



Florida Power & Light Company, 6501 S. Ocean Drive, Jensen Beach, FL 34957

March 24, 2011

10 CFR 55.5
10 CFR 55.40
L-2011-114

Mr. Malcolm Widmann
Attn. Mr. Gerard Laska
U.S. Nuclear Regulatory Commission, Region II
Marquis One Tower
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, GA 30303-1257

RE: St. Lucie Units 1 & 2
Docket Nos. 50-335 and 50-389
Post NRC Written Examination Facility Activities--
050000335/2011301 & 05000389/2011301
Facility License Nos. DPR-67 and NFP-16

In accordance with Operator Licensing Examination Standards for Power Reactors, NuREG-1021 Rev. 9, Supplement 1, ES-403 and ES-501, Florida Power & Light St. Lucie Nuclear Plant is submitting the HLC-20 NRC post examination facility activities.

Specific items provided per those requirements are:

- Signed ES-403-1, Written Examination Grading Quality Checklist
- 15 Original applicant written examination answer sheets
- 15 Photo copied applicant written examination answer sheets
- 15 Graded, photo copied applicant written examination answer sheets
- 15 Applicant written examination signed cover sheets
- 1 Master SRO written examination
- 1 Master RO written examination
- 1 Master answer key
- 4 Pages of student questions with proctor responses
- 1 Applicant seating chart
- Written examination performance analysis
- Attachment 1 – St. Lucie NRC Examination Facility Comments

ES-201-3, Examination Security Agreement, is currently being completed. It will be sent under separate correspondence.

Questions or comments should be directed to Terry Benton at (772) 539-2597, or Dave Lanyi at (772) 532-0106.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Richard L. Anderson'.

Richard L. Anderson
Site Vice President
St. Lucie Plant

RLA/tit

Enclosures

JPM S-3, Perform Control Room Actions for Loss of Safety Related AC Bus–Unit 2

Facility Comment:

Step 3 and Step 4 of the JPM S-3 are incorrectly designated as Critical Steps.

Basis:

The aforementioned steps require the applicant to place the 2A and 2C Charging pump control switches to STOP and place Letdown Isolation valves to close. This is directed in accordance with 2-AOP-47.01A, 'Loss of A Safety Related AC Bus'.

The basis for these steps is to establish a "known configuration" for subsequent power restoration. Based upon the conditions established by the JPM, the loss of power automatically isolated letdown and secured charging. In the event these actions are not completed, if an auto action of the charging pump resulted in a pump start, the size of the load would not damage or potentially overload a bus. There is no safety significance by not completing these steps; therefore these steps are not critical for these conditions.

The immediate actions of 2-AOP-02.03, 'Charging and Letdown', which apply to this event, require that Charging be secured and control switches placed in auto. This is not consistent with the steps of 2-AOP-47.01A, 'Loss of A Safety Related AC Bus'.

The initial conditions of this JPM has letdown isolated due to loss of the 2A5 480V Load center. Immediate Operator actions of 2-AOP-02.03, 'Charging and Letdown' requires the Operator to STOP the Charging pumps and RETURN the control switches to AUTO in the event of loss of letdown.

If the applicant stopped the Charging pumps and placed the switches to auto, the backup Charging pump would cycle in response to lowering Pressurizer level of -3% deviation from setpoint and stop at +3.6% deviation from setpoint. These setpoints are such that the Tech Spec limits for high/low Pressurizer level are not exceeded. The simulator setup for this JPM requires the Pressurizer Pressure and Level channels be selected to 'Y' channel. By doing so, the automatic response of the Charging pumps to Pressurizer level deviation is not affected by the loss of 2A5 480V LC.

2-AOP-47.01A, 'Loss of A Safety Related AC Bus' directs the Operator to ENSURE the Train A Charging pump control switches placed in STOP. This step is based on possible cycling of the backup charging pump due possible failure of selected Pressurizer level channel from loss of power. That is not the case for this JPM as stated in the above paragraph. Therefore, not placing the control switches in STOP is NOT critical.

This step is an action step, therefore, in accordance with the station's procedure writer's guide, the step is capitalized and bolded. This is consistent with all action statements in PSL's upgraded procedures.

