



South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

February 26, 2015  
NOC-AE-15003225  
10 CFR 2.202

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555-0001

South Texas Project  
Unit 1 & 2  
Docket Nos. STN 50-498, STN 50-499  
4<sup>th</sup> Six-Month Status Update of Overall Integrated Plan in Response to Order EA-12-051,  
Reliable Spent Fuel Pool Instrumentation (TAC Nos. MF0827 and MF0828)

References:

1. Letter, Eric Leeds to All Power Reactor Licensees, "Issuance of Order to Modify Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation," March 12, 2012 (EA-12-051) (ST-AE-NOC-12002271) (ML12054A679)
2. Letter, D. L. Koehl to NRC Document Control Desk, "Overall Integrated Plan Regarding Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)," February 28, 2013 (NOC-AE-13002959) (ML13070A006)
3. NRC letter, "South Texas Project, Units 1 and 2 – Request for Additional Information RE: Overall Integrated Plan in Response to Order EA-12-051, "Reliable Spent Fuel Pool Instrumentation" (TAC Nos. MF0827 and MF0828), June 7, 2013 (ML131149A09)
4. Letter, G. T. Powell to NRC Document Control Desk, "Response to Request for Additional Information Regarding the Overall Integrated Plan in Response to Order EA-12-051, "Reliable Spent Fuel Pool Instrumentation" (TAC Nos. MF0827 and MF0828), June 25, 2013 (ML13190A466)
5. Letter, G. T. Powell to NRC Document Control Desk, Six-Month Status Update of Overall Integrated Plan in Response to Order EA-12-051, "Reliable Spent Fuel Pool Instrumentation" (TAC Nos. MF0827 and MF0828), August 27, 2013 (ML13249A078)
6. NRC Letter, South Texas Project, Units 1 And 2 - Interim Staff Evaluation and Request For Additional Information Regarding the Overall Integrated Plan for Implementation of Order EA-12-051, Reliable Spent Fuel Pool Instrumentation (TAC Nos. MF0827 AND MF0828), September 19, 2013 (ML13254A210)

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NRR

STI 34057731

7. Letter, G. T. Powell to NRC Document Control Desk, 2<sup>nd</sup> Six-Month Status Update of Overall Integrated Plan in Response to Order EA-12-051, "Reliable Spent Fuel Pool Instrumentation" (TAC Nos. MF0827 and MF0828) February 27, 2014 (ML14066A388)
8. Letter, G. T. Powell to NRC Document Control Desk, 3<sup>rd</sup> Six-Month Status Update of Overall Integrated Plan in Response to Order EA-12-051, "Reliable Spent Fuel Pool Instrumentation" (TAC Nos. MF0827 and MF0828) August 27, 2014 (ML14251A028)

On March 12, 2012, the Nuclear Regulatory Commission (NRC) issued an Order (Reference 1) modifying licenses with regard to requirements for reliable spent fuel pool instrumentation. On February 28, 2013, STP Nuclear Operating Company (STPNOC) submitted an Overall Integrated Plan (Reference 2) in response to the NRC Order. By letter dated June 25, 2013 (Reference 4), STPNOC provided additional information requested by the NRC in References 3 and 6 in regard to our Overall Integrated Plan. The purpose of this letter is to provide our fourth six-month status of our Overall Integrated Plan pursuant to Section IV, Condition C.2, of Reference 1.

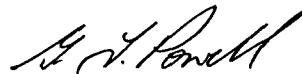
The STPNOC status report is provided in the attachment. The report provides an update of milestone accomplishments required to implement the Order since submittal of the Overall Integrated Plan, including any changes to the compliance method and schedule.

There are no regulatory commitments in this letter.

