~~Security-Related Information – Withhold from Public Disclosure in accordance with 10 CFR 2.390.~~
~~Enclosure 3 to this letter contains Security-Related Information.~~
~~Upon removal of Enclosure 3, this letter is uncontrolled.~~

1101 Market Street, Chattanooga, Tennessee 37402

CNL-15-191

September 8, 2015

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
Renewed Facility Operating License Nos. DPR-33, DPR-52, and DPR-68
NRC Docket Nos. 50-259, 50-260, and 50-296

Subject: **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) - Revised Safe Shutdown Analysis Request for Additional Information 15**

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 (ADAMS Accession No. 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 (ADAMS Accession No. ML13141A291)

3. Letter from TVA to NRC, "Response to NRC Request for Additional Information Regarding the License Amendment Request to Adopt NFPA 805 Performance-Based Standard for Fi re 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)- Set 3," dated January 14, 2014 (ADAMS Accession No. ML14077A201)

4. Letter from TVA to NRC, "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 (ADAMS Accession No. ML15174A149)

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 addition, by letter dated May 16, 2013 (Reference 2), TVA provided information to supplement the Reference 1 letter.

By letter dated January 14, 2014, TVA provided a response to Safe Shutdown Analysis (SSA) Request for Additional Information (RAI) 15, among other responses. TVA has subsequently determined that the response to SSA RAI 15 must be revised to reflect how BFN will implement the Fire Safe Shutdown procedure for Main Control Room abandonment. The change to SSA RAI 15 also requires a revision to BFN NFPA 805, LAR, Attachment S, "Modifications and Implementation Items," Table S-3, "Implementation Items," Implementation Item 25.

Enclosure 1 provides the revised response to SSA RAI 15. Changes to the response are denoted by deleted text struck through, inserted text underlined and in bold, and a revision bar in the right margin.

Enclosure 2 to this letter provides an updated LAR, Attachment S, Table S-3. The enclosed Table S-3 replaces the original LAR Table S-3, provided in References 1, 2, and 4, in its entirety. The updated Table S-3 reflects the change to Implementation Item 25 described in the revised response to SSA RAI 15.

Enclosure 3 to this letter provides LAR, Attachment S, Table S-2, Committed Modifications." The enclosed Table S-2 replaces the original LAR Table S-2, provided in References 1, 2, and 4, in its entirety. Table S-2 has not been changed from the Table S-2 submitted in Reference 4, but is being re-submitted for completeness. Enclosure 3 to this letter contains security-related information and should be withheld from public disclosure under 10 CFR 2.390.

Consistent with the standards set forth in Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50.92(c), TVA has determined that the additional information, as provided in this letter, does not affect the no significant hazards consideration associated with the proposed application previously provided in Reference 1.

There are no new regulatory commitments contained in this submittal. Please address any questions regarding this submittal to Mr. Edward D. Schrull at (423) 751-3850.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 8th day of September 2015.

Respectfully,

J. W. Shea
Vice President, Nuclear Licensing

Enclosures
cc: See Page 3

Enclosures:

1. Revised Response to Safe Shutdown Analysis Request for Additional Information 15
2. Updated NFPA 805 License Amendment Request, Attachment S, Table S-3, "Implementation Items"
3. NFPA 805 License Amendment Request, Attachment S, Table S-2, "Plant Modifications Committed"

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
NRC Branch Chief - Region II

ENCLOSURE 1

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

Revised Response to Safe Shutdown Analysis Request for Additional Information 15

Safe Shutdown Analysis (SSA) Request for Additional Information (RAI) 15

TVA previously responded to SSA RAI 15 by letter dated January 14, 2014 (CNL-14-006). TVA determined there is an exception for statements made regarding the concurrent use of Emergency Operating Instructions (EOIs) with the NFPA 805 Fire Safe Shutdown procedures. The BFN NFPA 805 Fire Safe Shutdown procedures for Main Control Room (MCR) abandonment will not be linked to the EOIs (i.e., used concurrent with EOIs) because in the Primary Control Station environment, use of EOIs is not feasible or practical. Identification of this exception also affected statements made in the BFN NFPA 805 LAR Section 4.2.1.1 and Attachment S, Table S-3, Item 25.