Facility Recommendation:

Revise JPM S-3, Perform Control Room Actions for Loss of Safety Related AC Bus – Unit 2, steps 3 and 4, to remove the critical step designation.

References:

- 2-AOP-47.01A, 'Loss of A Safety Related AC Bus'
- 2-AOP-02.03, 'Charging and Letdown'
- PSL OPS 0711206, Pressurizer Pressure and Level Control System (PPLCS)
- NuReg 1021, Appendix "D", Simulator Testing Guidelines for Critical Task Methodology.

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**

START TIME: _____

2-AOP-47.01A, Loss of A Safety Related AC Bus – Train A. General Actions	
<div style="border: 1px solid black; padding: 5px; text-align: center; margin-bottom: 10px;">CAUTION</div> <p>Various instruments and equipment normally used for assessment of critical safety functions may NOT be OPERABLE. All available indications should be used.</p> <p>STEP 1 (4.2.1.1): IF letdown was in service prior to the loss of power event, THEN VERIFY letdown flow.</p> <p>STANDARD: DETERMINES Letdown flow has been lost.</p> <p>EXAMINER'S CUE: EXAMINERS NOTE: Letdown valve V2515 closed on loss of Bus</p> <p>COMMENTS:</p>	<p>____ SAT</p> <p>____ UNSAT</p>
<p>STEP 2 (4.2.1.1.1): SECURE charging</p> <p>STANDARD: STOPS 2A charging pump</p> <p>EXAMINER'S CUE:</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>
<p>STEP 3 (4.2.1.1.2): ENSURE Train A charging pump control switches are in STOP.</p> <p>STANDARD: PLACES 2A AND 2C charging pump control switches to in STOP.</p> <p>EXAMINER'S CUE:</p> <p>COMMENTS:</p>	<div style="border: 1px solid black; border-radius: 50%; padding: 10px; display: inline-block; margin-bottom: 10px;">CRITICAL STEP</div> <p>____ SAT</p> <p>____ UNSAT</p>

Attachment 1

**JOB PERFORMANCE MEASURE
PERFORMANCE CHECKLIST**



<p>STEP 4 (4.2.1.1.3): ENSURE the following valves are CLOSED:</p> <ul style="list-style-type: none">• V2515, STOP VALVE-IC• V2516, CONTAINMENT ISOL VALVE - IC• V2522, CONTAINMENT ISOL VALVE - OC <p>STANDARD: PLACES V2515, V2516 and V2522 to the CLOSED position.</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>
<p>STEP 5 (4.2.1.2): IF all of the following conditions exist:</p> <ul style="list-style-type: none">• Unit 2 is in MODE 3 through 6• SIAS blocked <p>THEN VERIFY at 15 minute intervals that SFSC criteria are met per Low Mode AOP for current plant conditions.</p> <p>STANDARD: DETERMINES step is N/A</p> <p>EXAMINER'S CUE:</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>

REVISION NO.: 0	PROCEDURE TITLE: CHARGING AND LETDOWN	PAGE: 6 of 39
PROCEDURE NO.: 2-AOP-02.03	ST. LUCIE UNIT 2	

INSTRUCTIONS**CONTINGENCY ACTIONS****4.0 OPERATOR ACTIONS****4.1 Immediate Operator Actions**

1. IF letdown flow is lost,
THEN **PERFORM** the following:

A. **STOP** charging pumps.

B. **RETURN** charging pump
control switches to AUTO.

**CAUTION**

Severe thermal stress and flashing may occur in the Regenerative Heat Exchanger if letdown flow is **NOT** immediately isolated.

2. IF charging flow is lost,
THEN **ISOLATE** letdown by
performing the following:

A. **CLOSE** V2522,
CONTAINMENT ISOL
VALVE-OC.

B. **CLOSE** V2515, STOP
VALVE-IC.

C. **CLOSE** V2516,
CONTAINMENT ISOL
VALVE-IC.

Attachment 1

REVISION NO.: <div style="text-align: center; font-weight: bold;">3</div>	PROCEDURE TITLE: <div style="text-align: center;">LOSS OF A SAFETY RELATED AC BUS - TRAIN A</div>	PAGE: <div style="text-align: center;">5 of 67</div>
PROCEDURE NO.: <div style="text-align: center;">2-AOP-47.01A</div>	<div style="text-align: center;">ST. LUCIE UNIT 2</div>	

INSTRUCTIONS

CONTINGENCY ACTIONS

4.0 OPERATOR ACTIONS

4.1 Immediate Operator Actions

None

4.2 Subsequent Operator Actions

4.2.1 General Actions

CAUTION

Various instruments and equipment normally used for assessment of critical safety functions may NOT be OPERABLE. All available indications should be used.

