



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

CNL-14-028

February 28, 2014

10 CFR 2.202  
10 CFR 50.4

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

Browns Ferry Nuclear Plant, Units 1, 2, and 3  
Facility Operating License Nos. DPR-33, DPR-52, and DPR-68  
NRC Docket Nos. 50-259, 50-260, and 50-296

Subject: **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 Browns Ferry Nuclear Plant (TAC Nos. MF0881, MF0882, and MF0883)**

- References:
1. NRC Order Number EA-12-051, "Issuance of Order to Modify 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-12-51, '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)

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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 Browns Ferry Nuclear Plant," dated February 28, 2013 (ML13063A437)
6. Letter from NRC to TVA, "Browns Ferry Nuclear Plant, Units 1, 2, and 3 – Request for Additional Information Regarding 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. MF0881, MF0882, and MF0883)," dated June 18, 2013 (ML13157A164)
7. Letter from TVA to NRC, "Response to NRC Request for Additional Information Regarding 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. MF0881, MF0882, and MF0883)," dated July 18, 2013 (ML13206A005)
8. Letter from TVA to NRC, "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) for Browns Ferry Nuclear Plant," dated August 28, 2013 (ML13247A290)
9. Letter from NRC to TVA, "Browns Ferry Nuclear Plant, Units 1, 2, and 3 - 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. MF0881, MF0882, and MF0883)," dated November 14, 2013 (ML13274A657)

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 Browns Ferry Nuclear Plant, Units 1, 2, and 3 overall integrated plan. On June 18, 2013, the NRC issued a request for additional information (RAI) (Reference 6) and TVA provided its response on July 18, 2013 (Reference 7).

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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 8). The NRC issued its Interim Staff Evaluation and RAIs regarding TVA's overall integrated plan on November 14, 2013 (Reference 9).

The purpose of this letter is to provide the second 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 enclosed report provides an update of milestone accomplishments since submittal of the first six-month status report, including any changes to the compliance method or schedule. The enclosed report also provides a status of the response to the RAIs submitted in Reference 9.

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.

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 February 2014.

Respectfully,



J. W. Shea  
Vice President, Nuclear Licensing

Enclosure:

Tennessee Valley Authority Browns Ferry Nuclear Plant's 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)

cc (Enclosure):

NRR Director - NRC Headquarters  
NRO Director - NRC Headquarters  
NRC Regional Administrator - Region II  
NRC Project Manager - Browns Ferry Nuclear Plant  
NRC Senior Resident Inspector - Browns Ferry Nuclear Plant

## ENCLOSURE

### TENNESSEE VALLEY AUTHORITY BROWNS FERRY NUCLEAR PLANT'S 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)

#### 1 Introduction

Browns Ferry Nuclear Plant (BFN) 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 enclosure provides an update of milestone accomplishments since submittal of the Overall Integrated Plan and the first six-month status report (Reference 5), including any changes to the compliance method or schedule. This enclosure also provides a response to the request for additional information (RAI) issued by the NRC in its Interim Staff Evaluation (Reference 6).

#### 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 February 10, 2014.

- 10% design impact review of Design Change Notices (DCNs) 71159, 71160, and 71161 (Units 1, 2, and 3), for design of SFPLI, was completed on November 21, 2013.

#### 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 First Six-Month Update (Reference 5)	Activity Status	Revised Target Completion Date
Submit 60 Day Status Report	10/29/2012	Complete	
Submit Overall Integrated Plan	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	Not Started	
Update 4	02/28/2015	Not Started	
Update 5	08/28/2015	Not Started	
Update 6	02/28/2016	Not Started	
Update 7	08/28/2016	Not Started	
June 18, 2013 RAI Response	07/18/2013	Complete	
NRC ISE RAI Response	10/31/2014	Started	
<b>Modifications:</b>			
Unit 1 Design Engineering	09/02/2014	Design started	06/24/2014
Unit 1 Implementation	09/26/2016 <sup>1</sup>	Not Started	07/20/2015
Unit 2 Design Engineering	09/02/2014	Design started	06/24/2014
Unit 2 Implementation	10/28/2014 <sup>1</sup>	Not Started	04/22/2015
Unit 3 Design Engineering	09/02/2014	Design started	06/24/2014
Unit 3 Implementation	08/24/2015 <sup>1</sup>	Not Started	08/14/2015
<b>Procedures:</b>			
Create Procedures <sup>2</sup>	10/31/2014	Not Started	
<b>Training:</b>			
Develop Training Plan <sup>2</sup>	09/30/2014	Not Started	
Training Complete <sup>2</sup>	03/31/2015	Not Started	
Full Site SFPLI Implementation	11/15/2016	Not Started	
Submit Completion Report	12/15/2016	Not Started	

- Notes: 1. In the first six-month update dated August 28, 2013 (Reference 5), the target completion dates were revised to reflect implementation of the modifications on-line. The implementation dates are further revised as shown in the column titled "Revised Target Completion Date" above. These revised dates fall within the schedule required by NRC Order EA-12-051.
2. These milestones were not included in the February 28, 2013, Overall Integrated Plan.

#### 4 Changes to Compliance Method

There are no other changes to the compliance method as documented in the Overall Integrated Plan (Reference 1) and the first six-month update (Reference 5).

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

Browns Ferry Nuclear Plant (BFN) 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.	Engineering and vendor documentation are in progress. This will complete on the Design Engineering milestone shown in the table in Section 3.
OI-2) TVA plans to utilize Guided Wave Radar technology. Confirm final technology selection after contracts are complete.	Engineering and vendor documentation are in progress. This will complete on the Design Engineering milestone shown in the table in Section 3.
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.	Engineering and vendor documentation are in progress. This will complete on the Design Engineering milestone shown in the table in Section 3.
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.	Engineering and vendor documentation are in progress. This will complete on the Design Engineering milestone shown in the table in Section 3.

Draft Safety 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 Requirements for Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051) for Browns Ferry Nuclear Plant," dated February 28, 2013. (ML13063A437)
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## **9. RAI Response**

On November 13, 2013, the NRC issued RAIs with its Interim Staff Evaluation (Reference 6). The NRC requested all RAI information be provided by October 31, 2014.