



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

November 3, 2010

EA-09-321

Mr. Mano Nazar  
Executive Vice President  
Nuclear and Chief Nuclear Officer  
Florida Power and Light Company  
P.O. Box 14000  
Juno Beach, FL 33408-0420

SUBJECT: ST. LUCIE NUCLEAR PLANT, Unit 1 - NRC INSPECTION PROCEDURE  
95002 SUPPLEMENTAL INSPECTION REPORT 05000335/2010009

Dear Mr. Nazar:

On September 30, 2010, the U.S. Nuclear Regulatory Commission (NRC) staff completed a supplemental inspection pursuant to Inspection Procedure 95002, "Inspection for One Degraded Cornerstone or any Three White Inputs in a Strategic Performance Area," at your St. Lucie Nuclear Plant, Unit 1. The enclosed inspection report documents the inspection results and closure of this finding, which were discussed at the exit meeting on October 1, 2010, with Mr. R. Anderson and other members of your staff. As a result, the NRC determined the performance at St. Lucie Unit 1 to be in the Licensee Response Column of the Reactor Oversight Process Action Matrix, as of October 1, 2010.

As required by the NRC Reactor Oversight Process Action Matrix, this supplemental inspection was performed because a finding of Yellow safety significance was identified in the 4<sup>th</sup> quarter of 2009. This issue was documented previously in NRC Inspection Report 05000335/2010007 and 05000389/2010007. The NRC staff was informed on April 28, 2010, of your staff's readiness for this inspection.

The objectives of this supplemental inspection were to provide assurance that: (1) the root causes and the contributing causes for the risk-significant issues were understood, (2) the extent of condition and extent of cause of the issues were identified, and (3) corrective actions were or will be sufficient to address and preclude repetition of the root and contributing causes. This inspection also included an independent NRC review of the extent of condition and extent of cause for the Yellow finding and an assessment of whether any safety culture component caused or significantly contributed to the issue. The inspection consisted of examination of activities conducted under your license as they related to safety, compliance with the Commission's rules and regulations, and the conditions of your operating license.

The inspectors determined that your staff performed a comprehensive evaluation of the subject Yellow finding associated with the component cooling water (CCW) system air intrusion event. Your staff's evaluation identified root causes of the issue to be: (1) decision making by the organization was insufficient due to inadequate knowledge and skills related to risk significant decisions, conservative assumptions and timely communication between departments, (2) the

organization missed several opportunities to promptly identify, fully analyze and resolve in a timely manner the air intrusion event, (3) inadequate fleet/site procedures resulted in the failure to recognize the condition and significance of the event in a timely manner, (4) management did not effectively implement policies and procedures, which resulted in a reluctance to challenge issues and recognize the significance of the 2008 event and a repeat of the event in 2009, (5) less than adequate design of the containment air compressor system resulted in recurrent air intrusion events, and (6) less than adequate maintenance resulted in a similar 2009 CCW system air intrusion event. The inspectors determined that your staff proposed appropriate corrective actions to upgrade operability determinations of degraded conditions, improve the effectiveness of the corrective action program, improve procedural guidance in several areas, and address deficiencies related to safety culture.

Based on the results of this inspection, one finding of very low safety significance (Green) was identified. The finding was determined to involve a violation of NRC requirements. However, because of the very low safety significance of the issue and because it was entered into your corrective action program, the NRC is treating the issue as a non-cited violation (NCV) consistent with the NRC Enforcement Policy. If you contest the NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Administrator, Commission, Washington DC 20555-0001; and the NRC Resident Inspector at the St. Lucie Nuclear Plant. In addition, if you disagree with the cross-cutting aspect assigned to any finding 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.

In accordance with 10 CFR 2.390 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 NRC's document system, Agencywide Documents 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/*

Daniel W. Rich, Chief  
Reactor Projects Branch 3  
Division of Reactor Projects

Docket No. 50-335  
License No. DPR-67

Enclosure: Inspection Report 05000335/2010009  
w/ Attachment: Supplemental Information

organization missed several opportunities to promptly identify, fully analyze and resolve in a timely manner the air intrusion event, (3) inadequate fleet/site procedures resulted in the failure to recognize the condition and significance of the event in a timely manner, (4) management did not effectively implement policies and procedures, which resulted in a reluctance to challenge issues and recognize the significance of the 2008 event and a repeat of the event in 2009, (5) less than adequate design of the containment air compressor system resulted in recurrent air intrusion events, and (6) less than adequate maintenance resulted in a similar 2009 CCW system air intrusion event. The inspectors determined that your staff proposed appropriate corrective actions to upgrade operability determinations of degraded conditions, improve the effectiveness of the corrective action program, improve procedural guidance in several areas, and address deficiencies related to safety culture.

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Sincerely,  
**/RA/**  
 Daniel W. Rich, Chief  
 Reactor Projects Branch 3  
 Division of Reactor Projects

Docket No. 50-335  
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 w/ Attachment: Supplemental Information

X PUBLICLY AVAILABLE       NON-PUBLICLY AVAILABLE       SENSITIVE      X NON-SENSITIVE  
 ADAMS: X Yes      ACCESSION NUMBER: ML103070200      X SUNSI REVIEW COMPLETE

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NAME	SNinh	TMorrissey	AAlen	JNadel	KMartin	DRich	
DATE	10/19/2010	10/29/2010	10/19/2010	10/19/2010	10/19/2010	10/29/2010	
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Letter to Mano Nazar from Daniel W. Rich dated November 3, 2010

SUBJECT: ST. LUCIE PLANT - NRC INTEGRATED INSPECTION REPORT  
05000335/2010009

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U.S. NUCLEAR REGULATORY COMMISSION (NRC)  
REGION II

Docket No.: 50-335

License No.: DPR-67

Report No: 05000335/2010009

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

Facility: St. Lucie Nuclear Plant, Unit 1

Location: Jensen Beach, FL 34957

Dates: September 27 - September 30, 2010

Inspectors: Thomas Morrissey, Senior Resident Inspector,  
Crystal River (Team Lead)  
Son Ninh, Senior Project Engineer, Region II  
Alejandro Alen, Reactor Inspector, Region II  
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Kamishan, Martin, Human Factors Engineer, HQ

Approved by: D. Rich, Chief,  
Reactor Projects Branch 3  
Division of Reactor Projects

Enclosure

## SUMMARY OF FINDINGS

Inspection Report (IR) 05000335/2010009; 9/27/2010-9/30/2010; St. Lucie Nuclear Plant, Unit 1; Supplemental Inspection - Inspection Procedure (IP) 95002.

