit 1 Initial Criticality Following Refueling

2-EOP-01, Standard Post Trip Actions

2-EOP-02, Reactor Trip Recovery

2-GOP-123, Turbine Shutdown - Full Load to Zero Load

2-GOP-201, Reactor Plant Startup – Mode 2 to Mode 1

2-GOP-305, Reactor Plant Cooldown – Hot Standby to Cold Shutdown

EPIP-01, Classification of Emergencies

EPIP-02, Duties and Responsibilities of the Emergency Coordinator.

Section 1R12 Maintenance Effectiveness

ER-AA-100-2002, Maintenance Rule Program Administration

SCEG-004, Guideline for Maintenance Rule Scoping, Risk Significant Determination, and Expert Panel Activities

Section 1R13 Maintenance Risk Assessments and Emergent Work Control

ADM-09.23, Shutdown Safety Assessment and Controls

ADM-17.16, Implementation of the Configuration Risk Management Program

OP-AA-104-1007, Online Aggregate Risk

WCG-016, Online Work Management

Section 1R20 Refueling and Other Outage Activities

1-GMM-01.02A, Reactor Vessel Maintenance – Sequence of Operation Component Removal

1-GMM-68.02, Emergency Closure of Containment Penetrations, Personnel Hatch, and Equipment Hatches

1-GOP-201, Reactor Plant Startup - Mode 2 To Mode 1

1-GOP-303, Reactor Plant Heatup - Mode 3 <1750 To Mode 3 >1750

1-GOP-502, Data Sheets Required For Heatup

1-GOP-504, Reactor Plant Heatup - Mode 5 to Mode 4

1-NOP-01.03, Draining RCS

1-NOP-03.05, Shutdown Cooling

2-GOP-302, Reactor Plant Startup - Mode 3 To Mode 2

ADM-09.23, Shutdown Safety Assessment

AP-0010145, Shutdown Cooling Controls

Section 1R22 Surveillance Testing

ADM-29.02, ASME Code Testing of Pumps and Valves

Section 2RS1: Radiological Hazard Assessment and Exposure Controls

Procedures, Guidance Documents, and Manuals

HPP-41, Movement of Material and Equipment, Rev. No. 33
 PI-AA-104-1000, Corrective Action, Rev. 2
 RP-AA-103-1002, High Radiation Area Controls, Rev. 2
 RP-AA-107-1003, Unconditional and Conditional Release of Material, Rev. 1
 RP-SL-103-2006, Radiation Protection Outage Activities, Rev. 7

Records and Data Reviewed

2013 St. Lucie Dry Active Waste 10 CFR 61 Analysis
 Air Sample Data Sheet 152-0022, U2 RCB 23'
 Confirmation of Annual NSTS Inventory Reconciliation, 01/20/15
 Radiological Survey PSL-M-20110517-7, Spent Resin Tank Survey
 Radiological Survey PSL-M-20111203-24, U1 RCB Regen Hx
 Radiological Survey PSL-M-20131009-3, U1 RCB Regen Hx
 Radiological Survey PSL-M-20131012-5, U1 "A" S/G Hand Holes
 Radiological Survey PSL-M-20140625-10, U2 RCB at 100% Power 62'
 Radiological Survey PSL-M-20140625-9, U2 RCB at 100% Power 45'
 Radiological Survey PSL-M-20141002-3, Spent Resin Tank Survey
 Radiological Survey PSL-M-20150116-6, U2 RAB/Pipe Tunnel/-0.5', 01/16/15
 Radiological Survey PSL-M-20150131-1, U2 RAB/Pipe Tunnel/-0.5', 01/31/15
 Radiological Survey PSL-M-20150201-9, U1 RAB Radiochemistry Count Lab
 Radiological Survey PSL-M-20150303-10, ISFSI Monthly Routine
 Radiological Survey PSL-M-20150329-20, Temp Rx Head bullpen
 Radiological Survey PSL-M-20150330-5, U1 "A" S/G Hand Holes
 Radiological Survey PSL-M-20150408-4, U1 RAB Radiochemistry Count Lab
 Radiological Survey PSL-M-20150412-14, U1 RCB 62'
 Radiological Survey PSL-M-20150413-15, U1 RAB
 Radiological Survey PSL-M-20150414-2, U1 RCB 62'
 RWP 14-0119, LHRA Inspections/Surveys/Shielding/Valve Alignments
 RWP 15-0003, Mechanical Maintenance Activities: Entry into RCA/RAB for Routine Work and Training, Rev. 01
 RWP 15-0011, Chemistry Dept Sampling and Analysis
 RWP 15-0148, Unity 1 (Pre-Outage) Vent and Drain Hoses/Fittings/Flanges (Install/Remove), Rev. 00
 RWP 15-1321, S/G Secondary Side Activities
 RWP 15-1339, U1 RCB LHRA, Regen Hx
 RWP 15-3805, U2 RCB 2B2 SIT Leak Inspection
 Source Leak Test and Inventory Form, source numbers THP-136, THP-137, THP-36, THP-62, THP-06-25, THP-06-26, 01/15/15 and 07/15/14

