



Tennessee Valley Authority
1101 Market Street, LP 3R
Chattanooga, Tennessee 37402-2801

R. M. Krich
Vice President
Nuclear Licensing

April 7, 2011

TS-470

10 CFR 50.4
10 CFR 50.90

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 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: Response to Request for Additional Information Regarding
Browns Ferry Nuclear Plant Cyber Security Plan License
Amendment Request**

- References:
1. Letter from TVA to NRC, "Request for Approval of the Browns Ferry Nuclear Plant Cyber Security Plan," dated November 23, 2009
 2. Letter from TVA to NRC, "Supplement to Request for Approval of the Browns Ferry Nuclear Plant Cyber Security Plan," dated December 18, 2009
 3. Letter from TVA to NRC, "Second Supplement to Request for Approval of the Browns Ferry Nuclear Plant Cyber Security Plan," dated July 23, 2010
 4. Letter from NRC to TVA, "Browns Ferry Nuclear Plant, Units 1, 2 and 3, Sequoyah Nuclear Plant, Units 1 and 2, and Watts Bar Nuclear Plant, Units 1 and 2 – Request for Additional Information Regarding Cyber Security Plans Based on Nuclear Energy Institute 08-09, Revision 6 (TAC Nos. ME4952, ME4953, ME4954, ME4955, ME4956, ME4951 and ME4958)," dated March 8, 2011

SECURITY-RELATED INFORMATION - WITHHOLD UNDER 10 CFR 2.390

ENCLOSURES 1, 2, AND 4 TO THIS LETTER CONTAINS SECURITY-RELATED INFORMATION. SECURITY-RELATED INFORMATION CLASSIFICATION DOES NOT APPLY TO THIS PAGE WHEN SEPARATED FROM ENCLOSURES 1, 2, AND 4.

~~SECURITY-RELATED INFORMATION - WITHHOLD UNDER 10 CFR 2.390~~

U.S. Nuclear Regulatory Commission
Page 2
April 7, 2011

In Reference 1, as supplemented by References 2 and 3, the Tennessee Valley Authority (TVA) submitted a request for amendment to the Facility Operating Licenses (FOL) for the Browns Ferry Nuclear Plant (BFN), Units 1, 2, and 3. The proposed amendment requests NRC approval of the Cyber Security Plan for BFN and provides revisions to the existing FOL Physical Protection license condition and to the Cyber Security Plan Implementation Schedule for BFN.

By letter dated March 8, 2011 (Reference 4), the NRC requested that additional information be submitted by TVA to support the NRC review of the license amendment request. In Reference 4, the NRC requested that TVA provide a response within 30 days of the date of the letter. Accordingly, this submittal is due by April 7, 2011.

Enclosure 1 provides TVA's responses to the NRC's Request for Additional Information questions in Reference 4.

Enclosure 2 contains the Cyber Security Plan Implementation Schedule for BFN, revised as discussed in Enclosure 1.

Enclosure 3 contains revised pages for the Physical Protection license condition for BFN, Units 1, 2, and 3, to add a reference date of April 7, 2011, to this supplement. The pages in Enclosure 3 replace, in their entirety, the marked-up and re-typed pages previously submitted in Attachments 1 and 2 to Enclosure 1 of Reference 3.

Enclosure 4 provides a revised copy of the Cyber Security Plan for BFN, Revision 0, which incorporates the changes discussed in Enclosure 1. No other changes have been made to the Cyber Security Plan. The Cyber Security Plan for BFN provided in Enclosure 4 replaces, in its entirety, the Cyber Security Plan previously submitted as Enclosure 3 of Reference 3.

Enclosures 1, 2, and 4 contain security-related information. TVA requests that Enclosures 1, 2, and 4 be withheld from public disclosure in accordance with 10 CFR 2.390, "Public inspections, exemptions, requests for withholding." Additionally, in accordance with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter and attachments to the designated Alabama state official.

The changes discussed clarify the information submitted in Reference 3 and do not impact the conclusions of the no significant hazards consideration determination previously provided in Reference 2.

SECURITY-RELATED INFORMATION - WITHHOLD UNDER 10 CFR 2.390

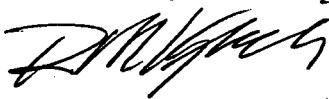
ENCLOSURES 1, 2, AND 4 TO THIS LETTER CONTAINS SECURITY-RELATED INFORMATION. SECURITY-RELATED INFORMATION CLASSIFICATION DOES NOT APPLY TO THIS PAGE WHEN SEPARATED FROM ENCLOSURES 1, 2, AND 4.

