



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

CNL-14-131

August 28, 2014

10 CFR 2.202

10 CFR 50.4

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

Watts Bar Nuclear Plant, Unit 1  
Facility Operating License No. NPF-90  
NRC Docket No. 50-390

Watts Bar Nuclear Plant, Unit 2  
Construction Permit No. CPPR-92  
NRC Docket No. 50-391

Subject: **Third Six-Month Status Report in Response to the March 12, 2012, Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051) for Watts Bar Nuclear Plant (TAC Nos. MF0951 and MF1178)**

- References:
1. NRC Order Number EA-12-051, "Issuance of Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation," dated March 12, 2012 (ML12054A679)
  2. NRC Interim Staff Guidance JLD-ISG-2012-03, "Compliance with Order EA-12-051, Reliable Spent Fuel Pool Instrumentation," Revision 0, dated August 29, 2012 (ML12221A339)
  3. 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, dated August 2012 (ML12240A307)
  4. Letter from TVA to NRC, "Tennessee Valley Authority (TVA) - Initial Status Report in Response to the March 12, 2012, Commission Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)," dated October 29, 2012 (ML12307A105)

5. Letter from TVA to NRC, "Tennessee Valley Authority (TVA) - Overall Integrated Plan in Response to the March 12, 2012, Commission Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051) for Watts Bar Nuclear Plant," dated February 28, 2013 (ML13063A440)
6. Letter from NRC to TVA, "Watts Bar Nuclear Station, Unit 1 and Unit 2 - Request for Additional Information Related to Overall Integrated Plan for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051) (TAC Nos. MF0951 and MF1178)," dated August 2, 2013 (ML13204A231)
7. Letter from TVA to NRC, "Tennessee Valley Authority Watts Bar Nuclear Plant's First Six-Month Status Report in Response to the March 12, 2012, Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)," dated August 28, 2013 (ML13261A038)
8. Letter from TVA to NRC, "Response to NRC Request for Additional Information Related to Overall Integrated Plan in Response to the Commission Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051) (TAC Nos. MF0951 and MF1178)," dated September 6, 2013 (ML13254A065)
9. Letter from NRC to TVA, "Watts Bar Nuclear Plant, 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 No. MF0951 and MF1178)," dated October 24, 2013 (ML13275A373)
10. Letter from TVA to NRC, "Response to NRC Request for Additional Information Related to Overall Integrated Plan in Response to the Commission Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051) (TAC Nos. MF0951 and MF1178)," dated November 22, 2013 (ML13333B282)
11. Letter from TVA to NRC, "Follow-up Response to NRC Request for Additional Information Related to Overall Integrated Plan in Response to the Commission Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051) (TAC Nos. MF0951 and MF1178)," dated January 10, 2014 (ML14014A137)

12. Letter from TVA to NRC, "Second Six-Month Status Report in Response to the March 12, 2012, Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051) for Watts Bar Nuclear Plant (TAC Nos. MF0951 and MF1178)," dated February 28, 2014 (ML14064A238)
13. Letter from TVA to NRC, "Follow-up Response to NRC Request for Additional Information Related to Overall Integrated Plan in Response to the Commission Order Modifying Licenses with Regard to Requirements for reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051) (TAC Nos. MF0951 and MF1178), dated June 25, 2014 (ML14177A526)

On March 12, 2012, the Nuclear Regulatory Commission (NRC) issued an order (Reference 1) to Tennessee Valley Authority (TVA). Reference 1 was immediately effective and directs TVA to install reliable spent fuel pool level instrumentation (SFPLI). Specific requirements are outlined in Attachment 2 of Reference 1.

Reference 1 required submission of an initial status report 60 days following issuance of the final interim staff guidance (Reference 2) and an overall integrated plan pursuant to Section IV, Condition C. Reference 2 endorses industry guidance document Nuclear Energy Institute (NEI) 12-02, Revision 1 (Reference 3) with clarifications and exceptions identified in Reference 2. Reference 4 provided the TVA initial status report regarding SFPLI strategies. Reference 5 provided the TVA Watts Bar Nuclear Plant, Units 1 and 2 overall integrated plan. On August 2, 2013, the NRC issued a request for additional information (RAI) (Reference 6) and TVA provided its response on September 6, 2013 (Reference 8).

The NRC issued its Interim Staff Evaluation and RAIs regarding TVA's overall integrated plan on November 13, 2013 (Reference 9). On November 22, 2013, TVA provided an initial response to the Reference 9 RAIs (Reference 10) and provided additional RAI follow-up responses on January 10, 2014 (Reference 11) and on June 25, 2014 (Reference 13).

Reference 1 requires submission of a status report at six-month intervals following submittal of the overall integrated plan. Reference 3 provides direction regarding the content of the status reports. TVA submitted the first six-month update on August 28, 2013 (Reference 7) and the second six-month update on February 28, 2014 (Reference 12).

The purpose of this letter is to provide the third six-month status report pursuant to Section IV, Condition C.2, of Reference 1, that delineates progress made in implementing the requirements of Reference 1. The Enclosure provides an update of milestone accomplishments since submittal of the second six-month status report, including any changes to the compliance method or schedule.

The enclosure describes the plans that TVA will use to meet the regulatory requirements outlined in Attachment 2 of Reference 1, but does not identify any additional actions to be taken by TVA. Therefore, this letter contains no regulatory commitments.

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If you have any question regarding this submittal, please contact Kevin Casey at (423) 751-8523.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 28th day of August 2014.