Corrective Action Program (CAP) Documents

2013 10CFR20 Annual Programmatic Assessment
 AR 01882087
 AR 01909757
 AR 02004376
 AR 02021402
 AR 02022248

Section 2RS2: ALARAProcedures, Guidance Documents, and Manuals

HPP-1, Preparing Radiation Work Permits, Rev. No. 38
 PI-AA-104-1000, Corrective Action, Rev. No. 2
 RP-AA-104, ALARA Program, Rev. No. 3
 RP-AA-104-1000, ALARA Implementing Procedure, Rev. No. 5
 RPAA-104-2003, Five Year Alara Plan Template, Rev. No. 1
 RP-SL-103-1003, ISFSI Radiological Controls, Rev. No. 4
 RP-SL-103-2003, Crudburst Monitoring Requirements, Rev. No. 2
 RP-SL-104-2008, Portable Shielding, Rev. No. 3

Records and Data

2014 and 2015 Proposed Online/Outage Dose Goals, Undated 5-Year ALARA Plan 2011-2015, Rev. Date 09/17/14
 Reactor Head Lift/Set, Rev. 0;
 Upper Guide Structure, Rev. 0
 RWP No. 15-1008, Reactor Head (Remove/Replace), Rev. 00
 RWP No. 15-1042, UGS: Remove to Lower Cavity/Replace in RX Vessel, Rev. 00
 RWP No. 15-1427, '1A2' RCP Rotating Assembly: Remove/Replace, All Support Work, Rev. 00
 RWP No. 15-1431, (License Renewal) Destructive Exams: Piping cut outs for forensic analysis, Rev. 00
 Temporary Shielding Permit Form (TSPF), TSP Nos.: 15-01-016, U1 RCB 23' Inside Let Down Cubicle, 06/19/14; 15-01-027, U1 RCB 62' Inside PZR Cubicle South West and North West Corners, 06/19/14; 15-01-036 and 15-01-037, U1 RCB and 1A2 RCP Pump Shroud, 06/19/14; 15-01-042 and 15-01-047, U1 RAB-10' 1B LPSI, 01/22/15; and 15-01-056, U1 RAB-10' 1B LPSI, 03/27/15
 SL1-25 Refueling Outage ALARA Report, 12/09/13
 Updated CRUD Burst Clean-Up Effectiveness Review, 03/27/14
 SL2-21 Refueling Outage ALARA Report, 06/17/14
 FPL, PSL Unit-1, Radiation Protection Plans, SL1-26: 1A2 RCP Motor and Pump Project, Rev. 0;
 U1 and U2 Radiological Hot Spot Log, March 2015
 ALARA Review Board Meeting Minutes for 12/17/14, 03/12/15 and 03/17/15
 Daily Outage RWP Report, SL1-26, 04/16/15
 SL1-26 Daily ALARA Report, 04/16/15

CAP Documents

AR 01911753
 AR 01915629
 AR 01915630
 AR 01947122
 AR 01950607
 Focused Self-Assessment No. 1927754, ALARA Program Focused Self Assessment, SAR No. 1927754-7, 05/15/14

