



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

August 2, 2016

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 REPORT
05000335/2016002 AND 05000389/2016002

Dear Mr. Nazar:

On June 30, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your St. Lucie Plant Units 1 and 2. The enclosed integrated inspection report documents the inspection results, which were discussed on July 6, 2016, with Mr. Costanzo and other members of your staff. The NRC inspectors did not identify any findings or violations of more than minor significance.

In accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," 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 the NRC's Agencywide Documents Access and Management system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

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

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

Enclosure:
IR 05000335/2016002, 05000389/2016002
w/Attachment: Supplemental Information

cc Distribution via ListServ

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 President and Chief Nuclear Officer
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M. Nazar

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Letter to Mano Nazar from LaDonna B. Suggs dated August 2, 2016

SUBJECT: ST LUCIE PLANT – NRC INTEGRATED INSPECTION REPORT
05000335/2016002 AND 0500389/2016002

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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: 05000335/2016002, 05000389/2016002

Licensee: Florida Power & Light Company (FP&L)

Facility: St. Lucie Plant, Units 1 & 2

Location: 6501 South Ocean Drive
Jensen Beach, FL 34957

Dates: April 1, 2016 to June 30, 2016

Inspectors: T. Morrissey, Senior Resident Inspector
J. Reyes, Resident Inspector
M. Catts, Senior Resident Inspector

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

Enclosure

SUMMARY

IR 05000335/2016002, 05000389/2016002; 04/01/2016 – 06/30/2016; St. Lucie Nuclear Plant, Units 1 & 2; Routine Integrated Inspection Report.

The report covered a three-month period of inspection by the resident inspectors and a resident inspector from another site. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5. No findings or violations of greater than minor significance were identified.

No findings were identified.

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period at 100 percent rated thermal power (RTP). On April 4, 2016, power was lowered to approximately 97 percent RTP in order to complete planned moderator temperature coefficient testing. The unit was returned to 100 percent RTP that same day. The unit was at 100 percent power for the remainder of the inspection period.

Unit 2 began the inspection period at 100 percent rated RTP. On April 11, 2016, power was lowered to approximately 82 percent RTP in order to complete planned turbine valve testing. The unit was returned to 100 percent RTP that same day. 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 (IP 71111.01)

.1 Readiness for seasonal extreme weather conditions

a. Inspection Scope

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 walk downs of the systems and areas listed below to verify the licensee had made the required preparations. Corrective action program (CAP) action requests (ARs) were reviewed to determine if the licensee was identifying and resolving conditions associated with adverse weather preparedness. Documents reviewed are listed in the Attachment. This inspection constitutes one sample associated with the site readiness for seasonal extreme weather conditions.

- St. Lucie 230 kV 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 (SUT) 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 net
- 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 inspected RAB penetration flood seals located in both units' emergency core cooling system (ECCS) tunnels. These tunnels are located below grade and would be flooded during a design basis flood event. The inspectors walked down temporary flood mitigation barriers (sandbags) installed at two degraded RAB external doors (one door Unit 1 and one door Unit 2). The licensee's interim flood hazards reevaluation determined that a local intense precipitation (LIP) event would result in a pooling of water outside of both units' RABs. The sandbags were installed to minimize water entry into the buildings through the degraded doors. The sandbags will be removed once the doors are replaced. The flood hazard reevaluation determined that a LIP event would not impact safety related equipment. The inspectors walked down the site's storm drain retention ponds to verify they were in a satisfactory condition to support water runoff from a precipitation event. In addition, the inspectors walked down Unit 1 and Unit 2 emergency diesel generators (EDGs) and fuel oil tanks, 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. Corrective action program documents and work orders (WOs) related to water intrusion events over the past year were reviewed to ensure that the licensee was identifying and resolving severe weather related issues that could lead to external flooding of safety-related equipment. Documents reviewed are listed in the attachment. This inspection constitutes one sample associated with the sites readiness to cope with external flooding.