Respectfully,

**J. W. Shea**  
Digitally signed by J. W. Shea  
DN: cn=J. W. Shea, o=Tennessee  
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Date: 2014.08.28 14:40:35 -0400'

J. W. Shea  
Vice President, Nuclear Licensing

Enclosure:

Tennessee Valley Authority Watts Bar Nuclear Plant's Third Six-Month Status Report  
in Response to the March 12, 2012, Commission Order Modifying Licenses with  
Regard to Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)

cc (Enclosure):

NRR Director - NRC Headquarters  
NRO Director - NRC Headquarters  
NRR JLD Director - NRC Headquarters  
NRC Regional Administrator - Region II  
NRC Project Manager - Watts Bar Nuclear Plant, Unit 1  
NRC Project Manager - Watts Bar Nuclear Plant, Unit 2  
NRC Senior Resident Inspector - Watts Bar Nuclear Plant

## ENCLOSURE

### TENNESSEE VALLEY AUTHORITY WATTS BAR NUCLEAR PLANT THIRD SIX-MONTH STATUS REPORT IN RESPONSE TO THE MARCH 12, 2012, COMMISSION ORDER MODIFYING LICENSES WITH REGARD TO RELIABLE SPENT FUEL POOL INSTRUMENTATION (ORDER NUMBER EA-12-051)

#### 1 Introduction

Watts Bar Nuclear Plant (WBN) developed an Overall Integrated Plan (Reference 1 in Section 8 of this enclosure), documenting the requirements to install reliable spent fuel pool level instrumentation (SFPLI), in response to Reference 2. This attachment provides an update of milestone accomplishments since submittal of the second six-month status report (Reference 8), including any changes to the compliance method or schedule.

#### 2 Milestone Accomplishments

The following milestone(s) have been completed since the development of the Overall Integrated Plan (Reference 1), and are current as of July 31, 2014.

- WBN completed installation of the Unit 1 and 2 SFPLI on June 27, 2014

#### 3 Milestone Schedule Status

The following updates the milestone schedule to support the Overall Integrated Plan. This section provides the activity status of each item and the expected completion date, noting any change. The dates are planning dates subject to change as design and implementation details are developed.

The milestone target completion dates do not impact the order implementation date.

Milestone	Target Completion Date as Stated in the Second Six-Month Update (Reference 8)	Activity Status	Revised Target Completion Date
<b>Submit 60 Day Status Report</b>	10/29/2012	Complete	
<b>Submit Overall Integrated Plan</b>	02/28/2013	Complete	
<b>Submit 6 Month Updates:</b>			
Update 1	08/28/2013	Complete	
Update 2	02/28/2014	Complete	
Update 3	08/28/2014	Complete	
RAI Response	09/06/2013	Complete	
NRC ISE RAI Response	11/22/2013	Complete	
NRC ISE RAI 1st Follow-up Response	01/10/2014	Complete	
NRC ISE RAI 2nd Follow-up Response	06/25/2014	Complete	
<b>Modifications:</b>			
Unit 1 Design Engineering	09/27/2013	Complete	
Unit 1 Implementation	06/27/2014	Complete	
Unit 2 Design Engineering	09/27/2013	Complete	
Unit 2 Implementation	06/27/2014	Complete	
<b>Procedures:</b>			
Create Procedures	06/30/2014	Complete	
<b>Training:</b>			
Develop Training Plan	06/30/2014	Complete	
Training Complete	06/30/2014	Complete	
<b>Full Site SFPLI Implementation</b>	06/30/2014	Complete	
<b>Submit Completion Report</b>	10/12/2014	Not Started	

#### 4 Changes to Compliance Method

There are no other changes to the compliance method as documented in the Overall Integrated Plan (Reference 1) and Section 4 of the first six-month update (Reference 7).

#### 5 Need for Relief/Relaxation and Basis for the Relief/Relaxation

Watts Bar Nuclear Plant (WBN) expects to comply with the order implementation date and no relief/relaxation is required at this time.

## 6 Open Items from Overall Integrated Plan and NRC Evaluation

The following tables provide a summary of the open items documented in the Overall Integrated Plan or the NRC Evaluation and the status of each item.

Overall Integrated Plan Open Item	Status
OI-1) TVA will complete an instrument channel uncertainty calculation and document instrument channel accuracy and calibration requirements.	Closed - See Reference 8, RAI #15, RAI #16 and RAI #17 responses.
OI-2) TVA plans to utilize Guided Wave Radar technology. Confirm final technology selection after contracts are complete.	Closed - Guided Wave Radar technology was utilized.
OI-3) Confirm that the sensor cable and light weight at the bottom of sensor cable will not damage the SFP liner from impact during seismic event.	Closed - See Reference 8, RAI #4, RAI #5 and RAI #6 responses.
OI-4) After detailed engineering design is complete, confirm that SFP level channel components and cable routing will be contained within seismic structures such that the installation will comply with the reasonable protection guidance of NEI 12-06.	Closed - See Reference 8, RAI #4 response.

NRC Evaluation Open Item	Status
None	N/A

## 7 Potential NRC Evaluation Impacts

There are no potential impacts to the NRC Evaluation identified at this time.

## 8 References

The following references support the updates to the Overall Integrated Plan described in this enclosure.

1. Letter from TVA to NRC, "Tennessee Valley Authority (TVA) - Overall Integrated Plan in Response to the March 12, 2012, Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051) for Watts Bar Nuclear Plant," dated February 28, 2013. (ML13063A440)
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## **9. RAI Response**

On October 24, 2013, the NRC issued RAIs with its Interim Staff Evaluation (Reference 5). TVA provided responses to the RAIs on November 22, 2013 (Reference 6), January 10, 2014 (Reference 7) and June 25, 2014 (Reference 9).