This supplemental inspection was conducted by a senior resident inspector, a senior project engineer, a resident inspector, a reactor inspector and a human factors engineer. One Green non-cited violation (NCV) was identified. The significance of most findings is indicated by their color (i.e., Green, White, Yellow, or Red) using the NRC Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

### Cornerstone: Mitigating Systems

#### IP 95002

The NRC staff performed this supplemental inspection in accordance with IP 95002, "Inspection for One Degraded Cornerstone or any Three White Inputs in a Strategic Performance Area," to assess the licensee's evaluation associated with air intrusion into Unit 1 component cooling water (CCW) system in 2008 and 2009. The NRC staff previously characterized this issue as having Yellow safety significance, as documented in NRC IR 05000335/2010007 and 05000389/2010007.

The inspectors determined that the St. Lucie staff performed a comprehensive evaluation of the subject Yellow finding associated with the CCW system air intrusion event. The St. Lucie staff's evaluation identified root causes of the issue to be: (1) decision making by the organization was insufficient due to inadequate knowledge and skills related to risk significant decisions, conservative assumptions and timely communication between departments, (2) the organization missed several opportunities to promptly identify, fully analyze and resolve in a timely manner the air intrusion event, (3) inadequate fleet/site procedures resulted in the failure to recognize the condition and significance of the event in a timely manner, (4) management did not effectively implement policies and procedures, which resulted in a reluctance to challenge issues and recognize the significance of the 2008 event and a repeat of the event in 2009, (5) less than adequate design of containment air compressor system resulted in recurrent air intrusion events, and (6) less than adequate maintenance resulted in a similar 2009 air intrusion event.

The inspectors determined that the root cause evaluations for the CCW system air intrusion events were thorough and broad in scope. The evaluation appropriately determined the root and contributing causes, addressed the extent of condition and extent of cause, determined if safety culture contributed to the issue, and established and scheduled corrective actions that were sufficient to address the causes and prevent recurrence of the air intrusion event.

The inspection team performed an independent extent of condition and extent of cause review and a focused review utilizing a safety culture expert as it related to the root cause evaluations. Overall, the team concluded that the licensee's root cause evaluation and corrective actions, completed and planned, were sufficient to prevent recurrence. The root cause evaluation appropriately considered safety culture. The team did not identify any concerns associated with the safety conscious work environment at St. Lucie.

Enclosure

As a result of the NRC conclusion that the licensee appropriately addressed the above issues, the Yellow finding associated with air intrusion into Unit 1 CCW system will be considered in assessing plant performance for a total of four quarters in accordance with the guidance in IMC 0305, "Operating Reactor Assessment Program."

A. NRC-Identified & Self-Revealing Findings

Cornerstone: Mitigating Systems

Green. The inspectors identified a non-cited violation of 10 CFR 50.65 (a)(2) for failure to demonstrate that the performance of the 2B Emergency Diesel Generator (EDG) and 1C Auxiliary Feedwater Pump (AFW) systems was effectively controlled by preventative maintenance (PM) such that these systems remained capable of performing their intended functions. The 2B EDG and the 1C AFW pump exceeded Maintenance Rule (a)(2) performance criteria since February 27 and May 30, 2010, respectively, and the goal setting and monitoring plans were not established as required by paragraph (a)(1) of the Maintenance Rule. This issue was entered into the licensee's corrective action program as AR 581307.

The finding was determined to be of greater than minor significance because it was associated with the Equipment Performance attribute of the Mitigating Systems Cornerstone, and adversely affected the cornerstone objective of ensuring availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. More specifically, the licensee failed to demonstrate that the performance of the 2B EDG and the 1C AFW pump was effectively controlled through appropriate PM. According to NRC Inspection Manual Chapter 0609, Attachment 4, Phase I, Initial Screening and Characterization of Findings, this finding was determined to be of very low safety significance because it did not lead to an actual loss of a safety system function or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The cause of this finding was directly related to the cross-cutting aspect of Human Performance H.4(b) for the failure to follow the maintenance rule procedural requirements which resulted in the goal setting and monitoring plan not being established in a timely manner per 10 CFR part 50.65.

B. Licensee-Identified Violations

None



## REPORT DETAILS

### 4. OTHER ACTIVITIES

#### 4OA3 Follow-up of Events and Notices of Enforcement Discretion

##### (Discussed) Licensee Event Report (LER) 05000335/2010-001-00 Air Intrusion from 1A Containment Instrument Air Compressor into Unit 1 Component Cooling Water

This LER describes the 2008 St. Lucie Unit 1 component cooling water (CCW) air intrusion event that resulted in the NRC-identified Yellow inspection finding. During the review of the root cause evaluation (RCE) and the LER, the inspectors determined that the LER did not list all the reportability requirements that applied to this issue. Additionally, the RCE documents that the air intrusion event resulted in the inoperability of both trains of CCW. The LER was not as conclusive with respect to operability. The inspectors discussed this issue with the licensee who agreed with a need for an LER revision. The licensee documented this issue in the corrective action program.

#### 4OA4 Supplemental Inspection (95002)

##### .01 Inspection Scope

This supplemental inspection was conducted using Inspection Procedure (IP) 95002 to assess the licensee's RCE associated with a Yellow inspection finding that resulted in a degraded mitigating systems cornerstone in the reactor safety strategic performance area. The inspection objectives were to:

- provide assurance that the root and contributing causes of risk-significant issues were understood;
- provide assurance that the extent of condition and extent of cause of risk-significant issues were identified and to independently assess the extent of condition and extent of cause of individual and collective risk-significant issues;
- independently determine if safety culture components caused or significantly contributed to the risk significant issues; and
- provide assurance that the licensee's corrective actions for risk-significant issues were or will be sufficient to address the root and contributing causes and to preclude repetition.

The licensee entered the Degraded Cornerstone Column of the NRC's Action Matrix as described in NRC Inspection Manual Chapter (IMC) 0305, Operating Reactor Assessment Program, in the fourth quarter of 2009 as a result of one inspection finding of substantial safety significance (Yellow). The finding was associated with the failure to identify and correct a condition adverse to quality involving a CCW system air intrusion event that occurred in October 2008. This NRC identified finding was initially documented in NRC Component Design Basis Inspection (CDBI) inspection report (IR) 05000335/2009006 and 05000389/2009006 as an apparent violation of 10 CFR Part 50,

Appendix B, Criterion XVI, Corrective Action. A Regulatory Conference was held with the licensee on February 19, 2010 to discuss the issue. The NRC determined the final significance to be Yellow as documented in NRC IR 05000335/2010007 and 05000389/2010007.