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 they would be available during a loss of offsite power (LOOP) event. The inspectors performed a walkdown of the switchyard with plant personnel to verify 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 have occurred since the last performance of this inspection that would

potentially affect the operation or reliability of the offsite or onsite AC power systems. Documents reviewed are listed in the Attachment. This inspection constitutes one sample associated with the site's summer readiness of offsite and alternate AC power systems.

b. Findings

No findings were identified.

1R04 Equipment Alignment (IP 71111.04)

.1 Partial Equipment Walkdowns

a. Inspection Scope

These inspections included reviews using 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. Documents reviewed are listed in the Attachment. This inspection constitutes four samples.

- 1B low pressure safety injection (LPSI) and 1B high pressure safety injection (HPSI) trains while A train ECCS was out of service (OOS) during planned inspections and cleaning of the 1A CCW heat exchanger (HX)
- 2A CCW and ICW header while the 2B CCW and ICW header were OOS for planned maintenance
- 2B HPSI pump, 2B LPSI pump and the 2B containment spray (CS) pump while the 2A HPSI pump, 2A LPSI and 2A CS pump were OOS for planned maintenance
- 1A EDG train while the A train SUTs were OOS for planned maintenance

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 ICW system to verify its capability to meet its design basis function. The inspectors utilized licensee procedures 1-NOP-21.12, "Intake Cooling Water 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 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. Documents reviewed are listed in the attachment. This inspection constitutes one sample.

b. Findings

No findings were identified.

1R05 Fire Protection (IP 71111.05)

Fire Area Walkdowns

a. Inspection Scope

The inspectors toured the following plant areas during this inspection period to evaluate conditions related to control of transient combustibles, 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 administrative procedure 1800022, "Fire Protection Plan," and 10 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 six samples.

The following areas were inspected:

- 2A and 2B safety-related battery rooms
- Unit 1 main control room, heating, ventilation and air conditioning (HVAC) and CCW head tank rooms, and technical support center (TSC) room
- Unit 2 A and B electrical switchgear rooms
- Unit 1 condensate storage tank building
- Unit 1 and 2 instrument air compressor areas
- Unit 2 CCW pump and HX building

b. Findings

No findings were identified.

1R07 Heat Sink Performance (IP 71111.07)

a. Inspection Scope

The inspectors interviewed engineering personnel responsible for Unit 1, 1A CCW HX monitoring and performance to ensure that HX preventative maintenance was properly implemented. The inspectors observed and assessed the as-found 1A CCW HX conditions when it was opened for inspection on April 5, 2016. The inspectors reviewed AR 2123059 which documented the licensee's inspection observations. The inspectors verified that periodic maintenance activities documented in WO 40416813 were conducted in accordance with licensee procedure 0-PMM-14.01, "Component Cooling Water Heat Exchanger Clean/Repair." The inspectors monitored HX tube cleaning activities and verified the HX was properly cleaned and placed back in service. The inspectors walked down portions of the CCW and ICW systems 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 completes one sample.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program and Licensed Operator Performance (IP 71111.11)

.1 Resident Inspector Quarterly Review

a. Inspection Scope

On May 9, 2016, the inspectors observed and assessed continuing training of a licensed operator crew on the control room simulator during an evaluated simulator scenario. The simulated scenario included a LOOP, feedwater complications during the reactor trip, and a subsequent station blackout (SBO) when the operable EDG failed, causing control room operators to enter EOP-10, "Station Blackout." The inspectors also reviewed simulator physical fidelity and specifically evaluated the following attributes related to the operating crew's 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 (EIPs)
- 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

Documents reviewed are listed in the Attachment. This inspection completes 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 evolution:

- April 11, 2016, Unit 2 power reduction to approximately 82 percent RTP to support planned turbine valve testing

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

This inspection constitutes one sample.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (IP 71111.12)

a. Inspection Scope

The inspectors reviewed the performance data and associated ARs for the 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 MR 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. Documents reviewed are listed in the attachment. This inspection constitutes three samples.