Section 2RS3: In-Plant Airborne Radioactivity Control and MitigationProcedures, Guidance Documents, and Manuals

HPP-1, Preparing Radiation Work Permits. Rev. 38
 HPP-37, Portable High Efficiency Particulate Air (HEPA) Filtration Ventilation Systems in the Radiation Controlled Area, Rev. 9

RP-SL-102-2000, Air Sampling, Rev. 2
 RP-SL-105-1005, Emergency Equipment, Rev. 1
 RP-SL-106-1001, Set-up and Inspection of Breathing Air Systems, Rev. 4
 RP-SL-106-1002, Respiratory Protection Manual, Rev. 1
 RP-SL-106-1003, Use of Respiratory Protective Equipment, Rev. 0
 RP-SL-106-1004, Inspection and Maintenance of Respiratory Protection Equipment, Rev. 1

Records and Data

Air Sample Data Sheet 151-0167, U1 RCB 62' Temp Rx Head bullpen
 Air Sample Data Sheet 151-0178, U1 RCB 62' Temp Rx Head bullpen
 Compressor, 10/01/14, Paint House Electric, 01/02/15, U2 RAB Valve 18517, 10/01/14, U2 RAB Valve SH18517, 10/01/14, F5 Backup Sullair750, 10/01/14, F5 Backup Pad, 06/06/13, U1 RAB Valve SH18515, 10/01/14, Paint Shop, 10/01/14
 Monthly SCBA/Cylinder Inspection and Inventory, 3/3/15
 PSL-HEPA-005, Unitech Services Group Filter Particle Test Results, 03/02/15
 PSL-HEPA-009, Unitech Services Group Filter Particle Test Results, 03/02/15
 Scott PosiChek3 Visual/Functional Test Results, Scott Air-Pak 2.2 SCBA #44, 08/13/10
 Scott PosiChek3 Visual/Functional Test Results, Scott Air-Pak 2.2 SCBA #0424, 07/30/14
 Scott PosiChek3 Visual/Functional Test Results, Scott Air-Pak 2.2 SCBA #09, 08/13/10
 Scott PosiChek3 Visual/Functional Test Results, Scott Air-Pak 2.2 SCBA #0353, 07/30/14
 TEDE-ALARA Assessment, RWP No. 15-0534-01, Clean and inspect RWST, 03/05/15
 TEDE-ALARA Assessment, RWP No. 15-1317-01, Lower Cavity Survey Recon, 03/05/15
 TEDE-ALARA Assessment, RWP No. 15-1431-01, License Renewal Destructive Exams; Piping cut outs for Forensic Analysis, 04/02/2015
 TRI Air Testing, Inc., Laboratory Report, Compress Air/Gas Quality Testing results: Firehouse Worker Respirator/Radworker Qualifications, Maintenance, Radiation Protection, and Operations

CAP Documents

AR 1909757
 AR 1909769
 AR 1911855
 AR 1942899
 Quick Hit Assessment, Air Sampling Program, Dated 11/11/13

Section 2RS4: Occupational Dose Assessment

Procedures, Guidance Documents, and Manuals

HP-116, Electronic Personnel Dosimeter Program, Rev. No. 24
 HPP-10, Multichannel Analyzers, Rev. No. 23
 HPP-30, Personnel Monitoring, Rev. No. 55
 PI-AA-104-1000, Corrective Action, Rev. No. 2
 RP-AA-101, Personnel Monitoring Program, Rev. No. 0
 RP-AA-101-1001, Personnel Monitoring Device Issue, Rev. No. 0
 RP-AA-101-2004, Method for Monitoring and Assigning Effective Dose Equivalent (EDE) for High Dose Gradient Work, Rev. No. 3
 RP-SL-101-1001, Whole Body Counting, Rev. No. 0
 RP-SL-101-1004, DAC-Hour Assessment, Rev. No. 2
 RP-SL-101-1008, Multibadging, Rev. No. 3
 RP-SL-101-1011, Skin Dose Assessment, Rev. No. 0