If there are any questions, please contact Robyn Savage at 361-972-7438.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on: February 26, 2015



G. T. Powell  
Site Vice President

Attachment: Six Month Status Report for the Implementation of Order Number EA-12-051 - Reliable Spent Fuel Pool Instrumentation

cc:  
(paper copy)

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**ATTACHMENT  
SIX MONTH STATUS REPORT FOR THE IMPLEMENTATION OF ORDER  
NUMBER EA-12-051 RELIABLE SPENT FUEL POOL INSTRUMENTATION**

**Six Month Status Report for the Implementation of Order Number EA-12-051 -  
Reliable Spent Fuel Pool Instrumentation**

**References:**

1. Letter, Eric Leeds to All Power Reactor Licensees, "Issuance of Order to Modify Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation," March 12, 2012 (EA-12-051) (ST-AE-NOC-12002271) (ML12054A679)
2. Letter, D. L. Koehl to NRC Document Control Desk, "Overall Integrated Plan Regarding Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)," February 28, 2013 (NOC-AE-13002959) (ML13070A006)
3. NRC letter, "South Texas Project, Units 1 and 2 – Request for Additional Information RE: Overall Integrated Plan in Response to Order EA-12-051, "Reliable Spent Fuel Pool Instrumentation" (TAC Nos. MF0827 and MF0828), June 7, 2013 (ML131149A09)
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5. Letter, G. T. Powell to NRC Document Control Desk, Six-Month Status Update of Overall Integrated Plan in Response to Order EA-12-051, "Reliable Spent Fuel Pool Instrumentation" (TAC Nos. MF0827 and MF0828) August 27, 2013 (ML13249A078)
6. NRC Letter, South Texas Project, Units 1 And 2 - Interim Staff Evaluation and Request For Additional Information Regarding the Overall Integrated Plan for Implementation of Order EA-12-051, Reliable Spent Fuel Pool Instrumentation (TAC Nos. MF0827 AND MF0828), September 19, 2013 (ML13254A210)
7. Letter, G.T. Powell to NRC Document Control Desk, 2<sup>nd</sup> Six Month Status Update of Overall Integrated Plan in Response to Order EA-12-051, "Reliable Spent Fuel Pool Instrumentation" (TAC Nos. MF0827 and MF0828) February 27, 2014 (ML 14066A388)
8. Letter, G.T. Powell to NRC Document Control Desk, 3<sup>rd</sup> Six Month Status Update of Overall Integrated Plan in Response to Order EA-12-051, "Reliable Spent Fuel Pool Instrumentation" (TAC Nos. MF0827 and MF0828) August 27, 2014 (ML14251A028)
9. NRC Japan Lessons-Learned Project Directorate Interim Staff Guidance JLD-ISG-2012-03, "Compliance with Order EA-12-051, Reliable Spent Fuel Pool Instrumentation, Revision 0, August 29, 2012 (ML12221A339)
10. NEI 12-02, Industry Guidance for Compliance with NRC Order EA-12-051, "To Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation," Revision 1, August 2012 (ML122400399)

11. EPRI TR-107330, "Generic Requirements Specification for Qualifying a Commercially Available PLC for Safety-Related Applications in Nuclear Power Plants"
12. STP Calculation No. CC09973, Qualification of Horn & Transmitter Supports for Spent Fuel Pool Level Indicator
13. IEEE Standard 344-2004, "Recommended Practice for Seismic Qualification of Class 1E Equipment for Nuclear Power Generating Stations"

Reference 2 provided the Overall Integrated Plan which the STP Nuclear Operating Company (STPNOC) will implement for Units 1 and 2 to comply with the requirements of NRC Order EA-12-051, "Issuance of Order to Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation" (Reference 1), NRC Interim Staff Guidance JLD-ISG-2012-003, Revision 0, (Reference 9) and NEI Report 12-02, Revision 1 (Reference 10). This attachment provides an update of milestone accomplishments since submittal of the third status update (Reference 8) of the Overall Integrated Plan. This report also provides an update to information requested in Reference 6.