The licensee staff informed the NRC on April 28, 2010 that they were ready for the supplemental inspection. In preparation for the inspection, the licensee performed a root cause evaluation (action request 403656) to identify weaknesses that existed in various organizations which allowed air intrusion into the Unit 1 CCW system in 2008 and a less significant air intrusion event in 2009. The licensee's root cause team was made up of experienced licensee employees, industry peers and root cause consultants.

The inspectors reviewed the licensee's RCE in addition to other evaluations conducted in support and as a result of the RCE. The inspectors reviewed corrective actions that were taken or planned to address the identified causes. The inspectors held discussions with licensee personnel to ensure that the root and contributing causes and the contribution of safety culture components were understood and corrective actions taken or planned were appropriate to address the causes and preclude repetition. The inspectors also independently assessed the extent of condition and extent of cause of the identified issues. In addition, the inspectors performed an assessment of whether any safety culture components caused or significantly contributed to the issues. The team included an NRC safety culture expert.

.02 Evaluation of the Inspection Requirements

02.01 Problem Identification

- a. IP 95002 requires that the inspection staff determine that the licensee's evaluation of the issue documents who identified the issue (i.e., licensee-identified, self-revealing, or NRC-identified) and the conditions under which the issue was identified

The inspectors verified the licensee's RCE documented the issue as NRC-identified during the 2009 NRC Component Design Basis Inspection (CDBI) (NRC IR 05000335/2009006 and 05000389/2009006).

- b. IP 95002 requires that the inspection staff determine that the licensee's evaluation of the issue documents how long the issue existed and prior opportunities for identification

The licensee's RCE identified that the original Unit 1 CCW design was vulnerable to air intrusion that could result in the inoperability of both trains. This design has been in place since initial plant startup. The CCW system remained vulnerable to air intrusion until after the November 2009 air intrusion event when the makeup supply was isolated from the Unit 1 containment instrument air compressors. The licensee later installed a permanent modification on the makeup supply to provided double isolation with a tell tale vent valve in between. The RCE also documented the missed opportunities to use industry operating experience to identify the vulnerability of the Unit 1 CCW system to air intrusion.

- c. IP 95002 requires that the inspection staff determine that the licensee's evaluation documents the plant specific risk consequences, as applicable, and compliance concerns associated with the issues both individually and collectively

The NRC determined this issue to be a Yellow finding as documented in NRC IR 05000335/2010007 and 05000389/2010007. The inspectors verified that the licensee's evaluation documented the plant specific risk consequences. The RCE documented a conditional core damage probability between 1E-4 and 6E-4 which was consistent with the NRC's safety significance determination. The NRC inspectors did not identify any significant concerns with the licensee's evaluation.

- d. Findings

No findings were identified

## 02.02 Root Cause, Extent of Condition, and Extent of Cause Evaluation

- a. IP 95002 requires that the inspection staff determine that the licensee evaluated the issue using a systematic methodology to identify the root and contributing causes

The licensee used the following systematic methods to complete the RCE.

- event and causal factor charting;
- hazard-barrier-target analysis;
- management oversight and risk tree (MORT) analysis; and
- fault tree analysis.

The inspectors determined that the licensee evaluated the issue using systematic methodology to identify root and contributing causes.

- b. IP 95002 requires that the inspection staff determine that the licensee's RCE was conducted to a level of detail commensurate with the significance of the issue

The licensee's RCE included a broad timeline of events that extended back to original construction. The RCE utilized several systematic methods as discussed above to identify all root and contributing causes. Using a dedicated team of experienced licensee employees and industry experts, the licensee identified six root causes and four contributing causes. The inspectors concluded that the level of detail in the licensee's RCE was appropriate for the safety significance of the issue.

- c. IP 95002 requires that the inspection staff determine that the licensee's RCE included a consideration of prior occurrences of the issue and knowledge of Operating Experience (OE)

The licensee's RCE included an evaluation of internal and external OE. The licensee's review of the St. Lucie corrective action database did not find any issues associated with CCW system gas intrusion prior to the 2008 air intrusion event. The RCE included previous OE that was mainly focused on gas intrusion of emergency core cooling systems. The licensee recognized that the station failed to apply this information to vulnerable systems beyond those referenced in the OE. Based on the licensee's

detailed evaluation and conclusions, the inspectors determined that the licensee's RCE included a consideration of prior occurrences of the problem and knowledge of prior OE.

- d. IP 95002 requires that the inspection staff determine that the licensee's RCE addresses the extent of condition and extent of cause of the issues

The licensee's RCE documented two conditions associated with the CCW air intrusion event that required an extent of condition review. One condition was related to the inadequate interface between safety related/non-safety related or risk/non-risk significant systems. The licensee has actions to assess the identified systems that include a gas/fluid interface to the acceptance criteria of Generic Letter 2008-01, Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems. The second condition is related to the inadequate corrective action screening for mid level condition reports. The licensee performed an independent review of station equipment issues documented in condition reports that were coded as significance level/investigating type 3C and 3D that were initiated over the last five years to verify they were coded correctly and were properly screened for operability. Condition reports issued over the previous year that were coded as 2C equipment related were also reviewed.

For each of the six root causes and four contributing causes the licensee performed an extent of cause review. The inspectors found that the corrective actions associated with each extent of cause were sufficiently broad to address the extent of cause.

The inspectors concluded that the licensee's RCE addressed the extent of condition and the extent of cause of the issue.

- e. Findings

No findings were identified

### 02.03 Corrective Actions

- a. IP 95002 requires that the inspection staff determine that (1) the licensee specified appropriate corrective actions for each root and/or contributing cause, or (2) an evaluation that states why no actions are necessary

After the 2009 CCW system air intrusion event, the licensee took actions to isolate the CCW makeup supply to the containment air compressor system to stop/prevent further air intrusion into the CCW system. The licensee's RCE documented six root causes and four contributing causes for the CCW system air intrusion event. The inspectors reviewed completed and planned corrective actions for each root cause and contributing cause to determine whether they were specific, measurable, and timely. The inspectors did not identify any significant concerns with the licensee's corrective actions.

- b. IP 95002 requires that the inspection staff determine that the licensee prioritized corrective actions with consideration of risk significance and regulatory compliance

After the 2009 CCW system air intrusion event, the licensee took immediate actions to isolate the CCW makeup supply to the containment air compressor system to stop/prevent further air intrusion into the CCW system. The inspectors reviewed the

licensee's schedule for completion of corrective action for each identified root and contributing cause and determined that the licensee appropriately prioritized corrective actions with consideration of risk significance and regulatory compliance.