Records and Data

Air Sample Data Summary Sheet, Air Sample No. 151-0245, U1 RCB 18', 04/03/15 (18'), RP Support LT-1186 if Required, Rev. 00
 Entry Log (Page 1 of 1), RP-SL-101-1008-F03, Form Rev. 0, Pack Nos: 4737 and 4738, 04/01/15
 Form HPP-10.1, Gamma Isotopic Analysis Form (Page 1 of 1), HPP-10, Multichannel Analyzers, Rev. No. 23, 04/13/15
 GEM-5 Portal Monitor and ARGOS-5AB Contamination Monitor Sensitivity Study, Form HP-100, Technical Basis Document, HP-100-022814, Rev. 1, 09/17/14
 Health Physics Form HPP-30.14, Entry Log Sheet, (Page 1 of 1), HPP-30, Personnel Monitoring, Rev. No. 55, 08/29/14
 Health Physics Form HPP-30-17, Exposure Investigation Report (Page 1 of 1), HPP-30, Personnel Monitoring, Rev. No. 55, 04/05/14
 HP-100-141111, St. Lucie Radiation Protection, 2013 – 2014 Site Alpha Characterization, Form HP-100, Technical Basis Document, 11/11/14
 Multibade/Extremity EPD Log Form Exposure (in mrem) (Page 1 of 1), RP-SL-101-1008-F01, Form Rev. 0, Pack Nos: 4737 and 4738, 04/01/15
 NVLAP Certificate of Accreditation to ISO/IEC 17025:2005, NVLAP LAB CODE: 100555-0, Mirion Technologies (GDS), Inc., 2014-07-01 through 2015-06-30
 Personnel Contamination Event (PCE) Log, Dated from January 2013 to Present
 RWP No. 14-1808, (U1 RCB) Oil Collection Tank: Check Level, Drain Oil at Oil Collection Tank
 RWP No. 15-1812, (U1) FCV-25-7, FCV-25-8: Containment Vacuum Breakers Troubleshoot, Repair, Rev. 01
 Sentinel, SEN0015C – Access Event List with Neutron, January 2014 to March 2015
 St. Lucie Radiation Protection, 2013 and 2014 EPD vs. TLD and EPD to TLD Ratio

CAP Documents

AR 01901179
 AR 01908206
 AR 01913186
 AR 01942881
 Neutron Monitoring Program Quick Hit Assessment, 08/21/13
 St. Lucie Nuclear Oversight Report, Report No. PSL 14-003, Radiation Protection and Radioactive Waste, 03/04/14

Section 2RS5: Radiation Monitoring InstrumentationProcedures

2-IMP-26.03, Secondary Calibration of Wide Range Gas Monitors (WRGM), Rev. 9
 CY-SL-108-0004, Guidelines for Collecting Post-Accident Samples, Rev. 4
 HP-13A, Operation of Portable Survey Instruments, Rev. 34
 HP-13B, Calibration of Portable Count Rate Instruments, Rev. 20
 HP-13C, Calibration of Portable Dose Rate Survey Instruments, Rev. 29
 HP-13F, Calibration and Operation of the Eberline Model AMS-4 Air Monitoring System, Rev. 14
 PI-AA-104-1000, Corrective Action, Rev. 2
 RP-SL-101-1001, Whole Body Counting, Rev. 0
 RP-SL-105-3007, Operation and Calibration of the GEM-5 Exit Monitor, Rev. 1
 RP-SL-105-4902, Calibration and Operational Check of the Canberra ARGOS – 5AB Personnel Contamination Monitors, Rev. 5
 RP-SL-105-4904, Operation of the J.L. Shepherd Model 89-400 Calibrator, Rev. 1