- AR 2110122, Unit 2 main feed isolation valve HCV-09-2A entered into a(1) monitoring
- AR 2090311, Maintenance Rule Periodic (a)(3) Assessment
- AR 2112128, Unit 1 electrical equipment room fans (HVS-5A/5B) discharge dampers failed to close

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (IP 71111.13)

a. Inspection Scope

The inspectors completed in-office reviews, plant walkdowns, and control room inspections of the licensee's online risk assessment of the emergent or planned maintenance activities listed below. 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 (NUMARC) 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 structures, systems and components (SSCs) listed below. Documents reviewed are listed in the attachment. This inspection constitutes five samples.

- Unit 1, Yellow OLRM assessment with the 1A ECCS system OOS due to planned inspection and cleaning of the 1A CCW HX
- Unit 2, Yellow OLRM assessment with the 2B CCW HX and the 2B HPSI pump OOS
- Unit 2, Yellow OLRM assessment with the 2A CCW HX and the 2A HPSI pump OOS
- Unit 2, Yellow OLRM assessment with the 2B HPSI pump, LPSI pump, CS pump, and the B ECCS recirculation header OOS during surveillance valve testing
- Unit 2, Yellow OLRM assessment during engineering safeguards relay testing that resulted in A ECCS train being OOS

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (IP 71111.15)a. Inspection Scope

The inspectors reviewed the interim dispositions and operability determinations or functionality assessments of the following ARs 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 sections, associated supporting documents and procedures, and interviewed plant personnel to assess the adequacy of the interim dispositions. Documents reviewed are listed in the attachment. This inspection constitutes six samples.

- AR 2129665, Unit 1 Actuation System (AFAS) relay degradation
- AR 2127350, Unit 2 2B ICW corrosion cell on CW-13 intake pit elbow
- AR 2131298, Unit 2 480V breaker (2A2-6C) failed to close from the control room
- AR 2135100, Unit 1 1A EDG mega volt amps reactive (MVAR) oscillations
- AR 2136375, Unit 2 Control element assembly (CEA-60) transferred to its lower gripper
- AR 2139057, Unit 2 2B EDG jacket water pump seal leak

b. Findings

No findings were identified.

1R18 Plant Modifications (IP 71111.18)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 Packages." 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 modification installation. Additionally, the inspectors verified that any issues associated with the modifications were identified and entered into the licensee's CAP. This inspection constitutes one sample.

- EC 286530, Control room panel RTGB-103, re-wire neutral wire for PP-101 Circuit 21 due to a damaged jumper connection

b. Findings

No findings were identified.

1R19 Post Maintenance Testing (IP 71111.19)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 five samples.

- WO 40384002, 2B EDG fuel-oil transfer pump maintenance
- WO 40333072, Unit 2 Replace DC line starter MV-08-12
- WO 40349766, Unit 2 Preventive maintenance MV-07-2A
- WO 40416940, 2A CCW Heat Exchanger; and WO 40416941, 2B CCW Heat Exchanger; post maintenance shell-side and tube-side pressure testing after mid-cycle inspections, high pressure hydro-blast tube cleaning, and tube plugging
- WO 40402997, 2B ICW pump motor inspection

b. Findings

No findings were identified.

1R22 Surveillance Testing (IP 71111.22)a. Inspection Scope

The inspectors either reviewed or witnessed the following surveillance tests to verify that the tests met TS, UFSAR, and licensee procedural requirements. The inspectors verified that tests demonstrated the operational readiness and capability of the systems to perform their intended safety functions. 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. Documents reviewed are listed in the attachment. This inspection constitutes seven samples.

In-Service Tests:

- 0-OSP-37.01, Emergency Cooling Water Canal – Periodic Test
- 2-OSP-99.08B, B Train Quarterly Non-check Valve Cycle Test (MV-07-1B and MV-07-2B), 2-NOP-03.12, Filling ECCS Supply Piping (B ECCS Header)

Surveillance Tests:

- 1-OSP-01.05, At Power Determination of Moderator Temperature Coefficient and Power Coefficient
- 1-OSP-52.01A, Surveillance Test of Degraded Grid Voltage A Train
- 2-OSP-69.24A, Engineered Safeguards Relay Test, Train A
- Unit 2, 0-SME-66.04, Inspection of the Reactor Trip Switchgear (RTSG) Breakers

Containment Isolation Valve Tests:

- 2-OSP-68.04, Purge Valve Leak Rate Test (Penetrations 56/57)

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness (EP)

1EP6 Drill Evaluation (IP 71114.06)Emergency Preparedness Drillsa. Inspection Scope

On April 20, 2016, the inspectors observed the simulator control room, TSC, and emergency operations facility (EOF) 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 rapid power reduction as a result of a heater drain pump trip, a loss of all offsite and onsite AC power, and a loss of coolant accident (LOCA). 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 (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, and that licensee identified critique items and drill weaknesses were captured in the CAP. Documents reviewed are listed in the Attachment. This inspection constitutes one sample.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (IP 71151)

Cornerstone: Barrier Integrity

a. Inspection Scope

The inspectors checked licensee submittals for the performance indicators (PIs) listed below to verify the accuracy of the PI data reported during the period of April 1, 2015 through March 31, 2016. The PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," and licensee procedure ADM-25.02, "NRC Performance Indicators," were used to check the reporting for each data element. The inspectors checked operator logs, plant status reports, condition 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, or four samples total.

- Unit 1 Reactor coolant system (RCS) Leakage
- Unit 2 RCS Leakage
- Unit 1 RCS Activity
- Unit 2 RCS Activity

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (IP 71152).1 Daily Reviewa. Inspection Scope

As required by Inspection Procedure 71152, "Problem Identification and Resolution," 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 ARs, 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 occurred.

b. Findings

No findings were identified.

.2 Semi-Annual Trend Review:

a. Inspection Scope

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 focused on repetitive equipment issues, but also considered the plant status reviews, plant tours, licensee trending efforts, and the results of daily inspector CAP item screenings discussed in section 4OA2.1. The inspectors' review nominally considered the six month period of January 2016 through June 2016, although some examples expanded beyond those dates when the scope of the issue warranted.

The inspectors reviewed the following ARs associated with Unit 1 and Unit 2 rod drive control system equipment problems.

- AR 2086054, Unit 2, CEA-54 missing upper gripper phase
- AR 2136375, Unit 2 CEA-60 transferred to the its lower gripper coil
- AR 2098891, Unit 1 dropped CEA-53 due to a shorted power switch
- AR 2118222, Unit 1 CEA-53, blown power fuses
- AR 2119250, Unit 1 dropped CEA-2 during upper gripper power switch replacement
- AR 2140960, Unit 1 CEA-32, abnormal upper gripper coil signal
- AR 2141742, Potential trend in CEA system reliability

The inspectors verified that the ARs were dispositioned in accordance with the CAP as specified in licensee procedure PI-AA-104-1000, "Corrective Action."

b. Findings and Observations

No findings were identified. The inspectors identified one adverse trend that was also documented in the CAP as AR 2141742. This trend was associated with control rod system equipment problems. The licensee is in the planning stage of replacing all upper gripper coils for both units with coils designed to operate at a higher temperature. These higher temperature coils have only recently become available. The licensee also has corrective actions in place to refurbish and replace Unit 1 CEA power switches during the next refueling outage. The CEA power switches for Unit 2 are of a completely different design and have not experienced these types of failures. Additional long term corrective actions include evaluating the need to replace both units' rod control systems. Corrective actions implemented at the completion of this inspection period for CEA equipment problems appeared reasonable. Documents reviewed are listed in the Attachment. This inspection constitutes one sample.

.3 Annual Sample: Unit 2 CEA-60 transferred from the upper to the lower gripper

a. Inspection Scope

The inspectors selected AR 2136375, "CEA-60 transferred to its lower gripper," for a more in-depth review of the circumstances and the proposed corrective actions that followed. The inspectors reviewed the AR report to ensure that the licensee

performed an appropriate evaluation, and specified and prioritized corrective actions in accordance with their CAP. The inspectors reviewed the licensee's operational decision-making (ODM) action plan associated with this issue to ensure it was completed in accordance with licensee procedure OP-AA-105-1000, "Operational Decision-Making." The ODM action plan proposed several solutions to address the possible CEA-60 degradation. The inspectors interviewed plant personnel and evaluated the AR in accordance with the requirements of the licensee's CAP as specified in licensee's procedure PI-AA-104-1000, "Corrective Action."

b. Observations and Findings

No findings were identified. The inspectors determined that corrective actions approved under the ODM action plan were appropriate based on the risk and possible consequences involved with implementing the selected solution. This inspection constitutes one sample.