U.S. Nuclear Regulatory Commission
Page 3
April 7, 2011

There are no commitments associated with this submittal. If you have any questions regarding this submittal, please contact Kara Stacy at (423) 751-3489.

I declare under the penalty of perjury that the foregoing is true and correct. Executed on the 7th day of April, 2011.

Respectfully,



R. M. Krich

Enclosures:

1. Response to Request for Additional Information Regarding Browns Ferry Nuclear Plant Cyber Security Plan License Amendment Request
2. Cyber Security Plan Implementation Schedule for Browns Ferry Nuclear Plant
3. Proposed Facility Operating License Changes
4. Cyber Security Plan for Browns Ferry Nuclear Plant

cc (Enclosures):

NRC Regional Administrator – Region II
NRC Senior Resident Inspector – Browns Ferry Nuclear Plant
State Health Officer – Alabama Department of Public Health
(w/o Enclosures 2 and 4)

Enclosure 3

Proposed Facility Operating License Change (Marked-Up and Re-Typed)

Browns Ferry Nuclear Plant, Unit 1

Proposed Facility Operating License Change (Marked-Up)

(8) Deleted.

(9) Deleted.

(10) Deleted.

INSERT

(a)

(11) The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Browns Ferry Nuclear Plant Physical Security Plan, Training and Qualification Plan, and Contingency Plan," submitted by letter dated April 28, 2006.

(12) Deleted.

(13) Browns Ferry Nuclear Plant shall implement and maintain in effect all provisions of the approved Fire Protection Program as described in the Final Safety Analysis Report for BFN as approved in the safety evaluations dated December 8, 1988; March 31, 1993; April 1, 1993; November 2, 1995; April 25, 2007, and Supplement dated November 3, 1989; subject to the following provision:

The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

(14) The licensee shall maintain the Augmented Quality Program for the Standby Liquid Control System to provide quality control elements to ensure component reliability for the required alternative source term function defined in the Updated Final Safety Analyses Report (UFSAR).

(15) The licensee is required to confirm that the conclusions made in TVA's letter dated September 17, 2004, for the turbine building remain acceptable using seismic demand accelerations based on dynamic seismic analysis prior to the restart of Unit 1.

(16) Upon implementation of Amendment No. 275, adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 3.7.3.4, in accordance with TS 5.5.13.c.(i), the assessment of the CRE habitability as required by TS 5.5.13.c.(ii), and the measure of CRE pressure as required by TS 5.5.13.d, shall be considered met.

INSERT

(b) The licensee shall fully implement and maintain in effect all provisions of the Commission-approved Browns Ferry Nuclear Plant Cyber Security Plan submitted by letter dated April 7, 2011, and withheld from public disclosure in accordance with 10 CFR 2.390.

Browns Ferry Nuclear Plant, Unit 2

Proposed Facility Operating License Change (Marked-Up)

(8) Deleted.

(9) Deleted.

(10) Deleted.

(11) The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Browns Ferry Nuclear Plant Physical Security Plan, Training and Qualification Plan, and Contingency Plan," submitted by letter dated April 28, 2006.

INSERT
(a)

(12) Deleted.

(13) Deleted.

(14) Browns Ferry Nuclear Plant shall implement and maintain in effect all provisions of the approved Fire Protection Program as described in the Final Safety Analysis Report for BFN as approved in the safety evaluations dated December 8, 1988; March 31, 1993; April 1, 1993; November 2, 1995; April 25, 2007, and Supplement dated November 3, 1989; subject to the following provision:

The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

(15) The licensee shall maintain the Augmented Quality Program for the Standby Liquid Control System to provide quality control elements to ensure component reliability for the required alternative source term function defined in the Updated Final Safety Analyses Report (UFSAR).

(16) Upon complementation of Amendment No. 302, adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 3.7.3.4, in accordance with TS 5.5.13.c(i), the assessment of the CRE habitability as required by TS 5.5.13.c(ii), and the measurement of CRE pressure as required by TS 5.5.13.d, shall be considered met.

INSERT

(b) The licensee shall fully implement and maintain in effect all provisions of the Commission-approved Browns Ferry Nuclear Plant Cyber Security Plan submitted by letter dated April 7, 2011, and withheld from public disclosure in accordance with 10 CFR 2.390.