Data and Records

2013 St. Lucie Dry Active Waste 10 CFR 61 Analysis
 Air Sampler Calibration Form, Mod: H809 V-1, S/N: 3857, 01/30/15
 Air Sampler Calibration Form, Mod: RAS-1, S/N: 4219, 02/20/15
 Calibration Reports (MGP Instruments), ED Nos. 923864 and 927680, 01/09/15
 Certification of Calibrations (Eckert & Ziegler): 79185-78, Cs-137 Plate Source, 03/30/09,
 84246-78, Tc-99 Plate in Plate Holder, 05/25/11, 96362, Tc-99 Plate Source, 05/12/14
 Fastscan 2, Energy and Efficiency Calibrations, May 2013 and May 2014
 HP-02.5, SAM-12 Calibration Forms, S/N: 149, 05/23/14 and 11/14/14
 HP-100, GEM-5 Portal Monitor and ARGOS-5AB Contamination Monitor Sensitivity Study,
 09/17/14
 HP-10A.4, Tennelec S5-XLB Calibration Form, S/N: 0400050-2, 12/11/14
 HP-13F, AMS-4 Calibration Record, S/N: 12092, 02/04/15 (initial calibration)
 HP-13F, AMS-4 Calibration Record, S/N: 2174, 03/15/14 and 10/06/14
 HPGe Gamma Vision Calibration Records, S/N: 11607A, 06/06/12 and 01/22/14
 Instrument Calibration Data Sheets: Count Rate Instrument, Model L-177, S/N: 40233,
 11/10/14 Ion Chamber, Model RO-20, S/N: 4326, 01/28/15, Ion Chamber, Model RO-20,
 S/N: 12216, 02/16/15 Ludlum, Model 2241-4, S/N: 286236, 03/29/15
 MGP Telepole WR, Model 4-0027-30/BAK 2270, S/N: 6605-042, 07/25/14 and 01/23/15
 RP-SL-101-1001, Quality Assurance Calibration Check (QCC) Form (WBC), 03/31/15
 RP-SL-105-3007-F01, GEM-5 Calibration Data Sheets, S/N: 176, 07/24/13 and 07/17/14
 RP-SL-105-4902-F01, ARGOS-5AB Calibration Data Sheets, S/N: 179, 07/23/14 and
 01/20/15
 RP-SL-105-4902-F01, ARGOS-5AB Calibration Data Sheets, S/N: 310, 07/11/14 and
 01/15/15
 Shepherd 89-400 Dose Rate Table, S/N: 8167, 11/13/14
 System Health Reports, Radiation Monitoring, Units 1 and 2, 01/01/15 - 03/31/15
 Tennelec S5-XLB Daily Reliability Forms, SN 0400050-2, Jan and Feb 2015
 Work Orders (Calibrations): 40049918 01, U1 TS/FYP8085/RIS-26-58/59 Hi Range,
 03/06/12, 40111683 01, U1 TS/PM26012/RE-6627 Cal (Liquid Rad Waste), 09/10/12,
 40143870 01, TS/PM2 095C/RIM-26-90 Plant Vent WRGM, 09/12/12, 40168449 01, U1
 TS/FYP8085/RIS-26-58/59 Hi Range, 10/17/13, 40192409 01, TS/PM2 090D, RM-26-14
 Plant Vent Stack, 07/19/13, 40220434 01, TS/PM2 095C/RIM-26-90 Plant Vent Gas
 (WRGM) Cal, 04/25/14, 40221492 01, U1 TS/PM26012/RE-6627 Cal (Liquid Rad Waste),
 03/28/14, 40291158 01, TS/PM2 090D, RM-26-14 Plant Vent Stack, 01/16/15

CAP Documents

AR 01938943
 AR 01979061
 AR 01981533
 AR 01984490
 AR 02019979
 AR 02023894

2RS6: Radioactive Gaseous and Liquid Effluent TreatmentProcedures, Guidance Documents, and Manuals

C-200, Offsite Dose Calculation Manual, Rev. 41
 RP-SL-102-2000, Air Sampling, Rev. 3

Records and Data

Air Sample Data Sheet 151-0116, U1 RCB 62'
 Air Sample Data Sheet 151-0117, U1 RCB 23' AMS-4 Alarm Verification
 Air Sample Data Sheet 151-0119, U1 RCB 62' by bullpen
 Air Sample Data Sheet 151-0235, U1 RCB 62'
 Air Sample Data Sheet 151-0327, U1 RCB 23' Outside of Regen Hx Wall
 Air Sample Data Sheet 151-0368, U1 RCB 62' Tritium
 Air Sample Data Sheet 151-0443, U1 RCB Equipment Hatch
 Air Sample Data Sheet 151-0445, U1 RCB 62'
 Equipment Hatch CAM DAC Trend, 03/26/15 – 04/14/15
 Operations Log Entries Report, 03/23/15 – 04/08/15
 SL1-26 Air Sample Log