- c. IP 95002 requires that the inspection staff determine that the licensee established a schedule for implementing and completing the corrective actions

The inspectors determined that all the corrective action specified in the RCE have either been completed or scheduled.

- d. IP 95002 requires that the inspection staff determine that the licensee developed quantitative and/or qualitative measures of success for determining the effectiveness of the corrective actions to preclude repetition

As documented in the RCE, the licensee established measures for determining the effectiveness of the corrective actions. These measures included the following:

- On a quarterly basis, Engineering will assess condition reports that identify gas intrusion events and present result to the management review committee (MRC) and corrective action review board (CARB).
- On a monthly basis, engineering performance improvement will assess completed operability screenings for quality and consistency with site expectations.
- On a monthly basis, fleet performance improvement will assess the quality of a sample of screened condition reports based on the requirements of the site's corrective action procedures.
- On a monthly basis, operations will assess the quality of operational decision making (ODM) documents.
- On a monthly basis, fleet performance improvement will attend issue screening team (IST)/MRC/CARB meetings to assess performance.

The licensee staff entered these action items into their corrective action program to ensure that these effectiveness reviews and enhanced monitoring would be performed. The inspectors determined that quantitative and qualitative measures of success had been developed for determining the effectiveness of the corrective actions to preclude repetition.

- e. IP 95002 requires that the inspection staff determine that the licensee's planned or completed corrective actions adequately address a Notice of Violation (NOV) that was the basis for the supplemental inspection, if applicable

The NRC staff issued an NOV to the licensee; however, the NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence and the date when full compliance will be achieved is already adequately addressed on the docket in the "St. Lucie FPL 3 Meeting Summary," dated February 26, 2010 (ML100601170). This inspection requirement was not applicable.

- f. Findings

No findings were identified.

## 02.04 Independent Assessment of Extent of Condition and Extent of Cause

### a. Inspection Scope

IP 95002 requires that the inspection staff perform a focused inspection to independently assess the validity of the licensee's conclusions regarding the extent of condition and extent of cause of the issue. The objective of this requirement is to independently sample performance, as necessary, within the key attributes of the cornerstone that is related to the subject issue to ensure that the licensee's evaluation regarding the extent of condition and extent of cause is sufficiently comprehensive.

The inspection team conducted an independent extent of condition and extent of cause review of the issues associated with the Yellow finding. The Yellow finding ultimately revealed significant and broad organizational issues associated with the station's commitment to achieving a high level of human performance with nuclear safety as the highest priority. The organization failed to recognize or understand the significance of the 2008 gas intrusion event and its impact to the CCW system. The RCE revealed inadequacies in operating, alarm response, maintenance, operability determination and corrective action procedures. The inspection team's independent review focused on the primary root causes associated with the yellow finding in addition to the licensee's identified contributing causes that involved more specific aspects of the broader root causes.

The inspection team assessed whether the licensee's extent of condition and extent of cause evaluations sufficiently identified and bounded all organizational issues. The team also assessed whether the licensee's extent of condition and extent of cause evaluations sufficiently determined the actual extent of similar organizational issues that potentially existed in other station departments, programs, and processes.

In conducting this independent review, the inspection team interviewed station management and personnel, reviewed program and process documentation, and reviewed existing station program monitoring and improvement efforts, including review of corrective action documents. Based on the root and contributing causes identified by the licensee, the inspection team focused the review on the following attributes of the programs and processes:

- program and process expectations with regard to operability determinations to verify the determination was justified;
- maintenance program administration to identify equipment with a history of recurring problems and verification of appropriate corrective actions ;
- human performance with regard to work practices; and
- adequacy of licensee technical evaluation (corrective action program evaluations, engineering evaluations, operability determinations).

b. Assessment

The inspection team determined that the licensee conducted a comprehensive extent of condition and extent of cause review that sufficiently identified most relevant areas. The team did not identify any substantive extent of condition and extent of cause issues that the licensee was not aware of and had not already identified with corrective action plans in place.

The inspectors reviewed several operability evaluations and, although no present operability concerns were identified, several examples of incomplete documentation of operability evaluations were identified. The team's observations below were discussed with the licensee and have been entered into the licensee's corrective action program.

- The inspectors noted that a past operability determination associated with a 2B EDG air receiver leak (AR 00479521) focused on the leak rate affect on the air-start system capability to start the EDG and did not consider the affects of a seismic event on the structural integrity of the degraded air receiver. When the inspectors questioned the licensee, the licensee identified that a seismic event would have negligible effects on further propagating the current cracks due to the structural anchorage of the air receivers being at the bottom of the tank and that design basis earthquake loads were negligible compared with the tank's pressure forces. The inspectors agreed with the licensee's evaluation. However, the inspectors noted that although seismic loads were negligible, seismic loads should have been included in the past operability determination.
- Inspectors found multiple examples over the last ten years, including several recent examples, where operability determinations for CCW system piping through wall leaks did not thoroughly document the basis for the operability conclusion. The inspectors noted that operability reports did not explain the appropriateness of the chosen volumetric non-destructive examination (NDE) utilized to determine structural integrity. Several operability determinations did not document the degradation mechanism or list the relevant site OE. Also, some operability determinations did not justify the use of non-safety, non-seismic make-up sources, including consideration of required manual actions and design basis events.

During the team's review of the licensee's 10 CFR 50.65 (Maintenance Rule (MR)) program, the team identified two safety significant systems (2B emergency diesel generator (EDG) and 1C auxiliary feed water (AFW) pump) where goal setting and monitoring were not established as required by paragraph a(1) of 10 CFR 50.65 in a timely manner.

c. Findings

Introduction: The inspectors identified a Green non-cited violation (NCV) of 10 CFR 50.65(a)(2) for failure to demonstrate that the 2B EDG and the 1C AFW pump performance was being effectively controlled through the preventative maintenance (PM) program, or to place the system in 10 CFR 50.65(a)(1) status due to increased EDG and AFW pump unavailability and maintenance rule functional failures, respectively, beyond the established performance criteria.

Description: The inspectors reviewed condition reports (CRs) 2010-1510, 2010-10145, 2010-14355, and 2010-16485 associated with Unit 1 AFW pumps. These CRs documented 1C AFW valve MV-08-03 failed to open due to trip solenoid coil binding caused by corrosion on January 21, 2010, as a MR functional failure (MRFF) and a maintenance preventable functional failure (MPFF); Unit 1 AFW valve MV-09-11 failed to stroke open during electrical testing under 0-EMP-80.07 due to degradation of 72/C auxiliary contact on April 18, 2010, as a MRFF; Unit 1 AFW Valve MV-09-11 failed to close during performance of surveillance testing under 1-OSP-09.02C on May 30, 2010, as a MRFF and a MPFF. The inspectors determined that this was the third functional failure of the train which exceeded the reliability criteria of  $\leq 2$  functional failures in an 18 month period. On June 25, 2010, 1C AFW pump failed to achieve normal operating speed during surveillance test 1-OSP-09.01C due to corrosion debris from atmospheric dump valve (ADV) operation interfering with governor valve operation. This was classified as a MRFF.