**SIX MONTH STATUS REPORT**  
**ORDER EA-12-051, RELIABLE SPENT FUEL POOL INSTRUMENTATION**  
**STP NUCLEAR OPERATING COMPANY**  
**SOUTH TEXAS PROJECT, UNITS 1 AND 2**  
**DOCKET NOS. 50-498 AND 50-499**

**1. Introduction**

This attachment provides the fourth update of milestone accomplishments since submittal of the Overall Integrated Plan, including any changes to the compliance method and schedule. As discussed in Reference 1, any changes to the requirements in NRC JLD-ISG-2012-003 or NEI 12-02 may require relief from the requirements and schedule documented in the Overall Integrated Plan.

**2. Milestone Accomplishments**

STPNOC has installed the Spent Fuel Pool Level Instruments in Unit 2. The calibration and testing still needs to be complete. Full implementation of the Order in Unit 2 will be no later than prior to the start-up from Refueling Outage (2RE17), currently scheduled for April 26, 2015. Full implementation of the Order in Unit 1 will be completed no later than prior to the scheduled start-up from Refueling Outage (1RE19), currently scheduled for November 16, 2015.

**3. Milestone Schedule Status**

There are a few changes to the status of the milestones in the integrated plan that were submitted in the last status report submitted on August 27, 2014 (Reference 8).

Unit 1 Milestones are as follows:

- Design/Engineering – complete, with one exception. STPNOC is adding a protective guard on one of two waveguides – See the response to RAI #1 for additional details. The guard will be designed and installed prior to the start-up from the Refueling Outage (1RE19).
- Purchase of instruments & equipment – complete
- Receipt of equipment – complete
- Unit 1 Installation & Functional Testing – October 2015 with full implementation prior to the start-up from the Refueling Outage (1RE19).

Unit 2 Milestones are as follows:

- Design/Engineering – complete, with one exception. STPNOC is adding a protective guard on one of two waveguides – See the response to RAI #1 for additional details. The guard will be designed and installed prior to the start-up from the Refueling Outage (2RE17).
- Purchase of instruments & equipment – complete
- Receipt of equipment – complete
- Installation & Functional Testing – Installation of the instrumentation is complete. Calibration/testing is expected to be completed in March 2015.
- Installation of protective guard on one of the two waveguides will be completed prior to the start-up from the Refueling Outage (2RE17). See the response to RAI #1 for additional details.

#### 4. Changes to Compliance Method

There are no changes to the compliance method as documented in the Overall Integrated Plan.

#### 5. Open Requests for Additional Information (RAIs)

See responses to information requested in Reference 6. The recent onsite NRC audit of STP's Spent Fuel Pool Level Instruments (SFPLI) implementation of the Order occurred the week of February 9, 2015. Three specific items remained open following the exit: RAI #1, RAI #2 and RAI #10. The responses to these RAIs have been revised and/or additional information has been provided below. Response to RAIs #16, #17, and #19 on training and procedures have also been updated.

##### NRC RAI #1 (Reference 6)

In its letter dated June 25, 2013, the licensee provided a sketch depicting the waveguide piping for the two redundant channels as 1 in, stainless steel pipes. The NRC staff noted that this sketch depicts the two pipes to be run side by side from the through-the-air horn to the sensor receivers located in the Mechanical Auxiliary Building (MAB), and from there, cabling for the two instrument channels seem to be run side by side to the display units mounted in the Radwaste Control Room. The NRC staff has concerns regarding the routing of these two channels in accordance with the guidance on channel separation as described in NEI 12-02. Additional information is needed for the staff to complete its evaluation.

**Please provide additional information describing how the proposed arrangement of the waveguides and routing of the cabling between the radar horns and the electronics in the Radwaste Control Room meets the Order requirement to arrange the SFP level instrument channels in a manner that provides reasonable protection of the level indication function against missiles that may result from damage to the structure over the SFP.**

STPNOC Revised Response: (Additional information or changes added in ***bold italics***)

The following information should provide assurance that STP's plan meets the Order:

1. STP's Spent Fuel Pools (SFPs) are located inside safety related buildings, designed to protect against external missiles.
2. Everything mounted above and around the SFP is mounted to seismic II/I criteria. That is components and their supporting structures which are not seismic Category 1 and whose collapse could result in loss of required function of structures, equipment or systems required after a seismic event maintain their integrity against collapse when subjected to a seismic event.
3. Review of internal generated missile calculations shows no concerns for internal missiles from rotating equipment or pressurized bottles on the operating deck of the Spent Fuel Pool.
4. The radar horns are separated on the north end of the SFP by approximately 20 feet. ***There are several obstructions that prevent any further separation on the north end. The horns could only be installed on the north end of the pool because the Spent Fuel Handling (SFH) machine rails on the pool deck run the entire length of the east and west sides of the pool.***



5. ***The reason the south side of the SFP (short side) was not utilized for one of the horns was because the waveguide run would have exceeded the design parameters of the system, due to the number of bends and the length of pipe that would have been required. The south side of the pool across the SFP deck, has limited space to run the waveguide because of removable hatches, new fuel inspection area, and other recessed areas on the SFP area operating deck. Additionally, in order to clear the SFH machine rails in the south direction, the waveguide would have to run along the SFP floor more than 100 feet, before it had a bend to direct it outside the SFP area. This additional 100 feet would challenge the design criteria limitation on waveguide length, bends and complexity.***
6. ***The waveguide is physically separated throughout the runs to the sensors which are located inside the Mechanical Auxiliary Building. The waveguide and supports will remain fully intact and the instrumentation functional during and after STP's Safe-Shutdown Earthquake (SSE). The waveguide supports and associated instrumentation were analyzed and will remain functional subsequent to the highest seismic input of the SFP at STP. This is consistent with requirements as described in Section 3.3, Mounting of NEI 12-02 (Reference 10). The conduit supports and associated instrumentation are designed and qualified to remain fully intact during and after STP's Safe-Shutdown Earthquake (SSE). See also STPNOC response to RAI #10 below.***
7. From the sensors, the cabling will run in separate conduit to the power control panels located inside the Radwaste Control Room.
8. A Heating, Ventilation, and Air Conditioning (HVAC) duct (seismically mounted II/I) runs along the north wall above both waveguides and provides protection from falling objects as discussed in the Order. There are places along the wall where two different seismically mounted HVAC ducts provide this protection. ***The inherent shielding provided by the HVAC duct also provides protection against missiles.***
9. The approximately 40' of waveguide piping run is separated by 8 ¼ " vertically. ***The following was considered in determining the location and configuration of the waveguide piping. The waveguides are run close together to avoid obstructions such as existing conduit, piping, lighting panels, removable access hatches, and a transformer which would make the waveguide path too torturous.*** A minimum number of bends in the waveguide piping is required to ensure proper operation.
10. ***The location of the waveguides, 7 feet above the SFP deck, was necessary to limit any potential damage from personnel traversing that area as well as to reduce the safety hazard and obstructions of personnel working in the area. It also aids in ensuring personnel/equipment will not come in contact with or damage the waveguide. The intermediate area (3 – 5 feet) above the SFP deck was not a feasible location because of existing lighting panels and equipment that need to be accessed.***
11. ***Where the waveguides are run in close proximity in the Fuel Handling Building (FHB) (approximate 40' run), STP will install a protective guard for one of the two waveguides.***

STPNOC considers the status of this item to be OPEN

**NRC RAI #2** (Reference 6)

The NRC staff notes that the proposed application of such seismic design criteria appears to be reasonable and addresses the staff-endorsed NEI 12-02 guidance stating that the channel is to be designed to be consistent with the highest seismic or safety classification of the SFP. The licensee's proposed plan, with respect to the seismic design of the mounting, appears to be consistent with NEI 12-02, as endorsed by the ISG. The staff plans to verify the results of the licensee's seismic testing and analysis report when it is completed based on the licensee's response to the following RAI.