Browns Ferry Nuclear Plant, Unit 3

Proposed Facility Operating License Change (Marked-Up)

- (3) The licensee is authorized to relocate certain requirements included in Appendix A and the former Appendix B to licensee-controlled documents. Implementation of this amendment shall include the relocation of these requirements to the appropriate documents, as described in the licensee's application dated September 6, 1996; as supplemented May 1, August 14, November 5 and 14, December 3, 4, 11, 22, 23, 29, and 30, 1997; January 23, March 12, April 16, 20, and 28, May 7, 14, 19, and 27, and June 2, 5, 10 and 19, 1998; evaluated in the NRC staff's Safety Evaluation enclosed with this amendment. This amendment is effective immediately and shall be implemented within 90 days of the date of this amendment.
- (4) Deleted.
- (5) Classroom and simulator training on all power uprate related changes that affect operator performance will be conducted prior to operating at uprated conditions. Simulator changes that are consistent with power uprate conditions will be made and simulator fidelity will be validated in accordance with ANSI/ANS 3.5-1985. Training and the plant simulator will be modified, as necessary, to incorporate changes identified during startup testing. This amendment is effective immediately.

INSERT
(a)

- (6) The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Browns Ferry Nuclear Plant Physical Security Plan, Training and Qualification Plan, and Contingency Plan," Revision 4, submitted by letter dated April 28, 2006.

- (7) Browns Ferry Nuclear Plant shall implement and maintain in effect all provisions of the approved Fire Protection Program as described in the Final Safety Analysis Report for BFN as approved in the safety evaluations dated December 8, 1988; March 31, 1993; April 1, 1993; November 2, 1995; April 25, 2007, and Supplement dated November 3, 1989; subject to the following provision:

The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

- (8) Deleted.

INSERT

- (b) The licensee shall fully implement and maintain in effect all provisions of the Commission-approved Browns Ferry Nuclear Plant Cyber Security Plan submitted by letter dated April 7, 2011, and withheld from public disclosure in accordance with 10 CFR 2.390.

(9) The licensee shall maintain the Augmented Quality Program for the Standby Liquid Control System to provide quality control elements to ensure component reliability for the required alternative source term function defined in the Updated Final Safety Analyses Report (UFSAR).

(10) Mitigation Strategy License Condition

Develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

(a) Fire fighting response strategy with the following elements:

1. Pre-defined coordinated fire response strategy and guidance
2. Assessment of mutual aid fire fighting assets
3. Designated staging areas for equipment and materials
4. Command and control
5. Training of response personnel

(b) Operations to mitigate fuel damage considering the following:

1. Protection and use of personnel assets
2. Communications
3. Minimizing fire spread
4. Procedures for implementing integrated fire response strategy
5. Identification of readily-available pre-staged equipment
6. Training on integrated fire response strategy
7. Spent fuel pool mitigation measures

(c) Actions to minimize release to include consideration of:

1. Water spray scrubbing
2. Dose to onsite responders

(11) The licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.

(12) Upon completion of Amendment No. 261, adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 3.7.3.4, in accordance with TS 5.5.13.c(i), the assessment of the CRE habitability as required by TS 5.5.13.c(ii), and the measurement of the CRE pressure as required by TS 5.5.13.d, shall be considered met.

Browns Ferry Nuclear Plant, Unit 1

Proposed Facility Operating License Change (Re-Typed)

- (8) Deleted.
- (9) Deleted.
- (10) Deleted.
- (11)(a) The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Browns Ferry Nuclear Plant Physical Security Plan, Training and Qualification Plan, and Contingency Plan," submitted by letter dated April 28, 2006.
- (11)(b) The licensee shall fully implement and maintain in effect all provisions of the Commission-approved Browns Ferry Nuclear Plant Cyber Security Plan submitted by letter dated April 7, 2011, and withheld from public disclosure in accordance with 10 CFR 2.390.
- (12) Deleted.
- (13) Browns Ferry Nuclear Plant shall implement and maintain in effect all provisions of the approved Fire Protection Program as described in the Final Safety Analysis Report for BFN as approved in the safety evaluations dated December 8, 1988; March 31, 1993; April 1, 1993; November 2, 1995; April 25, 2007, and Supplement dated November 3, 1989; subject to the following provision:
- The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.
- (14) The licensee shall maintain the Augmented Quality Program for the Standby Liquid Control System to provide quality control elements to ensure component reliability for the required alternative source term function defined in the Updated Final Safety Analyses Report (UFSAR).
- (15) The licensee is required to confirm that the conclusions made in TVA's letter dated September 17, 2004, for the turbine building remain acceptable using seismic demand accelerations based on dynamic seismic analysis prior to the restart of Unit 1.
- (16) Upon implementation of Amendment No. 275, adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 3.7.3.4, in accordance with TS 5.5.13.c.(i), the assessment of the CRE habitability as required by TS 5.5.13.c.(ii), and the measure of CRE pressure as required by TS 5.5.13.d, shall be considered met.