4OA6 Meetings

Exit Meeting Summary

The resident inspectors presented the results of their inspection to Mr. Costanzo and other members of licensee management on July 6, 2016. 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.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel:

R. Baird, Training Site Manager
J. Brady, Acting Nuclear Quality Assurance Manager
C. Costanzo, Site Vice President
K. Frehafer, Licensing Engineer
M. Haskin, Projects Site Manager
M. Jones, Engineering Director
D. Taylor, Acting Health Physics Manager
R. McDaniel, Fire Protection Supervisor
W. Parks, Operations Director
D. Pitts, Maintenance Director
R. Sciscente, Licensing Engineer
M. Snyder, Licensing Manager
C. Spenser, Chemistry Manager
K. Stone, Performance Improvement Manager
C. Workman, Security Manager
R. Wright, Plant General Manager

NRC Personnel:

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

LIST OF ITEMS OPENED AND CLOSED

NONE

LIST OF DOCUMENTS REVIEWED

Section 1R01 Adverse Weather Protection

OP-AA-102-1002, Seasonal Readiness
0-AOP-53.02, Low Voltage Switchyard Voltage
0-AOP-53.03, High Voltage Switchyard Voltage
0-AOP-53.04, Reduced Offsite Transmission Capability
WM-AA-200, Work Management Process Overview
ADM-16.01, PSL Switch Yard Access / Work Control
AR 2047934, Engineering guidance to mitigate the effects of local intense precipitation flooding
1-ARP-01-S00, Control Room Panel S RTGB-106
1-ARP-01-R00, Control Room Panel R RTGB-106
25n-01, Maintenance Rule Scoping Document Emergency Core Cooling System Sump Level Limit Switch
ADM-17.32, Structures Monitoring Program
AR 1636642, Degraded Hatches on Ultimate Heat Sink Barrier
AR 2029406, Unit 2, Diesel Oil Storage Tank: Open Conduits
AR 2036545-02: ECCS Pump Rooms - Sump Alarm Capability Condition Evaluation
AR 2127129, Historical PSL 1 UFSAR Error Identified
Drawing 2998-G-839, Flood Control Stop Logs
Drawing 8770-G-671, Component Cooling Water Pumps Foundations
FPL060-PR-001, Flooding Walkdown Report
Technical Specification 3/4.7.6, Flood Protection, Amendment No. 82
UFSAR Section 2.4.3, Probable Maximum Flood on Streams and Rivers
UFSAR Section 3.4, Water Level (Flood) Design
Work Order 40376624, U2 Stop Logs; Inspect / Replace Gaskets

Section 1R04 Equipment Alignment

1-NOP-03.21, Low Pressure Safety Injection Initial Alignment
1-NOP-03.11, High Pressure Safety Injection Initial Alignment
Drawing 8770-G-082, Circulating and Intake Cooling Water System
1-NOP-59.01A, 1A Emergency Diesel Generator Standby Alignment
2-NOP-03.11, High Pressure Injection System Initial Alignment
2-NOP-03.21, Low Pressure Injection System Initial Alignment
2-NOP-07.41, Containment Spray System Initial Alignment
2-NOP-14.01, Component Cooling Water System Initial Alignment
2-NOP-21.12, Intake Cooling Water System Initial Valve Alignment

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

Section 1R11 Licensed Operator Requalification Program and Licensed Operator Performance

2-EOP-01, Standard Post Trip Actions
2-EOP-02, Reactor Trip Recovery
2-EOP-10, Station Blackout SBO
2-GOP-123, Turbine Shutdown - Full Load to Zero Load

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

OP-AA-104-1007, Online Aggregate Risk
 WCG-016, Online Work Management
 ADM-17.16, Implementation of the Configuration Risk Management Program

