



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

CNL-14-192

October 29, 2014

10 CFR 2.202
10 CFR 50.4

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 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: **Compliance Letter 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. 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)
 3. 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)

4. 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)
5. 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)
6. 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 directed TVA to install reliable spent fuel pool level instrumentation (SFPLI). Specific requirements are outlined in Attachment 2, "Requirements for Reliable Spent Fuel Pool Level Instrumentation at Operating Reactor Sites and Construction Permit Holder," of Reference 1.

On February 28, 2013, TVA submitted the Watts Bar Nuclear Plant (WBN), Units 1 and 2 overall integrated plan (OIP) (Reference 2). The NRC issued its Interim Staff Evaluation and Request for Additional Information (RAIs) regarding TVA's OIP on October 24, 2013 (Reference 3). On November 22, 2013, TVA provided an initial response to the Reference 3 RAIs (Reference 4) and provided additional RAI follow-up responses on January 10, 2014 (Reference 5) and on June 25, 2014 (Reference 6).

Reference 1 requires licensees to report to the Commission when full compliance with the requirements described in Attachment 2 of Reference 1 is achieved. The purpose of this letter is to report to the Commission pursuant to Section IV, Condition C.3, of Reference 1, that WBN, Units 1 and 2, has achieved full compliance to the requirements described in Attachment 2 of Reference 1.

The Watts Bar Nuclear Plant has installed two independent full scale level monitors for the Spent Fuel Pool (SFP) in response to Order EA-12-051 (Reference 1). The information provided in Enclosure 1 to this letter documents full compliance with Reference 1 for WBN, Units 1 and 2, with one open issue. In a discussion between TVA (K. Casey) and

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NRC (J. Paige), on October 28, 2014, TVA communicated its intention to submit a full compliance letter for Order EA-12-051 with one open item.

Enclosure 2 provides the commitment described in Enclosure 1. If you have any question regarding this submittal, please contact Gordon Arent at (423) 365-2004.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 29th day of October 2014.

Respectfully,

J. W.
Shea

Digitally signed by J. W. Shea
DN: cn=J. W. Shea,
o=Tennessee Valley Authority,
ou=Nuclear Licensing,
email=jwshea@tva.gov, c=US
Date: 2014.10.29 20:33:00
-0400'

J. W. Shea
Vice President, Nuclear Licensing

Enclosure:

1. Tennessee Valley Authority, Watts Bar Nuclear Plant Units 1 and 2, Spent Fuel Pool Instrumentation Compliance Document in Response to the March 12, 2012, Commission Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Order Number EA-12-051)
2. List of Commitments

cc (Enclosures):

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
NRR JLD Project Manager - Watts Bar Nuclear Plant

ENCLOSURE 1

TENNESSEE VALLEY AUTHORITY, WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 SPENT FUEL POOL INSTRUMENTATION COMPLIANCE DOCUMENT IN RESPONSE TO THE MARCH 12, 2012, COMMISSION ORDER MODIFYING LICENSES WITH REGARD TO RELIABLE SPENT FUEL POOL INSTRUMENTATION (ORDER NUMBER EA-12-051)

INTRODUCTION

At Watts Bar Nuclear Plant (WBN), Units 1 and 2, TVA has installed two independent full scale level monitors for the Spent Fuel Pool (SFP) in response to Order EA-12-051, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," (Reference 1). The information provided herein documents full compliance for WBN, Units 1 and 2 pursuant to Section IV, Condition C.3, of Reference 1.

WBN, Units 1 and 2 have provided responses to the following Interim Staff Evaluation (ISE) Open and Confirmatory and Request for Additional Information (RAIs) Questions (Reference 9), Licensee Identified Open Items and Audit Questions/Audit Report Open Items per the following:

- ISE Open Items – There were no ISE Open Items
- ISE Confirmatory Items – There were no ISE Confirmatory Items
- ISE Request for Additional Information (RAI) Items - Complete pending NRC Closure. RAI responses were submitted to the NRC by References 8, 10, 11, and 14.
- Licensee Identified Open Items – Complete pending NRC Closure. Open Items were included in the third six month status report submitted to the NRC by Reference 16.
- Audit Questions/Audit Report Open Items – Complete pending NRC Closure

The NRC issued the WBN, Units 1 and 2 Order EA-12-051 Audit Report on May 15, 2014 (Reference 13) and the Westinghouse Audit Report in support of Order EA-12-051 on August 18, 2014 (Reference 15).