The inspectors also reviewed CRs 2010-5305 and 2010-16503 associated with 2B EDG. The inspectors determined that 2B EDG exceeded unavailability criteria of 160 hours on February 27, 2010 because the air receivers were found to be degraded and repairs took several days to declare the EDG back in service.

Procedure NAP-415, Maintenance Rule Program Administration, requires the licensee to monitor and measure the effectiveness of maintenance in accordance with 10 CFR 50.65. NAP-415, section 4.3.2, Unavailability Monitoring, states, in part, that the Maintenance Rule Expert Panel (MREP) shall meet within 30 days of the identification of exceeding the unavailability performance criteria. When performance criteria are exceeded and a determination is made that the goal setting and monitoring are required, then either the CR is supplemented or a new CR is initiated, the MREP is notified, and the MR (a)(1) plan is prepared. The completed plan is then reviewed and approved by the MREP and concurrence is obtained from the Plant Manager. Completion of this process is required within 30 days from the initiation of the MR (a)(1) CR.

Section 4.3.3, Condition Monitoring of NAP-415, also states, in part, that the MREP should meet within ten (10) days of the identification of exceeding the condition monitoring performance criteria. In all cases, the MREP shall approve the evaluation within 30 days from designation of the CR as a MRFF exceeding the condition monitoring performance criteria.

The inspectors determined that the 2B EDG and the 1C AFW pump exceeded Maintenance Rule (a)(2) performance criteria since February 27 and May 30, 2010, respectively, and goal setting and monitoring plan were not established as required by paragraph a(1) of the Maintenance Rule in a timely manner. On August 24, 2010 in support of the IP 95002 inspection, the NRC requested a list and short description of systems that have been classified MR (a)(1) since 2008. During the course of fulfilling this request, the licensee identified that they had not had a MREP to review the above equipment issues. The MREP meeting was held on September 23, 2010 to approve these systems MR (a)(1) status. The development of the required goals and monitoring plan is in progress and expected to be completed by October 6, 2010. The licensee initiated AR 581307 to document these issues.

Analysis: The licensee's failure to effectively monitor 2B EDG and 1C AFW pump unavailability and maintenance rule functional failures and to determine the impact on 10



CFR 50.65(a)(2) performance criteria was considered a performance deficiency. The performance deficiency was determined to be more than minor because it was associated with the Equipment Performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring availability and reliability of systems designed to respond to initiating events to prevent undesirable consequences. More specifically, the licensee failed to demonstrate effective control of the 2B EDG and 1C AFW pump through appropriate PM. In accordance with NRC inspection manual chapter (IMC) 0609.04, Phase I – Initial Screening and Characterization of Findings, this finding was determined to be of very low safety significance (Green) because it did not lead to an actual loss of a system safety function or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The cause of this finding was directly related to the cross-cutting aspect of Human Performance H.4(b), work practices, for the failure to follow the maintenance rule procedural requirements which resulted in the goal setting and monitoring plan not being established in a timely manner per 10 CFR part 50.65.

Enforcement: 10 CFR 50.65, Requirements for monitoring the Effectiveness of Maintenance of Nuclear Power Plants, paragraph (a)(2) states, in part, that the monitoring specified in paragraph (a)(1) is not required where it has been demonstrated the performance or condition of a system, structures and components (SSC) is being effectively controlled through the performance of appropriate PM such that the SSC remain capable of performing its intended function. Paragraph (a)(1) requires, in part, that licensee shall monitor the performance or condition of SSC within the scope of the rule against licensee-established goals in a manner sufficient to provide reasonable assurance the SSC are capable of fulfilling their intended safety functions. Contrary to the above, on September 23, 2010, the licensee failed to demonstrate that the performance or condition of Unit 2 EDG and Unit 1 AFW systems had been effectively controlled through the conduct of appropriate scheduled PM without the approved goal setting and monitoring plan requirements specified in 10 CFR 50.65 paragraph (a)(1) being implemented. However, because this finding was of very low safety significance (Green) and has been entered in the licensee's corrective action program as AR 581307, this violation is being treated as an NCV consistent with the NRC Enforcement Policy. This NCV is identified as 05000335, 389/2010009-01, Failure to adequately monitor performance of the 2B EDG and 1C AFW pump as required by 10 CFR 50.65.

## 02.05 Safety Culture Consideration

### 1. Safety Culture Component Evaluation

#### a. Inspection Scope

IP 95002 requires that the inspection team perform a focused inspection to independently determine that the licensee's RCE appropriately considered whether any safety culture component caused or significantly contributed to any risk significant issue.

The inspection team reviewed condition reports, procedures and conducted interviews with licensee personnel to determine if the licensee properly considered whether any safety culture component caused or contributed to the issues. The team included a safety culture expert in conducting these interviews.

b. Assessment

As part of the root cause evaluation for the issue, the licensee evaluated the identified root and contributing causes against the safety culture components that could have contributed to the issues. The licensee's root cause evaluation included a discussion of the 13 safety culture components as described in Regulatory Issue Summary 2006-013, "Information on the Changes Made to the Reactor Oversight Process to More Fully Address Safety Culture," (ADAMS Accession No. ML061880341) as they applied to the YELLOW CCW air intrusion event.

The inspection team independently confirmed that the licensee's RCE appropriately identified safety culture components that contributed to the issues. For each of the identified prevalent and contributing safety culture components, the inspection team confirmed that the licensee established corrective actions to address the issues.

c. Findings

No findings of significance were identified.

2. To independently determine if safety culture components caused or significantly contributed to the individual risk-significant performance issues

a. Inspection Scope

During the inspection, inspectors independently assessed the relationship between safety culture aspects and the Yellow finding through the use of focus groups and interviews as well as reviewing self-assessment documents provided by the licensee. The inspectors interviewed a total of 69 individuals on site which included ten focus groups and 14 scheduled individual management interviews. Plant staff members interviewed were randomly selected from the Security, Operations, Radiation Protection, Chemistry, Maintenance, and Engineering organizations. Individuals involved in the root cause analysis of the event were also included. This included contractors as well as FPL employees.