1. IF letdown was in service prior to the loss of power event, THEN **VERIFY** letdown flow.



1.1 SECURE charging.

1.2 ENSURE Train A charging pump control switches are in STOP.

1.3 ENSURE the following valves are CLOSED:

- V2515, STOP VALVE-IC
- V2516, CONTAINMENT ISOL VALVE - IC
- V2522, CONTAINMENT ISOL VALVE - OC

2. IF all of the following conditions exist:

- Unit 2 is in MODE 3 through 6
- SIAS blocked

THEN **VERIFY** at 15 minute intervals that SFSC criteria are met per Low Mode AOP for current plant conditions.

2.1 IMPLEMENT Low Mode AOP for current plant conditions.

UNIT 1 SUMMARY OF PRESSURIZER LEVEL CONTROL ACTIONS

<u>PZR. LEVEL</u>	<u>AUTOMATIC ACTION</u>
+10% Deviation	High Pressurizer Level Alarm (Increasing)
+9% Deviation	Maximum Letdown (128 gpm) (Increasing)
+3.6% Deviation	<ul style="list-style-type: none"> • All Heaters ON (Unless Handswitch In Off) • Both Backup Charging Pumps Receive Stop Signal
0% Deviation	Normal Level (Setpoint From RRS)
-1% Deviation	<ul style="list-style-type: none"> • Minimum Letdown (29 gpm) (Decreasing) • First B/U Chg. Pump "STOP" Signal (Increasing)
-2% Deviation	<ul style="list-style-type: none"> • Second B/U Chg. Pump "STOP" Signal (Increasing)
-3% Deviation	First B/U Chg. Pump "START" Signal (Decreasing)
-4% Deviation	Second B/U Chg. Pump "START" Signal (Decreasing)
-5% Deviation	Low Pressurizer Level Alarm, All Chg. Pumps Get Backup "START" Signal (Decreasing)
28% Indicated Level	All Pressurizer Heaters OFF (Decreasing)

UNIT 2 SUMMARY OF PRESSURIZER LEVEL CONTROL ACTIONS

<u>PZR. LEVEL</u>	<u>AUTOMATIC ACTION</u>
+10% Deviation	High Pzr Level Alarm (Increasing) RTGB 203
+9% Deviation	Maximum Letdown (128 gpm) (Increasing)
67% Indicated Level	High Pzr Level Alarm (Increasing) PACB Alarm
+3.6% Deviation	<ul style="list-style-type: none"> • All Heaters "ON" Signal (Unless Handswitch In Off OR Pressure \geq2275 Psia) • B/U Chg. "STOP" Signal (Increasing)
0% Deviation	Normal Level (Setpoint From RRS)
-1% Deviation	<ul style="list-style-type: none"> • Minimum Letdown (29 gpm) (Decreasing) • B/U Chg. Pump "STOP" Signal (Increasing)
-3% Deviation	<ul style="list-style-type: none"> • B/U Chg. Pump "START" Signal (Decreasing)
-5% Deviation	Low Pressurizer Level Alarm B/U Chg. Pump Gets Backup "START" Signal (Decreasing)
27% Indicated Level	Low Pzr Level Alarm (Decreasing) PACB Alarm With Channel X <27%; "A" Side 4160v Pzr Heater X-Former Feeder Bkr Trips And "B" Side Heater Power Supply Contactors Open. With Channel Y <27%; "B" Side 4160v Pzr Heater X-Former Feeder Bkr Trips And "A" Side Heater Power Supply Contactors Open.

Admin JPM A-6, Respond to Security Event**Facility Comment:**

Step 14 and 16, of the JPM A-3, is incorrectly designated as a Critical Step.

Basis:

The aforementioned steps requires the applicant to annotate on the Florida Nuclear Plant Emergency Notification Form that "This is a Drill", and selection of the affected unit. These steps are procedurally directed per EPIP-08, 'Off-site Notifications and Protective Action Recommendations'.