Browns Ferry Nuclear Plant, Unit 2

Proposed Facility Operating License Change (Re-Typed)

- (8) Deleted.
- (9) Deleted.
- (10) Deleted.
- (11)(a) The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Browns Ferry Nuclear Plant Physical Security Plan, Training and Qualification Plan, and Contingency Plan," submitted by letter dated April 28, 2006.
- (11)(b) The licensee shall fully implement and maintain in effect all provisions of the Commission-approved Browns Ferry Nuclear Plant Cyber Security Plan submitted by letter April 7, 2011, and withheld from public disclosure in accordance with 10 CFR 2.390.
- (12) Deleted.
- (13) Deleted.
- (14) Browns Ferry Nuclear Plant shall implement and maintain in effect all provisions of the approved Fire Protection Program as described in the Final Safety Analysis Report for BFN as approved in the safety evaluations dated December 8, 1988; March 31, 1993; April 1, 1993; November 2, 1995; April 25, 2007, and Supplement dated November 3, 1989; subject to the following provision:

The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.
- (15) The licensee shall maintain the Augmented Quality Program for the Standby Liquid Control System to provide quality control elements to ensure component reliability for the required alternative source term function defined in the Updated Final Safety Analyses Report (UFSAR).
- (16) Upon complementation of Amendment No. 302, adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 3.7.3.4, in accordance with TS 5.5.13.c(i), the assessment of the CRE habitability as required by TS 5.5.13.c(ii), and the measurement of CRE pressure as required by TS 5.5.13.d, shall be considered met.

Browns Ferry Nuclear Plant, Unit 3

Proposed Facility Operating License Change (Re-Typed)

- (3) The licensee is authorized to relocate certain requirements included in Appendix A and the former Appendix B to licensee-controlled documents. Implementation of this amendment shall include the relocation of these requirements to the appropriate documents, as described in the licensee's application dated September 6, 1996; as supplemented May 1, August 14, November 5 and 14, December 3, 4, 11, 22, 23, 29, and 30, 1997; January 23, March 12, April 16, 20, and 28, May 7, 14, 19, and 27, and June 2, 5, 10 and 19, 1998; evaluated in the NRC staff's Safety Evaluation enclosed with this amendment. This amendment is effective immediately and shall be implemented within 90 days of the date of this amendment.
- (4) Deleted.
- (5) Classroom and simulator training on all power uprate related changes that affect operator performance will be conducted prior to operating at uprated conditions. Simulator changes that are consistent with power uprate conditions will be made and simulator fidelity will be validated in accordance with ANSI/ANS 3.5-1985. Training and the plant simulator will be modified, as necessary, to incorporate changes identified during startup testing. This amendment is effective immediately.
- (6)(a) The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Browns Ferry Nuclear Plant Physical Security Plan, Training and Qualification Plan, and Contingency Plan," Revision 4, submitted by letter dated April 28, 2006.
- (6)(b) The licensee shall fully implement and maintain in effect all provisions of the Commission-approved Browns Ferry Nuclear Plant Cyber Security Plan submitted by letter dated April 7, 2011, and withheld from public disclosure in accordance with 10 CFR 2.390.
- (7) Browns Ferry Nuclear Plant shall implement and maintain in effect all provisions of the approved Fire Protection Program as described in the Final Safety Analysis Report for BFN as approved in the safety evaluations dated December 8, 1988; March 31, 1993; April 1, 1993; November 2, 1995; April 25, 2007, and Supplement dated November 3, 1989; subject to the following provision:

The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

- (8) Deleted.
- (9) The licensee shall maintain the Augmented Quality Program for the Standby Liquid Control System to provide quality control elements to ensure component reliability for the required alternative source term function defined in the Updated Final Safety Analyses Report (UFSAR).
- (10) Mitigation Strategy License Condition

Develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

- (a) Fire fighting response strategy with the following elements:
 - 1. Pre-defined coordinated fire response strategy and guidance
 - 2. Assessment of mutual aid fire fighting assets
 - 3. Designated staging areas for equipment and materials
 - 4. Command and control
 - 5. Training of response personnel
- (b) Operations to mitigate fuel damage considering the following:
 - 1. Protection and use of personnel assets
 - 2. Communications
 - 3. Minimizing fire spread
 - 4. Procedures for implementing integrated fire response strategy
 - 5. Identification of readily-available pre-staged equipment
 - 6. Training on integrated fire response strategy
 - 7. Spent fuel pool mitigation measures
- (c) Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders
- (11) The licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.
- (12) Upon completion of Amendment No. 261, adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 3.7.3.4, in accordance with TS 5.5.13.c(i), the assessment of the CRE habitability as required by TS 5.5.13.c(ii), and the measurement of the CRE pressure as required by TS 5.5.13.d, shall be considered met.