As a result of the documents reviewed as part of the inspection, the focus groups and interviews were designed to gather information on the safety culture of St. Lucie with more questions asked concerning specific safety culture components. The questions covered the following general areas:

Safety Conscious Work Environment  
 Safety Policies  
 Continuous Learning Environment  
 Problem Identification and Resolution  
 Human Performance and  
 Organizational Change Management

The areas that were the target of questions during the inspection covered specifically the following topics:

Accountability  
 Training

Benchmarking  
 Knowledge Transfer  
 Decision Making  
 Resources  
 Work Control  
 Work Practices  
 Corrective Action Program (CAP)

b. Assessment

The inspectors did not identify concerns related to St. Lucie's safety conscious work environment (SCWE). The inspectors determined that plant staff members felt they were personally responsible for nuclear safety and were comfortable in raising safety concerns to supervisors, management, and using the CAP. Individuals felt personally responsible for nuclear safety at the site and perceived the current management reinforced this message. Plant staff members were also well aware of the availability of alternate reporting channels including the Employee Concerns Program (ECP) and directly to the NRC. During the inspection, it was concluded that it is a common perception of plant staff that resource management limits various areas which affect safety culture throughout the organization. These areas include training, staffing resources, decision making, activities related to benchmarking with other sites, and maintenance activities. The overall view of the staff is that conditions in these areas are improving under the new management. The inspectors determined that work control and work practices have started to improve under new management specifically with the decision making process as it pertains to nuclear safety. Concerning the CAP, the inspectors determined that the changes to the root cause analysis process and apparent cause evaluation process, and prioritizing of the issues entered into the CAP program have been communicated effectively and that this is slowly improving the overall CAP process. The inspectors' interviews with upper management showed that management was largely aware of the perceptions of the plant staff. Some plant staff voiced concerns with management communication of organizational changes and changes to staffing plans. Overall it was determined that the components of safety culture discussed above did contribute to the Yellow finding associated with the licensee's failure to implement adequate corrective actions associated with the 2008 CCW air intrusion event.

c. Findings

No findings were identified.

02.06 Evaluation of IMC 0305 Criteria for Treatment of Old Design Issues

The licensee did not request credit for self-identification of an old design issue; therefore, the risk-significant issue was not evaluated against the IMC 0305 criteria for treatment of an old design issue.

40A6 Exit Meeting

On October 1, 2010, the inspectors presented the inspection results to Mr. R. Anderson, Site Vice President, and other members of his staff, who acknowledged the findings. The inspectors confirmed that proprietary information was not retained after the inspection.

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### **Licensee Personnel:**

R. Anderson, Site Vice President  
B. Hughes, Plant General Manager  
L. Nicholson, Director of Licensing  
M. Hicks, Site Excellent Team Director  
S. Duston, Training Manager  
M. Moore, Performance Improvement Manager  
E. Katzman, Licensing Manager  
J. Hamm, Engineering Manager  
M. Haskin, Maintenance Manager  
D. Huey, Work Control Manager  
R. Lingle, Operations Manager  
A. Day, Chemistry Manager  
C. Martin, Radiation Protection Manager  
J. Kramer, Safety Manager  
C. Nale, Fleet Corrective Action Coordinator  
K. Thompson, Mechanical Lead Engineer  
A. Roderick, Nuclear Engineering Supervisor  
P. Rasmus, Nuclear Operations Supervisor  
P. Barnes, Nuclear Engineering Supervisor  
M. Dryden, Licensing Supervisor  
D. Cecchetti, Licensing Engineering  
A. Terezakis, Nuclear Operations Supervisor  
M. Bladdek, Assistant Operations Manager  
M. Baughman, Training Supervisor  
K. Gatto, Mechanical Supervisor  
J. Schaffer, Nuclear Safety Culture Project Lead  
C. Buehrig, Maintenance Rule Expert Coordinator  
T. Sansers, Component Program Group Supervisor  
S. Gambill, System Engineering Electrical Supervisor  
P. Atkinson, BOP System Engineering Supervisor

#### **NRC Personnel:**

D. Rich, Chief, Branch 3, Division of Reactor Projects

### **LIST OF ITEMS OPENED, CLOSED AND DISCUSSED**

#### **Open and Closed**

05000335, 389/2010009-01	NCV	Failure to adequately monitor performance of the 2B EDG and 1C AFW pump as required by 10 CFR 50.65 (Section 40A4)
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Closed

05000335/2009006-06	VIO	Failure to Identify and Correct a Condition Adverse to Quality (Section 4OA4)
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Discussed

LER 2010-001-00	LER	Air Intrusion from 1A Containment Instrument Air Compressor into Unit 1 Component Cooling Water (Section 4OA3)
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**LIST OF DOCUMENTS REVIEWED**Action Request (AR)

403656	479571	459188
403680	406307	479533
568399	406279	479549
485617	569050	465167
485513	466298	477761
579602	572738	470448
576366	465303	406079
523660	464130	479521
565948	469691	485552
479552	464833	406382
574203	405861	406109
464045	470101	567878
476990	406382	568399
568366	446158	475746
479152	471890	484666
475265	479150	459188
446788	569362	479533
513460	476415	479549
460002	406430	465167
468108	477547	477761
558066	450232	470448
477859	403653	406079
477179	479492	479521
406574	479543	485552
406451	566299	406382
406013	473653	406109
403627	403652	567878
479488	475746	568399
479755	484666	

ARs Written During NRC Inspection Visit

581424	581876	581972
581819	581878	581966
581873	581969	581964

581163	582689	583426
581575	582915	583338
581613	582828	583442
581856	583097	583582
581866	583099	583637
581706	583104	583642
582075	583183	583612
581732	581307	583677
581777	583090	
581785	583243	

### System Health reports

St. Lucie Unit 1 Component Cooling Water - 4/1/2010-6/30/2010  
 St. Lucie Unit 1 Auxiliary Feedwater System – 4/1/2010-6/30/2010  
 St. Lucie Common Motors – 4/1/2010 -6/30/2010  
 St. Lucie Unit 2 Chemical and Volume Control – 4/1/2010-6/30/2010  
 St. Lucie Unit 1 Emergency Diesel Generators – 4/1/2010-6/30/2010  
 St. Lucie Unit 2 Emergency Diesel Generators - 4/1/2010-6/30/2010  
 St. Lucie Unit 1 High Pressure Safety Injection - 4/1/2010-6/30/2010  
 St. Lucie Unit 2 High Pressure Safety Injection – 4/1/2010-6/30/2010  
 St. Lucie Unit 1 120 V Instrument & Vital AC – 4/1/2010-6/30/2010  
 St. Lucie Unit 2 125 V DC  
 St. Lucie Unit 1 Containment Spray System – 4/1/2010 – 6/30/2010  
 St. Lucie Unit 1 Low Pressure Safety Injection System – 4/1/2010 – 6/30/2010  
 St. Lucie Unit 1 Intake Cooling Water System – 4/1/2010 - 6/30/2010