The basis for these steps are to identify that this is a drill rather than documentation of an actual emergency, and specify the affected unit. In accordance with EPIP-08, Attachment 1A step 1, During exercises, drills, or tests, each message shall be checked THIS IS A DRILL. Additionally, selection of the affected unit is required to be only one with additional information provided if both units are impacted. These are asterisked steps on Attachment 1 of the Florida Nuclear Plant Emergency Notification Form, which states, "items are evaluated for NRC Performance Indicators." During development of the JPM, the standards for NRC performance indicators acceptance criteria were used to define the critical steps for the applicant's exam.

In accordance with ADM-25.02 Appendix L, Drill/Exercise Performance step C, source documents for the NRC performance indicators are; Drill Reports, LOCT Simulator Evaluation Critique Sheets, and Actual Event Reports. This applicant JPM does NOT fall under this criteria and is not used for NRC performance indicators. Therefore the asterisk step on Attachment 1 of the Florida Nuclear Plant Emergency Notification Form does not apply.

The JPM initial condition does not inform the applicant that this is a drill or simulated condition. Applicant confusion can arise as to the condition to which they respond to this step. Emergency Drills and LOCT Simulator evaluations conduct a pre-exercise drill brief.

There is no safety significance for selecting either this is a drill or actual emergency. The state watch office was not actually contacted. Selecting both units as being affected, again has no safety significance. These issues are solely with procedural compliance. Since the station's administrative procedures do not apply, the station's position is that these two steps should be designated an NOT Critical.

Facility Recommendation:

Revise JPM A-6, Respond to Security Event, steps 14 and 16, to remove the critical step designation.

References:

- EPIP-08, 'Off-site Notifications and Protective Action Recommendation'
- ADM-25.02, 'NRC Performance Indicators, Appendix L, Drill/Exercise Performance
- Donna Calabrese, PSL EP Manager
- NuReg 1021, Appendix "D", Simulator Testing Guidelines for Critical Task Methodology.

Attachment 1

ATTACHMENT 1 FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM		CRITICAL STEP
<p><u>STEP 14 (Line 1):</u></p> <p>1.* A. <input checked="" type="checkbox"/> THIS IS A DRILL B. <input type="checkbox"/> THIS IS AN EMERGENCY</p> <p><u>STANDARD:</u> Checks A</p> <p>EXAMINER'S CUE: NONE EXAMINER'S NOTE: Per EPIP-08, Attachment 1A step 1, drill, exercises or tests, each message shall be checked "this is a drill"</p> <p><u>COMMENTS:</u></p>	<p>_____ SAT</p> <p>_____ UNSAT</p>	
<p><u>STEP 15 (Line 2):</u></p> <p>2. A. Date: ___/___/___ B. * Contact Time: _____ C. Reported by: (Name) _____ D. Message Number: _____ E. Reported from: <input checked="" type="checkbox"/> Control Room <input type="checkbox"/> TSC <input type="checkbox"/> EOF F. <input type="checkbox"/> Initial / New Classification OR <input type="checkbox"/> Update Notification</p> <p><u>STANDARD:</u> A. Today's Date B. Time contact made – left blank at this time C. Applicant's name D. Message # 1 E. Control Room F. Initial / New Classification</p> <p>EXAMINER'S CUE: NONE EXAMINER'S NOTE: Part B Contact time must be within 15 minutes of the emergency classification time EXAMINER'S NOTE: Contact time shall be filled in when contact is made with the state. EXAMINER'S NOTE: Only the * step is CRITICAL</p> <p><u>COMMENTS:</u></p>	<p>CRITICAL STEP</p> <p>_____ SAT</p> <p>_____ UNSAT</p>	

