



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

CNL-16-059

May 10, 2016

10 CFR 50.4

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

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

Subject: **Revision to NFPA 805 Interim Compensatory Measures Commitments
Regarding Hot Work and Combustible Controls**

- References:
1. Letter from TVA to NRC, "License Amendment Request to Adopt NFPA 805 Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants (2001 Edition), (Technical Specification Change TS-480)," dated March 27, 2013 (ML13092A393)
 2. Letter from TVA to NRC, "Response to NRC Request to Supplement License Amendment Request to Adopt NFPA 805 Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants for the Browns Ferry Nuclear Plant, Units 1, 2, and 3 (TAC Nos. MF1185, MF1186, and MF1187)," dated May 16, 2013 (ML13141A291)
 3. Letter from TVA to NRC, CNL-15-074, "Update to License Amendment Request to Adopt NFPA 805 Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants for the Browns Ferry Nuclear Plant, Units 1, 2, and 3 (TAC Nos. MF1185, MF1186, and MF1187)," dated June 19, 2015 (ML15174A149)
 4. Letter from TVA to NRC, CNL-15-253, "Change in Commitment Related to Interim Compensatory Measures to Reduce Fire Risk," dated January 5, 2016 (ML16006A124)

5. Letter from NRC to TVA, "Browns Ferry Nuclear Plant, Units 1, 2, and 3 – Issuance of Amendments Regarding Transition to A Risk-Informed Performance-Based Fire Protection Program in Accordance With 10 CFR50.48(c) (CAC Nos. MF1185, MF1186, and MF1187)," dated October 28, 2015 (ML15212A796)

By letter dated March 27, 2013 (Reference 1), Tennessee Valley Authority (TVA) submitted a license amendment request (LAR) for Browns Ferry Nuclear Plant (BFN), Units 1, 2, and 3, to transition to National Fire Protection Association Standard (NFPA) 805. In an attachment to the Reference 1 letter, TVA identified a list of 18 new regulatory commitments to address fire risk in certain fire areas.

In subsequent letters (References 2, 3, and 4), TVA provided supplements to the Reference 1 LAR that included a List of Regulatory Commitments that superseded each previous List of Regulatory Commitments.

Commitment 4, last provided to NRC in Reference 4, stated:

"TVA will implement stricter control of transient combustibles for the following BFN FAs [Fire Areas]: FA 01-03, FA 01-04, FA 02-02, FA 02-03, FA 02-04, FA 03-01, FA 03-02, FA 03-03, FA 16 (except for Main Control Room and Cable Spreading Room), FA 20, FA 21, and FA 25-01 (South Section of Elevation 550' only) until the modifications described for the listed FAs in Attachment S, Table S-2, "Plant Modifications Committed," of the enclosure to this letter are installed. Transient combustibles will be controlled as follows:

- a. "In-Use" transient combustibles are acceptable without further evaluation; however, transient combustibles cannot be staged or stored in these higher risk areas unless:
 - 1) a transient combustible evaluation is performed,
 - 2) the transient combustibles are staged/stored in a closed metal container (e.g., cabinets, tool boxes, gang boxes, metal drums), or
 - 3) the transient combustibles are continuously attended.
- b. Transient combustible evaluations for staged/stored transient combustibles will be tracked to control quantities of transient combustibles allowed into these fire areas; and
- c. Performing once-per-shift walkdowns to ensure that transient combustible controls are satisfied (e.g., waste, debris, scraps, rags or other combustibles resulting from work activities are removed from the subject fire areas, and that no transient combustibles are placed in the 20-foot exclusion zone(s) within the listed FAs)."

Commitment 14, last provided to NRC in Reference 4, stated:

“TVA will designate the FA 04, FA 08, FA 09, FA 16 (Cable Spreading Room only), FA 22, FA 23, FA 24, and FA 25-01 (North Section of Elevation 550' only) as transient combustible-free areas, perform once-per-shift walkdowns to ensure that transient combustible controls are satisfied, and establish the same controls as the current 20-foot exclusion zones, except that tags required by plant procedures may be present in these FAs, until the modifications for the listed FAs described in Attachment S, Table S-2, "Plant Modifications Committed," of the enclosure to this letter are installed.”