Section 1R22 Surveillance Testing

ADM-29.02, ASME Code Testing of Pumps and Valves

Section 1EP6 Drill Evaluation

2-EOP-01, Standard Post Trip Actions
 2-EOP-02, Reactor Trip Recovery
 2-EOP-03, Loss of Coolant Accident (LOCA)
 2-EOP-15, Functional Recovery
 EPIP-01, Classification of Emergencies
 EPIP-02, Duties and Responsibilities of the Emergency Coordinator.
 EPIP-04, Activation and Operation of the Technical Support Center
 EPIP-06, Activation and Operation of the Emergency Operations Facility
 EPIP-08, Off-Site Notifications and Protective Action Recommendations

Section 4OA2 Identification and Resolution of Problems

PI-AA-104-1000, Corrective Action
 OP-AA-105-1000, Operational Decision-Making

Trend Reports

Self-Evaluation and Trending Analysis Reports 1st Quarter 2016 -Operations
 Self-Evaluation and Trending Analysis Reports 1st Quarter 2016 -Maintenance
 Self-Evaluation and Trending Analysis Reports 1st Quarter 2016 -Chemistry
 Self-Evaluation and Trending Analysis Reports 1st Quarter 2016 -Engineering
 Self-Evaluation and Trending Analysis Reports 1st Quarter 2016 -Radiation Protection
 Self-Evaluation and Trending Analysis Reports 1st Quarter 2016 -Security
 Self-Evaluation and Trending Analysis Reports 1st Quarter 2016 -Training
 Self-Evaluation and Trending Analysis Reports 1st Quarter 2016 –Station

LIST OF ACRONYMS

ADAMS	NRC's Agency-wide Documents Access and Management System
ADM	Administrative Procedure
AFAS	AFW Actuation System
AFW	Auxiliary Feedwater
AOP	Abnormal Operating Procedure
AP	Abnormal Procedure
AR	Action Request
AC	Alternating Current
ASME	American Society of Mechanical Engineers
CAP	Corrective Action Program
CCW	Component Cooling Water
CEA	Control Element Assembly
CFR	Code of Federal Regulations
CS	Containment Spray
DC	Direct Current
EC	Engineering Change
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
EN	Engineering Procedure
EOF	Emergency Operations Facility
EOP	Emergency Operating Procedure
EP	Emergency Preparedness
EPIP	Emergency Plan Implementing Procedure
FPL	Florida Power and Light
GOP	General Operating Procedure
HCV	Hydraulic operated Control Valve
HPSI	High Pressure Safety Injection
HVAC	Heating, Ventilation and Air Conditioning
HVS	Heating and Ventilation Supply
HX	Heat Exchanger
IMC	Inspection Manual Chapter
ICW	Intake Cooling Water
IP	Inspection Procedure
kV	kilo-volt (1000 volts)
LIP	Local Intense precipitation
LOCA	Loss of Coolant Accident
LOOP	Loss of Offsite Power
LPSI	Low Pressure Safety Injection
MR	Maintenance Rule (10 CFR 50.65)
MV	Motor Valve
MVAR	Mega Volt Amps Reactive
NEI	Nuclear Energy Institute
NOP	Normal Operating Procedure
NRC	Nuclear Regulatory Commission
NUMARC	Nuclear Management and Resource Council
ODM	Operational Decision-Making
OLRM	Online Risk Monitor
OOS	Out of Service
OP	Operating Procedure

OSP	Operations Surveillance Procedure
PARS	Publically Available Record
PI	Performance Indicator or Performance Improvement
PI&R	Problem Identification and Resolution
PMM	Preventative Maintenance Procedure
PP	Power Panel
PSL	Plant St. Lucie
RAB	Reactor Auxiliary Building
RCS	Reactor Coolant System
RTGB	Reactor Turbine Gage Board
RTSG	Reactor Trip Switchgear
RTP	Rated Thermal Power
SBO	Station Blackout
SME	Surveillance Maintenance Procedure
SSC	Structure, System, and Component
SUT	Startup Transformer
TSC	Technical Support Center
TSS	Technical Specifications
V	Volt
UFSAR	Updated Final Safety Analysis Report
WO	Work Order
WR	Work Request