TVA has identified a problem with the temperature qualification of the SFP level transmitters for seven days of operation. This problem has been entered in TVA's Corrective Action Program for resolution. TVA will provide to the NRC resolution to the temperature qualification problem by December 17, 2014. Compliance with specific elements of the SFP order is documented in Attachment 1 of this Enclosure.

MILESTONE SCHEDULE – ITEMS COMPLETE

Milestone	Completion Date
Submit 60 Day Status Report	10/29/2012 (Reference 4)
Submit Overall Integrated Plan	02/28/2013 (Reference 5)
Submit 6 Month Updates:	
Update 1	08/28/2013 (Reference 7)
Update 2	02/28/2014 (Reference 12)
Update 3	08/28/2014 (Reference 16)
RAI Response	09/06/2013 (Reference 8)
NRC ISE RAI Response	11/22/2013 (Reference 10)
NRC ISE RAI 1st Follow-up Response	01/10/2014 (Reference 11)
NRC ISE RAI 2nd Follow-up Response	06/25/2014 (Reference 14)
Modifications:	
Unit 1 Design Engineering	09/27/2013
Unit 1 Implementation	06/27/2014
Unit 2 Design Engineering	09/27/2013
Unit 2 Implementation	06/27/2014
Procedures:	
Create Procedures	06/30/2014
Training:	
Develop Training Plan	06/30/2014
Training Complete	06/30/2014
Full Site SFPLI Implementation	06/30/2014
Submit Completion Report	10/29/2014

**ENCLOSURE 1
ATTACHMENT 1**

ORDER EA-12-051 COMPLIANCE ELEMENTS SUMMARY

The elements identified below for Watts Bar Nuclear Plant (WBN), Units 1 and 2, as well as the Site Overall Integrated Plan (OIP) response submittal (Reference 5), the 6-Month Status Reports (References 7, 12, and 16), and additional docketed correspondence (References 6, 8, 10, 11, and 14), demonstrate compliance with Order EA-12-051.

IDENTIFICATION OF LEVELS OF REQUIRED MONITORING - COMPLETE

WBN, Units 1 and 2 has identified the three required levels for monitoring SFP level in compliance with Order EA-12-051. These levels have been integrated into the site processes for monitoring level during events and responding to loss of SFP inventory.

INSTRUMENT DESIGN FEATURES - COMPLETE

The design of the instruments installed at WBN, Units 1 and 2, comply with the requirements specified in the order and described in NEI 12-02 "Industry Guidance for Compliance with NRC Order EA-12-051" (Reference 3). The instruments have been installed in accordance with the station design control process.

The instruments have been arranged to provide reasonable protection against missiles. The instruments have been mounted to retain design configuration during and following the maximum expected ground motion. The instruments will be reliable during expected environmental and radiological conditions when the SFP is at saturation for extended periods. The instruments are independent of each other and have separate and diverse power supplies. The instruments will maintain their designed accuracy following a power interruption and are design to allow for routine testing and calibration.

The instrument displays are located in the 6.9kv Shutdown Board Room A and B of the Control Building. This location is readily accessible during postulated events and allows for SFP level information to be promptly available to decision makers.

PROGRAM FEATURES - COMPLETE

Training for WBN, Units 1 and 2, has been completed in accordance with an accepted training process as recommended in NEI 12-02, Section 4.1.

Operating and maintenance procedures for WBN, Units 1 and 2, have been developed and integrated with existing procedures. Procedures have been verified and are available for use in accordance with the site procedure control program.

Site processes have been established to ensure the instruments are maintained at their design accuracy.

REFERENCES

The following references support the WBN, Units 1 and 2 SFPI Compliance Document:

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 NRC to TVA, "Watts Bar Nuclear Plant, Units 1 and 2 - Report for the Audit Regarding Implementation of Mitigations Strategies and Reliable Spent Fuel Instrumentation Related to Orders EA-12-049 and EA-12-051 (TAC Nos. MF0950, MF1177, MF0951, and MF1178)," dated May 15, 2014 (ML14128A129)
14. 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)
15. Letter from NRC to TVA, "Watts Bar Nuclear Plant, Units 1 and 2 - Report for the Westinghouse Audit in Support of Reliable Spent Fuel Instrumentation Related to Order EA-12-0151 (TAC Nos. MF0951 and MF1178)," dated August 18, 2014 (ML14211A346)
16. Letter from TVA to NRC, "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)," dated August 28, 2014 (ML14248A484)

ENCLOSURE 2

LIST OF COMMITMENTS

1. TVA will provide to the NRC resolution to the temperature qualification problem by December 17, 2014.