Section 40A2 Identification and Resolution of ProblemsProcedures

2-EOP-06, Emergency Operating Procedure – Total Loss of Feedwater, Rev. 26
 2-EOP-15, Emergency Operating Procedure – Functional Recovery, Rev. 42
 2-NOP-09.02, Normal Operating Procedure – Auxiliary Feedwater System Operation, Rev. 6
 2-OSP-69.12, Operations Surveillance Procedure – ESF - 18 Month Surveillance for AFAS
 Test - Both Trains, Rev. 10
 PI-AA-104-1000, Corrective Action, Rev. 1

Other Documents

Documentum #130-9221275-002, St. Lucie Unit 2 Feedwater Ring Support Damage Root
 Cause Analysis (CR# 2014-2213), 12/10/2014
 STD-M-031, Engineering Field Walkdown Record - Potential Water Hammer Associated with
 the Shutdown of the 2B FW Pump, 12/9-10/2012
 STD-M-031, Engineering Field Walkdown Record - Potential Water Hammer Associated with
 the Closure of MV-09-2, 11/14/2013

Drawings

DWG: 2998-G-080, Flow Diagram Feedwater & Condensate Systems, Sheet 2B, Rev. 38
 DWG: 2998-G-080, Flow Diagram Feedwater & Condensate Systems, Sheet 2A, Rev. 47
 DWG: 2998-G-147, Boiler Feed Discharge, 3/2/1982

Corrective Action Documents

AR 01831161, Water Hammer Event on Unit 2 during Downpower, 12/9/2012
 AR 01920626-01, Water Hammer after Unit 2 Trip, Rev. 0
 AR 02011678, Design Basis Review for Steam Generator Tubesheet Design, 12/8/2014
 AR 1775136 U2 RWT conduit damaged
 AR 1948190 Corrosion on bottom of Unit 2 RWT spring can
 AR 2020883, Fire protection system corroded supports
 AR 2021094, Potential Adverse Trend- Fire protection system corrosion
 AR 2021403, Liquid N2 Tank Supports corroded
 AR 2049072, NRC identified corrosion on Unit 2 RWT spring can support and level
 instrumentation conduit
 AR 2049280, NRC concern- tracking and correction of corrosion issues
 ACR1951667, Feeding Supports, 3/25/2014

Trend Reports

Self-Evaluation and Trending Analysis Reports 1st Quarter 2015 -Chemistry
 Self-Evaluation and Trending Analysis Reports 1st Quarter 2015 -Engineering
 Self-Evaluation and Trending Analysis Reports 1st Quarter 2015 -Maintenance
 Self-Evaluation and Trending Analysis Reports 1st Quarter 2015 -Operations
 Self-Evaluation and Trending Analysis Reports 1st Quarter 2015 -Radiation Protection
 Self-Evaluation and Trending Analysis Reports 1st Quarter 2015 -Security
 Self-Evaluation and Trending Analysis Reports 1st Quarter 2015 -Station
 Self-Evaluation and Trending Analysis Reports 1st Quarter 2015 -Training

Section 40A3 Follow-up of Events and Notice of Enforcement Discretion

1746241-08 ACTION CLOSURE REVIEW PACKAGE
 ACE 1993488, Failure to Provide Accurate Information, Rev 0
 AR01993488 ACTION CLOSURE REVIEW PACKAGE
 CR 2017730
 EN-AA-203-1001, Operability Determinations/Functionality Assessments
 Enercon Root Cause CAR2014-0045 RCA5-27-14
 LER 50-335,50-389/2012-010-01 5/12/2014
 PI-AA-100-1005, Root Cause Analysis, Rev 11
 PI-AA-104-1000, Corrective Action, Rev 1
 PR-AA-1000 Rev 8 Nuclear Contract Management R7
 PR-AA-100-1000-F01, Contract Coordinator Checklist
 RCE 2017730