### Maintenance Rule (MR)

MR a(1) Action Plan – PSL 1 Circulating Water Debris Filter System 7/17/2008  
 MR a(1) Action Plan – PSL 1 Intake Cooling Water System, 7/1/2008  
 MR a(1) Action Plan – PSL 1 Emergency Diesel Generator System, 3/5/2009  
 MR a(1) Action Plan – PSL 2 Condensate System, 8/1/2008  
 MR a(1) Action Plan – PSL 2 Intake Cooling System, 4/22/2008  
 MR a(1) Action Plan – PSL 2 Reactor Coolant System, 7/1/2008  
 MR a(1) Action Plan – PSL 2 Chemical Volume and Control System,

### Maintenance Rule Expert Panel Meeting Minutes

Expert Panel 2010-02, 3/25/2010  
 Expert Panel 2009-06, 12/16/2009  
 Expert Panel 2009-05, 10/5/2009  
 Expert Panel 2009-03, 7/1/2009  
 Expert Panel 2009-02, 3/5/2009  
 Expert Panel 2009-01, 2/12/2009

### Training Records

PSL Apparent Cause (ACE) Training – 8/10/2010  
 PSL Root Cause (RCE) Training – 8/26/2010  
 PSL Immediate Operability Determination Training – 9/13/2010

PSL Operational Decision Making Training - 8/23/2010  
 PSL ENG 1900887, Gas Accumulations Management Program (GAMP) for Engineers, Rev 0  
 PSL SPEC 4702801, An Effective CAP is Essential (CAP Alignment Training), Rev 0  
 PSL Root Cause Evaluation (RCE) Training – 8/30/2010

### Procedures

NAP-415, Maintenance Rule Program Administration, Rev.3  
 NAP-412, Operational Decision Making, Revision 9  
 PI-AA-01, Corrective Action Program and Condition Reporting, Revision 1  
 PI-AA-102-1001, Operating Experience Program Screening and Responding to Incoming Operating Experience Guideline, Revision 1  
 PI-SI-204, Condition Identification and Screening Process, Revision 3  
 PI-PI-205, Condition Evaluation and Corrective Action, Revision 10  
 PSL-01.05, Apparent Cause Evaluation Handbook, Revision 8  
 PSL-01.06, Root Cause Evaluation Handbook, Revision 10  
 PSL-01.04, Corrective Action Program Expectation Handbook, Revision 16  
 ADM-07.04, Corrective Action Program Requirements, Revision 1  
 ADM-08.12, Maintenance Configuration Control, Revision 0  
 ADM 10.2, Plant Work Request/Order Origination, Revision 23  
 ADM-00104332, Control Plant Work Orders, Revision 59  
 1-0310030, Component Cooling Water Off Normal Operation, Revision 44  
 2-0310030, Component Cooling Water Off Normal Operation, Revision,40  
 1-ARP-0-S6, Annunciator Response Procedure, Revision 3  
 2-ARP-1-LB00, Annunciator Response Procedure Control Room Panel LB PACB, Revision 13  
 2-ARP-1-LA00, Annunciator Response Procedure Control Room Panel LB PACB, Revision 12  
 1-NOP-14.02, Component Cooling Water System Operation, Revision 27  
 2-NOP-14.02, Component Cooling Water System Operation, Revision 18  
 MPG-001, Plant Work Order Planning, Revision 24  
 MPG-002, Planner Preventative Maintenance Program Implementation, Revision 3  
 EN-AA-203-1001, Operability Determinations/Functionality Assessments, Revision 4  
 1-AOP-14.01, Component Cooling Water Abnormal Operations, Revision 0  
 2-AOP-14.02, Component Cooling Water Abnormal Operations, Revision 0  
 AD-AA-103, Nuclear Safety Culture Program, Revision 1  
 AD-AA-103-1000, Differing Professional Opinion, Revision 0  
 ADM-03.10, Gas Accumulation Management Program Revision 1  
 ADM-17.08, Implementation of 10 CFR 50.65, The Maintenance Rule, 17F  
 SCEG-005, Guideline for Maintenance Rule Performance Criteria Development and Revision, Revision 0A  
 SCEG-006, Monitoring System, Structure or Component Performance Under The Maintenance Rule Program

### Audit Reports

PSL-08-08, Corrective Action Audit Report  
 PSL-10-009, St. Lucie Nuclear Oversight Report  
 St. Lucie Nuclear Plant Self-Assessment Report, 08/26/2010

### Calculations

PSL-1EJM-75-015, Study of Missile Impact on CCW HX, Revision 0

PSL-2FJM-91-039, CCW HX Accident (LOCA) Heat Loads, Revision 0  
 PSL-2FJM-90-038, Flow From the Demineralized Water System Pump to the Component Cooling Water Surge Tank, Revision 0

### Drawings

2998-G-082, Flow Diagram Circulating and Intake Cooling Water System, Revision 54  
 2998-G-083, Flow Diagram Component Cooling System, Revision 41  
 2998-G-082, Flow Diagram Circulating and Intake Cooling Water System, Revision 45  
 2998-G-082, Flow Diagram Intake Cooling Water System, Revision 45  
 2998-G-083, Flow Diagram Component Cooling System, Revision 40  
 2998-G-083, Flow Diagram Component Cooling System, Revision 41  
 8770-G-083, Flow Diagram Component Cooling System, Revision 59  
 8770-G-084, Flow Diagram Fire Water, Domestic, and Make-Up Systems, Revision 53  
 8770-G-084, Flow Diagram Domestic and Make-Up Systems, Revision 45  
 8770-G-088, Containment spray and refueling water systems flow diagram (Sheet 1), Rev 54  
 8770-G-096, Unit 1 Flow Diagram - EDG system Air Start package (Sheet 1C), Rev 17  
 8770-G-096, Unit 1 Flow Diagram - EDG system Air Start package (Sheet 2C), Rev 14  
 2998-G-096, Unit 2 Flow Diagram - EDG system Air Start package (Sheet 1C), Rev 17  
 2998-G-096, Unit 2 Flow Diagram - EDG system Air Start package (Sheet 2C), Rev 14  
 8770-G-085, Unit 1 Flow Diagram – Instrument Air System (Sheet 4B), Rev 31  
 8770-7699, Containment Instrument Air Compressor, Aftercooler, & Air Receiver Outline, Rev 7