Attachment 1

<p>STEP 16 (Line 3):</p> <p>3.* <u>Site:</u> A. <input type="checkbox"/> Crystal River Unit 3 B. <input type="checkbox"/> St. Lucie Unit 1 C. <input checked="" type="checkbox"/> St. Lucie Unit 2 D. <input type="checkbox"/> Turkey Point Unit 3 E. <input type="checkbox"/> Turkey Point Unit 4</p> <p>STANDARD: C, St. Lucie Unit 2 (St. Lucie Unit 2 is expected, Unit 1 is acceptable, but not both marked)</p> <p>EXAMINER'S CUE: NONE EXAMINER'S NOTE: EPIP Attachment 1A step 3 requires only one affected unit be selected (either one can be selected but not both).</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>
<p>STEP 17 (Line 4):</p> <p>4.* <u>Emergency Classification:</u></p> <p>A. <input type="checkbox"/> Notification of Unusual Event B. <input type="checkbox"/> Alert C. <input checked="" type="checkbox"/> Site Area Emergency D. <input type="checkbox"/> General Emergency</p> <p>STANDARD: C, Site Area Emergency</p> <p>EXAMINER'S CUE: NONE</p> <p>COMMENTS:</p>	<p>CRITICAL STEP</p> <p>____ SAT</p> <p>____ UNSAT</p>

Attachment 1

REVISION NO.: 25	PROCEDURE TITLE: OFF-SITE NOTIFICATIONS AND PROTECTIVE ACTION RECOMMENDATIONS ST. LUCIE PLANT	PAGE: 37 of 55
PROCEDURE NO.: EPIP-08		

ATTACHMENT 1A
DIRECTIONS FOR COMPLETING THE FLORIDA NUCLEAR PLANT EMERGENCY
NOTIFICATION FORM
(Page 1 of 8)

ITEM ENTRY

NOTE

On-line verification occurs when notification of the State Watch Office (SWO) is initiated.

On-line Verification - **Check the appropriate boxes** as the State Watch Office Florida Division of Emergency Management (DEM) requests that the Department of Health Bureau of Radiation Control, St. Lucie County Department of Public Safety and the Martin County Department of Emergency Management get on the line, prior to initiating the notification. **All four agencies must be notified (includes Florida DEM)** through the SWO or alternate means.

1. Check appropriate box for drill or actual emergency as the case may be. During exercises, drills, or tests, each message shall be checked **THIS IS A DRILL.**
- 2A. Enter today's date.
- 2B. Enter the time (using the official time, normally synchronized with ERDADS (DCS)) when contact is made with the State Watch Office. For initial notification of classification, this shall be within 15 minutes of the "Emergency Declaration" time in item 5.
- 2C. Enter the name of the person making the notification call.
- 2D. Enter the message number beginning with #1 and following sequentially in all facilities (e.g., if the Control Room transmitted two messages the TSC would start with #3).
- 2E. Check the box for the facility from which the notification is being made.
- 2F. Check the box for Initial / New Classification or Update Notification.
3. Site
Check the affected site / unit. Do not check more than one unit. For dual unit events such as the approach of a hurricane or loss of off-site power, the fact that the other unit is affected by the condition should be stated in the "Additional Information or Update" section.
4. Emergency Classification
Check the box corresponding to current accident classification declared.

IR25

Attachment

REVISION NO.: 25	PROCEDURE TITLE: NRC PERFORMANCE INDICATORS	PAGE: 61 of 82
PROCEDURE NO.: ADM-25.02	ST. LUCIE PLANT	

APPENDIX L
DRILL / EXERCISE PERFORMANCE
(Page 1 of 7)

A. Indicator value =

$$\left[\frac{\text{\# of timely \& accurate classifications, notifications, \& PARs from DE \& AEs * during the previous 8 quarters}}{\text{The total opportunities to perform Classifications, Notifications \& PARs during the previous 8 quarters}} \right] \times 100$$

*DE & AEs = Drills, Exercises, and Actual Events

B. NEI 99-02, Reference current revision.

C. Source Documents

1. Drill Reports
2. LOCT Simulator Evaluation Critique Sheets or similar form (with attached state notification forms)
3. Actual Event Reports

D. Special Considerations

Purpose

This indicator monitors timely and accurate licensee performance in drills, exercises, and actual events when presented with opportunities for classification of emergencies, notification of offsite authorities, and development of protective action recommendations (PARs). The indicator is the ratio, in percent, of timely and accurate performance opportunities to total opportunities.

Indicator Definition

Unless previously excluded, this indicator is the percentage of drill, exercise, and actual opportunities that were performed timely and accurately during the previous 8 quarters, as measured on the last calendar day of the quarter.