**Please provide the analyses verifying that the seismic testing of the horn and waveguide assembly and the electronics units, and the analysis of the combined maximum seismic and hydrodynamic forces on the cantilevered portion of the assembly exposed to the potential sloshing effects, show that the SFP instrument design configuration will be maintained during and following the maximum seismic ground motion considered in the design of the SFP structure.**

*STPNOC Response: (NOTE: Included RAI #2 for completeness regarding discussion on response to seismic qualification of the instruments. See response to RAI #10.)*

The horn and waveguide assembly and the electronics units were successfully seismically tested in accordance with the requirements of the Institute of Electrical and Electronics Engineers (IEEE) Standard 344-2004 (Reference 13), (see the response to NRC RAI #10, below for further explanation of this test). In addition to the seismic test, an analysis of the combined effects of the seismic and hydrodynamic forces on the cantilevered portion for the assembly exposed to the potential sloshing effects was performed and the results were satisfactory. **Reference 12 is being revised to clarify the seismic evaluation.**

**STPNOC considers the status of this item to be OPEN**

**NRC RAI #10** (Reference 6)

The NRC staff notes that the licensee will demonstrate the reliability of the seismic design and installation in accordance with NEI 12-02, as endorsed by the ISG. The licensee's planned approach with respect to the seismic reliability of the instrumentation appears to be consistent NEI 12-02, as endorsed by the ISG. However, the staff plans to verify the results of the licensee's seismic test when it is completed.

**Please provide analysis of the seismic testing results and show that the instrument performance reliability, following exposure to simulated seismic conditions representative of the environment to anticipated for the SFP structures at STP, has been adequately demonstrated.**

*STPNOC Revised Response: (Additional information added in **bold italics**)*

The sensor, indicator, power control panel, horn end of the waveguide, standard pool end and sensor end mounting brackets, and waveguide piping were successfully seismically

tested in accordance with the requirements of IEEE Standard 344-2004 (Reference 13). The system was monitored for operability before and after the resonance search and seismic tests. The required response spectra used for the five Operating Basis Earthquakes (OBE) and one Safe Shutdown Earthquake (SSE) in the test were taken from EPRI TR-107330, Figure 4-5 (Reference 11). This test level exceeds the building response spectra where the equipment will be located. The standard pool end mounting bracket used in the seismic test differs from the ones that will be used at STP. ***Separate seismic qualification analyses were performed on the pool end mounting brackets, waveguide intermediate mounting brackets, sensor mounting brackets and the power control panel mounting. These supports are designed to meet the STP seismic criteria for the FHB and MAB, which are Category 1 structures. These supports will remain fully intact during and after STP's Safe-Shutdown Earthquake (SSE). This is consistent with requirements as described in Section 3.3, Mounting of NEI 12-02 (Reference 10). STP calculations are being revised to provide clarification of the seismic evaluation performed.***

**STPNOC considers the status of this item to be OPEN**

**NRC RAI #16** (Reference 6)

The NRC staff has concerns with the licensee's lack of information regarding the training of personnel for activities such as use of the instrument channels, provision for alternate power, and calibration and surveillance of the SFP instrumentation. Another staff concern is the lack of information on the licensee's approach to training with respect to the SFP instrumentation.

**Please describe the activities for which personnel will be trained, such as use of the instrument channels, provision of alternate power, calibration and surveillance. Describe the approach to training used to identify the population to be trained and determined the initial and continuing elements of the required training for the SFP instrumentation.**

**STPNOC Response:**

**Operations Training**

The Spent Fuel Pool level indication changes were evaluated and no new tasks, or changes to existing tasks were identified for licensed and non-licensed operators. The new configurations are covered by existing tasks and learning objectives with only changes to the technical content. The technical changes were distributed for update to training materials for the Initial Licensed and Non-Licensed Operator lesson plans. The technical changes were presented in the Licensed and Non-Licensed Operator Requalification training programs during the recent Spent Fuel Pool Cooling and Cleanup system review lesson presented in training cycle 142 and the FLEX implementation training presented in training cycle 145 in 2014. Spent Fuel Pool Cooling and Cleanup system requalification review is every 4 years. In addition to this training, Licensed and Non-Licensed Operators will receive email training bulletins on all new or revised operations procedures regarding operation/use of the SFP level instrumentation.