This letter informs the NRC that TVA is revising Commitments 4 and 14 as follows:

- 4. [Commitment completed and superseded by the implementation of Table S-3, Item 45].
- 14. [Commitment completed and superseded by the implementation of Table S-3, Item 45].

Implementation Item 45 from the Reference 1 LAR, Table S-3, states:

“Revise procedures NPG-SPP-18.4.7, Control of Transient Combustibles, and NPG-SPP-18.4.8, Control of Ignition Sources (Hot Work), to strengthen risk and defense in-depth administrative controls (e.g., no storage and no hot work designated areas).”

The required changes to the Fire Protection Program for the control of transient combustibles are being implemented in Revision 8 to NPG-SPP-18.4.7, “Control of Transient Combustible Materials” consistent with the BFN NFPA 805 transition schedule and license conditions approved by NRC in the Safety Evaluation (SE) issued October 28, 2015 (Reference 5). The revision to NPG-SPP-18.4.7 will implement the related Table S-3 items approved by Reference 5, including Item 45, which will strengthen risk and defense-in-depth administrative controls of transient combustibles by focusing on plant areas where transient combustible-free areas are credited or where risk significant scenarios involving transient combustibles exist. These controls are in addition to periodic inspections which assure appropriate transient combustible controls are being followed for these areas. These controls are permanent attributes of the Fire Protection Program beyond completion of the NFPA 805 modifications, and will be changed only through the approved NFPA 805 Fire Protection Program Change Evaluation process, as authorized by Reference 5.

In addition, Commitment 5, last provided to NRC in Reference 4, stated:

“TVA will implement controls limiting hot work activities (e.g., welding, cutting, and grinding) in FA 01-03, FA 01-04, FA 02-02, FA 02-03, FA 02-04, FA 03-01, FA 03-02, FA 03-03, FA 04, FA 08, FA 09, FA 16, FA 20, FA 21, FA 22, FA 23, FA 24, FA 25-01, FA 26, and FA SWITCH until the modifications described for the listed FAs in Attachment S, Table S-2, "Plant Modifications Committed," of the enclosure to this letter are installed.

If hot work activities are necessary, the existing hot work controls specified in NPG-SPP-18.4.8, Control of Ignition Sources, shall be augmented to require that the Fire Brigade or Senior Reactor Operator perform a pre-job briefing in accordance with NPG-SPP-18.2.2, Human Performance Tools, and perform a walkdown for job area familiarization prior to performing the hot work activity. This walkdown shall include, ensuring travel path is clear of obstructions, identifying the location of fire hoses and fire extinguishers, and verifying fire suppression systems (manual and automatic) are properly aligned.

TVA will implement these controls by May 31, 2013.”

This letter informs the NRC that TVA is revising Commitment 5 as follows:

5. [Commitment completed and superseded by the implementation of Table S-3, Item 45]

The required changes to the Fire Protection Program for the control of hot work are being implemented in Revision 6 to NPG-SPP-18.4.8, “Control of Ignition Sources (Hot Work)” consistent with the BFN NFPA 805 transition schedule and license conditions approved by NRC in the SE issued October 28, 2015 (Reference 5). The revision to NPG-SPP-18.4.8 will implement the related Table S-3 items approved by Reference 5, including Item 45, which will strengthen risk and defense in-depth administrative controls of ignition sources by focusing on plant areas where such controls are credited or where risk significant scenarios involving ignition sources (hot work) exist. These controls include pre-job briefings and walkdowns referred to in Commitment 5. These controls are permanent attributes of the Fire Protection Program beyond completion of the NFPA 805 modifications, and will be changed only through the approved NFPA 805 Fire Protection Program Change Evaluation process, as authorized by Reference 5.

The completion of implementation items, including Item 45, of LAR Table S-3, as required by transition license conditions (13) for BFN Unit 1, (14) for BFN Unit 2, and (7) for BFN Unit 3, supersedes the interim compensatory measures identified in Commitments 4, 5, and 14. Therefore, TVA is providing this notification of commitment completion and change to supersede Commitments 4, 5, and 14 of References 1 through 4 by implementing Table S-3 items including Item 45.