### Design Basis Documents (DBDs)

DBD-CCW-1, Component Cooling Water System, Revision 3  
 DBD-CCW-2, Component Cooling Water System, Revision 3  
 DBD-ICW-2, Intake Cooling Water System, Rev 2  
 DBD-EDG-1, Emergency Diesel Generator System, Rev 3  
 DBD-480V-AC-1, 480 VAC Distribution System, Rev 3  
 DBD-CS-1, Containment Spray System, Rev 3

### Work Orders:

WO 38001572, 1B Containment Spray pump: Install test gauge  
 WO 4003796, EDG 2B Start-up air receiver head installation  
 WO 40008610, 480V MCC 1A6-ER3: TOL tripped twice

### Miscellaneous

ASME Code Case N-513-2  
 Generic Letter 90-05, Guidance for Performing Temporary Non-Code Repair of ASME Code Class 1, 2, and 3 Piping  
 Regulatory Guide 1.147, Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1  
 ENG-SPSL-10-0055, Code Case N-513-2 Through Wall Flaw Analysis on Line I-30"-CW-30, Revision 1  
 PSL-OPS-0711413, Reactor Operator Training Program – Instrument and Service Air Systems, Revision 13  
 PCM 10017, Containment Instrument Air System Isolation Modification Package, Revision 0  
 NRC Inspection Procedure (IP) 62700, Maintenance Program Implementation



Regulatory Guide (RG) 1.160, Monitoring the Effectiveness of Maintenance at Nuclear Power Plants  
NRC Inspection Manual 0310, Components within the Cross-Cutting Areas  
St. Lucie Nuclear Plant Latent Issues Review – Unit 1 Emergency Diesel Generators from February 23 – March 13, 2009  
Sargent & Lundy Evaluation – 2010-09351, Review of NNS Skid-Mounted Equipment Interface with SR or Risk Significant Systems, Revision 0  
CR Screening & Approval Process Overview, Revision 4  
Report of Calibration for PSL-3101 (500 psig Analog Gauge). Performed 09/08/2008, 10/27/2009  
Report of Calibration for PSL-2816 (500 psig Analog Gauge). Performed 10/13/2008, 10/27/2009  
PSL SPEC 4702801, An Effective CAP is Essential (CAP Alignment Training), Rev 0  
ASME Code Case N-705 Evaluation of air receiver tank (Contract No. 129504)  
Stroke-Time trend data for Unit 1 MV-07-1A (1/8/2009 – 6/18/2010)  
ALION-REP-PSL-7994-005, Failure Modes and Effects Analysis – Non-Nuclear Safety Failures Effects on Nuclear Safety Systems – PSL Unit 1 AFW and HPSI Systems, Rev 0  
St. Lucie Unit 1 95002 Inspection Overview presentation (9/22/2010)  
1-OSP-03.16A, 1A LPSI pump comprehensive flow test, Rev 1 (Performed 5/14/2010)  
CAP Health Index for August/2010  
PCM 10017, Containment Instrument Air – CCW System Isolation  
Condition Report CR 2000-0444, 1A CCW HX Tube Leak

### August 24, 2010 Document Request to Support Inspection

1. A copy of all corporate and site level procedures associated with the corrective action process, operating experience program, employee concerns program, self-assessment programs, differing professional opinion program, operability determination process and system health reports.
2. Three lists of all condition reports issued since September 1, 2008 as sorted below. List should include a brief description of the problem and the significance level. Specifically, one list should be sorted by significance level, a second list sorted by system, a third list of condition reports that required an operability determination.
3. Complete updated hard and electronic copy of all Condition Reports including root cause, extent of cause/condition associated with the Yellow finding. This includes both the 2008 and 2009 air intrusion events.
4. A list of all CAP, OE, ODM procedures that have been updated as a result of the finding. List should include: Document number, title and a description of changes.
5. Hard copy of all corrective action completed (closeout packages). Provide a schedule of corrective actions.
6. Copy of all performance improvement plans generated with a status of completed items. For items not completed, provide expected completion dates.
7. Copy of all lesson plans associated with root cause training provided to staff. Provide a list of plant personnel with job title that have completed the training. Provide list of personnel that will be provided training that have not yet completed training. Provide any additional training plans (or description of training) not yet completed.
8. Provide copy of any safety conscious work environment (SCWE) assessments and surveys conducted over the last four years. Provide a copy of procedures associated with SCWE.
9. Provide an overview presentation to the team regarding the air intrusion issue with corrective actions taken/planned, extent of condition, extent of cause and SCWE aspect.
10. A list of employee concern program items with descriptions received since Sept 1, 2007 (provide a hard copy to team leader when on site).
11. A list with a short description of open and/or closed operational decision making (ODMs) evaluations since Sept 1, 2008.
12. A list, including description, of industry operating experience (OE) entered into the OE program since Sept 1, 2008.
13. Copy of condition report/corrective actions associated with **ANY** OE associated with gas accumulation in plant systems. This should include Generic Letter 2008-01,

Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems.

14. Short description of non-safety related systems that interface with safety-related systems and how they are designed to isolate from the safety-related system when needed. Also, describe any surveillance testing, if any, of this isolation feature.
15. Copy of any effectiveness reviews completed.
16. Schedule of all corrective action meetings the week of Sept 20, 2010 and Sept 27, 2010.
17. List and short description of systems that are or were listed as Maintenance Rule a(1) since Sept 1, 2008. Include corrective actions taken or planned to improve the health of the system. Provide a list of repetitive MR FF since Sept 1, 2008.
18. Provide copy of procedure(s) associated with controlling component status during operation and maintenance conditions.
19. Provide a copy of any quality assessments/evaluations associated with the Corrective Action Program.
20. Training Documents
  - Pre-job briefs associated with the work performed on the CCW and Instrument Air system that led to the 2009 air intrusion event
  - Copy of operations turnover sheet prior to the 2009 event
  - Copy of governing procedure for pre-job briefs
  - Copy of training documents associated with the corrective action program
21. Copy of any other assessments not previously listed associated with the 2008 or 2009 events
22. Copy of any communications associated with the event (station wide communications, press releases etc)
23. List of disciplinary actions (if any) and how those actions were communicated to the site.
24. Interviews: Have available individuals from the organizations below during the inspection

Operations, Maintenance, Radiation Protection, Chemistry, Training and Security

In addition, the team would like to interview selected Operations personnel who were on-shift during the 2008 and 2009 events; the CAP manager; Employee Concerns Program manager; and individuals who performed the root cause evaluation.