**Instrumentation & Control (I&C) Technician Training**

I&C technician initial apprentice training lesson plan IMT 303, Level Measurement was revised to include the operation and calibration of the radar level sensing technology used for the new

Spent Fuel Pool (SFP) level instrumentation. This same technology is used in the Diesel Fuel Oil Storage Tank (DFOST) and the Caustic tank. A Needs Analysis in accordance with the Systematic Approach to Training was conducted for the Spent Fuel Pool level indication and the Fluke 705 Calibrator to determine the elements of the training required for operation and calibration of the level detection system. The Curriculum Review Committee approved covering both during cycle training in the summer 2015 (ICC151) for certified I&C technicians even though the same technology instrumentation was included in initial I&C training which has been conducted since 2006.

**STPNOC considers the status of this item to be CLOSED.**

**NRC RAI #17** (Reference 6)

The NRC staff has concerns with the licensee's lack of information about its plans to develop procedures. The staff previously requested this information as RAI-10 in NRC letter dated June 7, 2013. However, based on feedback from licensees, the staff revised this RAI as follows:

**Please provide a list of procedures addressing operation (both normal and abnormal response), calibration, test, maintenance, and inspection procedures that will be developed for use of the spent SFP instrumentation. The licensee is requested to include a brief description of the specific technical objectives to be achieved within each procedure.**

**STPNOC Response:**

STPNOC is developing and/or revising the following procedures/ preventive maintenance activities for the operation, calibration, maintenance, testing, and inspection of the new spent fuel pool level instrumentation.

<b>Procedure No. or Preventive Maintenance No.</b>	<b>Title</b>	<b>Technical Objectives</b>
0POP01-ZQ-0022	Plant Operations Shift Routines	SFP level instrument periodic channel check comparing the two level channels.
0POP09-AN-22M2	Annunciator Lampbox 22M02 Response Instructions	Annunciator response procedure for Control Room Panel CP022 will include guidance on SFP level indication available locally or on the plant computer.
0POP04-FC-0001	Loss of Spent Fuel Pool Level or Cooling	Off-normal operating procedure for responding to SFP Hi/Lo levels or loss of cooling to SFP including identification of conditions for transition to Severe Accident Management Guidelines SCG-5 & SAG-9 and 0POP12-ZO-FSG11

Procedure No. or Preventive Maintenance No.	Title	Technical Objectives
0POP04-AE-0003	Loss Of Power To One Or More 13.8 KV Standby Bus	Off-normal procedure for response to loss of normal power to the Remote SFP level instrument
0POP04-ZO-0001	Control Room Evacuation	Off-normal procedure for response to Control Room evacuation
0POP04-SY-0001	Seismic Event	Off-normal procedure for response to a seismic event
0POP04-ZO-0002	Natural or Destructive Phenomena Guidelines	Off-normal procedure for response to a severe weather
0POP05-EO-ES01	Reactor Trip Response	Emergency Operating Procedure for Reactor Trip response which includes periodic verification of SFP cooling and level
0POP12-ZO-FSG11	Alternate SFP Makeup and Cooling	FLEX Support Guideline for providing alternate method (i.e., FLEX SFP makeup pump) for filling SFP during Extended Loss of AC Power event. Remote SFP level monitoring provided by new SFP level instrument.
SAG-9	Refill the Spent Fuel Pool	Severe Accident Management Guide (SAMG) for mitigating severe accident in the Fuel Handling Building where spent fuel overheating and potential for fission product release exists
SCG-5	Recover Spent Fuel Pool Level	Severe Accident Management Guide where spent fuel has been uncovered and potential for fission product release and hydrogen combustion exists
<p>0PMP08-FC-1401 AND associated Preventive Maintenance (PM) activities</p> <p>PM 15127 &amp; 15212 (Unit 2) and similar PMs will be developed for Unit 1</p>	FLEX SFP Level Loop Calibration	<p>Periodic calibration of the spent fuel pool level indication channels which will include calibration on backup power.</p> <p>This will be performed in accordance with the STP PM program and NEI 12-02 guidance (Reference 10).</p>