In addition, Commitment 19 in References 2 through 4 states: “TVA will inform the NRC 30 days prior to discontinuing each of the interim compensatory measures identified in Commitments 3 through 18, above.” Therefore, TVA is informing NRC that Commitments 4, 5, and 14 have been completed and superseded by the BFN License Conditions in Reference 5. Because TVA is not discontinuing these commitments, TVA will move forward with implementing the BFN License Conditions as soon as necessary to meet the NFPA 805 Transition date specified in the SE.

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The revised List of Regulatory Commitments is provided in the enclosure to this letter. The changes provided in this enclosure are indicated by a revision bar to the right of the change. The enclosure provides a complete updated commitment list that supersedes the previous commitment list provided in the Reference 4 letter. Please address any questions regarding this submittal to Edward D. Schrull at (423) 751-3850.

Respectfully,

A handwritten signature in black ink, appearing to read "J. W. Shea", followed by a small "for" written in cursive.

J. W. Shea
Vice President, Nuclear Licensing

Enclosure: NFPA 805 List of Regulatory Commitments

cc (Enclosure):

NRC Regional Administrator – Region II
NRC Senior Resident Inspector – Browns Ferry Nuclear Plant
NRC Project Manager - Browns Ferry Nuclear Plant
State Health Officer, Alabama State Department of Health

Enclosure

Tennessee Valley Authority
Browns Ferry Nuclear Plant, Units 1, 2, and 3

NFPA 805 List of Regulatory Commitments
Revision 3

This Enclosure provides the NFPA 805 updated List of Regulatory Commitments with the revised Commitment 1 change identified in this letter indicated by a revision bar to the right of the revised commitment. The updated List of Regulatory Commitments provided in this Enclosure supersedes any previous BFN NFPA 805 List of Regulatory Commitments.

1. TVA will submit a License Amendment Request proposing Technical Specifications requirements for the new emergency high pressure makeup pump system on a schedule to support the modification implementation date provided in Section 5.5 of the enclosure to this letter.
2. [Relocated to NFPA 805 License Amendment Request, Attachment S, Table S-3.]
3. TVA will maintain the existing hourly fire watches for all existing BFN fire areas except the following Reactor Building areas: the quads below the 565' elevation, the HPCI Room, and the torus area in each unit. These excepted locations will require once per eight hour shift roving fire watches. The fire watches will remain in place until the modifications described in Attachment S, Table S-2, "Plant Modifications Committed," of the enclosure to this letter are installed.
4. [Commitment completed and superseded by the implementation of Table S-3, Item 45.]
5. [Commitment completed and superseded by the implementation of Table S-3, Item 45.]
6. [Commitment withdrawn by TVA letter dated January 5, 2016].
7. TVA will implement controls to protect RHR Pump 1A and its associated support systems whenever hot work activities are performed in FA 01-04, FA 04, and FA 09 until the modifications for the listed FAs described in Attachment S, Table S-2, "Plant Modifications Committed," of the enclosure to this letter are installed.

TVA will implement these controls by May 31, 2013.

8. TVA will implement controls to protect the Unit 1 RHR Train A and its associated support systems whenever hot work activities are performed in FA 08 until the modifications associated with FA 08 described in Attachment S, Table S-2, "Plant Modifications Committed," of the enclosure to this letter are installed.

TVA will implement these controls by May 31, 2013.

9. TVA will implement controls to protect the following equipment whenever hot work is being performed in FA 02-02 until the modifications for FA 02-02 described in Attachment S, Table S-2, "Plant Modifications Committed," of the enclosure to this letter are installed:
- a. Fire protection systems (detection and suppression) for this FA;
 - b. North Emergency Equipment Cooling Water (EECW) Header;
 - c. 4kV Shutdown Board B, 3EA, 3EB;
 - d. 250V DC Battery Charger 1;
 - e. 480V Reactor Motor Operated Valve (RMOV) Board 1A, 2A, 2D;
 - f. 480V Shutdown Boards 1A and 2A;
 - g. 2C RHR Pump;
 - h. 480V Shutdown Board 2A Transformer TS2A; and
 - i. Shutdown Board 250V DC Battery Charger SB-B.