Procedure No. or Preventive Maintenance No.	Title	Technical Objectives
PM activities  PM 15213 & 15131 (Unit 2) and similar PMs will be developed for Unit 1	Replace SFPLI Back Up Power Supply Batteries.	Periodic replacement of Battery backed power for spent fuel pool level indication channels.  This will be performed in accordance with the STP PM program and NEI 12-02 guidance (Reference 10).
PM activities  PM 15253 & 15254 (Unit 2) and similar PMs will be developed for Unit 1	Replace SFPLI Sensor	Periodic replacement of the sensors for spent fuel pool level indication channels.  This will be performed in accordance with the STP PM program and NEI 12-02 guidance (Reference 10).
0POP06-PE-00L2/ 0POP06-PE-00S0	Load Center 1L2 (2L2) and 1S (2S) Bus Outage	Provides guidance for actions to take when de-energizing the normal power supplies for the remote SFP level instrument for maintenance on the applicable bus.

**STPNOC considers the status of this item to be CLOSED.**

**NRC RAI #19** (Reference 6)

Please provide the following:

- a) Further information describing the maintenance and testing program the licensee will establish and implement to ensure that regular testing and calibration is performed and verified by inspection and audit to demonstrate conformance with design and system readiness requirements. Please include a description of your plans for ensuring that necessary channel checks, functional tests, periodic calibration, and maintenance will be conducted for the level measurement system and its supporting equipment.
- b) A description of how the guidance in NEI 12-02 Section 4.3 regarding compensatory actions for one or both non-functioning channels will be addressed.
- c) A description of what compensatory actions are planned in the event that one of the instrument channels cannot be restored to functional status within 90 days.

(This information was previously requested as RAI-11 in NRC letter dated June 7, 2013)

STPNOC Response:

- a) STPNOC will perform periodic channel checks and channel calibrations of the SFP level instrumentation. Preventive maintenance activities are being developed to replace the SFP level instrumentation batteries and replace the SFP level instrumentation sensor in accordance with the STP PM program, vendor recommendations and NEI 12-02 guidance (Reference 10).
- b) A new procedure is being developed (OPGP03-ZO-0056) that will list compensatory actions for non-functioning FLEX and SFP level instrument equipment in accordance with NEI 12-02 Section 4.3 (Reference 10) as described in item c below.
- c) Both primary and backup SFP level instrument channels incorporate permanent installation (with no reliance on portable, post-event installation) of relatively simple and robust augmented quality equipment. Permanent installation reasonably diminishes the likelihood that a single channel (and greatly diminishes the likelihood that both channels) is (are) out-of-service for an extended period of time. Planned compensatory actions for unlikely extended out-of-service events are summarized as follows:

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One FLEX SFP level instrument NOT functional.	A.1 Verify associated alternate FLEX SFP level is functional. Note (1)  <b>AND</b>	Within 12 hours
	Restore non-functional FLEX SFP level instrument to functional status.	Within 90 days
B. Action A.1 completion time not met,  <b>OR</b> One FLEX SFP level instrument expected to be non-functional for greater than 90 days.	B.1 Initiate compensatory action in accordance with Note (2) below.	Within 14 days
C. Two FLEX SFP level instruments NOT functional.	C.1 Initiate actions to restore one SFP level instrument to functional status.  <b>AND</b>	Within 24 hours
	Initiate compensatory action in accordance with Note (2) below.	Within 72 hours

(1) Compare local level indication to functional remote SFP level indication once per shift.

- (2) Present report to Plant Operations Review Committee within following 14 days. The report shall outline planned alternate method of monitoring, cause of non-functionality, and schedule for restoring level instrument channel(s) to functional status.

**STPNOC considers the status of this item to be CLOSED.**

**6. Need for Relief/Relaxation and Basis for the Relief/Relaxation**

STPNOC expects to comply with the order implementation date and no relief/relaxation is required at this time.

**7. Potential Draft Safety Evaluation Impacts**

None