TVA will implement these controls by May 31, 2013.

10. TVA will implement controls to protect the following equipment whenever hot work is being performed in FA 02-03 until the modifications for FA 02-03 described in Attachment S, Table S-2, "Plant Modifications Committed," of the enclosure to this letter are installed:
- a. Fire protection systems (detection and suppression) for this FA;
 - b. North EECW Header;
 - c. Residual Heat Removal Service Water (RHRSW) Pump D1;
 - d. 4kV Shutdown Board D, 3EA, 3EB;
 - e. 250V DC Battery Charger 1;
 - f. 480V RMOV Board 1A, 2B, and 3A;
 - g. 480V Shutdown Boards 1A and 2B;
 - h. 2D RHR Pump & RHR Crosstie Unit 3 to Unit 2; and
 - i. 480V Shutdown Board 2B Transformer TS2B.

TVA will implement these controls by May 31, 2013.

11. TVA will implement controls to protect the following equipment whenever hot work is being performed in FA 02-04 until the modifications for FA 02-04 described in Attachment S, Table S-2, "Plant Modifications Committed," of the enclosure to this letter are installed:
- a. Fire protection systems (detection and suppression) for this FA;
 - b. North EECW Header;
 - c. B1 and D1 RHRSW Pump;
 - d. 4kV Shutdown Board D, 3EA, 3EB, and 3ED;
 - e. Shutdown Board 250V DC Battery Charger SB-D;
 - f. 480V RMOV Board 1 A and 3B;
 - g. 2D RHR Pump; and
 - h. 480V Shutdown Board 2B Transformer TS2B.

TVA will implement these controls by May 31, 2013.

12. TVA will implement controls to protect RHRSW Pump 2B and its associated support systems whenever hot work activities are performed in FA 03-03 until the modifications for FA 03-03 described in Attachment S, Table S-2, "Plant Modifications Committed," of the enclosure to this letter are installed.

TVA will implement these controls by May 31, 2013.

13. TVA will institute 30-minute roving fire watches in FA 16 for non-continuously manned areas until the modifications for FA 16 described in Attachment S, Table S-2, "Plant Modifications Committed," of the enclosure to this letter are installed.

TVA will implement these controls by May 31, 2013.

14. [Commitment completed and superseded by the implementation of Table S-3, Item 45.]

15. TVA will implement controls to limit the unavailability of an entire EECW header (north or south) until the modifications described in Attachment S, Table S-2, "Plant Modifications Committed, II of the enclosure to this letter are installed.

TVA will implement these controls by May 31, 2013.

16. TVA will increase the testing frequency of automatic fire doors in FA 22, FA 23, and FA 24 to once-per-6 months until the modifications described for the listed FAs in Attachment S, Table S-2, "Plant Modifications Committed," of the enclosure to this letter are installed.

TVA will implement these controls by May 31, 2013.

17. TVA will implement controls to protect the following equipment whenever hot work is being performed in FA 20 until the modifications for FA 20 described in Attachment S, Table S-2, "Plant Modifications Committed," of the enclosure to this letter are installed:

- a. Fire protection systems (detection and suppression) for this FA;
- b. North EECW Header;
- c. 4kV Shutdown Board 3EA and 3EB;
- d. 480V Common Board 1 Transformer TC1A; and
- e. 250V DC Battery Charger 1.

TVA will implement these controls by May 31, 2013.

18. TVA will implement controls to ensure that Heating, Ventilation and Air Conditioning (HVAC) is available to the BFN Unit 3 Main Control Room whenever Transformer TS3A is unavailable or the EECW South Header is unavailable until the modifications for FA 20 described in Attachment S, Table S-2, "Plant Modifications Committed," of the enclosure to this letter are installed.

TVA will implement these controls by May 31, 2013.

19. TVA will inform the NRC 30 days prior to discontinuing each of the interim compensatory measures identified in Commitments 3 through 18, above.