BFN NFPA 805 License Amendment Request (LAR) Section 4.2.1.1, "Comparison to NEI 00-01 Revision 2," first bullet is revised to as follows.

- Post-fire Reactivity Control of [BWR] Control Rod Drive System (NEI 00-01 Section 3.1.2.1):

  The additional considerations of Revision 2 will be addressed by linking the Emergency Operating Instructions (EOIs) to fire safe shutdown procedures consistent with the recommendations of a BWROG document, BWROG-TP-11-011, entitled, "BWROG Assessments of Generic Multiple Spurious Operations (MSOs) in Post-Fire Safe Shutdown Circuit Analysis for the Operating BWR Plants, dated June, 2011," **with the exception of the MCR abandonment Fire Safe Shutdown procedures. The MCR abandonment Fire Safe Shutdown procedures will include procedure steps for fires impacting the ability to scram from the MCR**. See Implementation Item 25 in Table S-3 of Attachment S.

Enclosure 2 to this letter provides the revised Attachment S, "Modifications and Implementation Items," Table S-3, "Implementation Items," Implementation Item 25.

The below revised response supersedes the previous response for SSA RAI 15 in its entirety. The changes from the previous response are shown with deleted text struck through, inserted text in bold, underline, and a revision bar in the right margin.

TVA Revised Response

The plan for transition of fire safe shutdown instructions includes migration away from strategies that instruct the operators to take detrimental actions such as intentionally disconnecting offsite power, commonly referred to as Self-Induced Station Blackout (SISBO). **With the exception of Main Control Room (MCR) abandonment,** ~~T~~**t**he new procedures will be executed concurrently with the symptom based Emergency Operating Instructions (EOIs) and other operating procedures. This is in contrast to the current strategy in the ~~s~~**S**afe Shutdown Instructions (SSIs)

that calls for exiting the EOIs and other operating procedures when the SSIs are entered. The symptom based strategy will allow the operators to use the systems and equipment that are available as opposed to being limited by procedure to a single, predetermined success path. **For MCR abandonment, the Fire Safe Shutdown (FSS) procedure will not be used concurrently with the EOIs which is similar to the current MCR abandonment procedure for non-fire events. The MCR abandonment FSS procedures will include the instructions for transfer of control to the Primary Control Station, the use of credited equipment to meet the Nuclear Safety Performance Criteria as well as the risk and DID recovery actions. The FSS procedure for MCR abandonment will allow the use of offsite power, if available, and will not require SISBO.**

The following actions are planned to ensure a smooth transition to new procedures.

1. Preparation and review of new procedures

   The procedures required to implement the new NFPA 805 Fire Safe Shutdown will be prepared and implemented before NFPA 805 transition. The structure of the procedures will utilize the current EOIs supplemented by FA specific instructions that will include risk and DID recovery actions **(or in the case of MCR abandonment, Fire Safe Shutdown procedures with MCR abandonment specific instructions for transfer of control to the Primary Control Station, the use of credited equipment to meet the Nuclear Safety Performance Criteria including the risk and DID recovery actions)**. These instructions will be similar to the current SSIs that contain actions specific to fires in that area and identify the credited safe shutdown path. Modifications will be in progress while the new ~~SSIs~~**FSS procedures** are being implemented, and therefore, revisions to incorporate the modification effects will be a continuous process.

2. Validation of new procedures

   The new and revised procedures will be validated prior to implementation to ensure they are feasible as written given the plant configuration. The feasibility validation will follow the Frequently Asked Question (FAQ) 07-0030 guidance.

3. Training operators on the new fire shutdown procedure strategy

   Operator training will be developed using the systematic approach to training. Initial training will be conducted prior to transition addressing the new procedure structure and safe shutdown strategies. Operators will be trained on the effect of modifications on operating procedures, similar to the current training process.

The new procedure strategy is already familiar to the operators because it will utilize the current EOIs for monitoring and controlling critical parameters and utilization of plant systems **with the exception of MCR abandonment. For MCR abandonment, the FSS procedure will not be used concurrent with the EOIs which is similar to the non-fire event MCR abandonment procedure**. The operation of the systems that is unique to a fire condition, such as the use of recovery actions, will be similar to the way the equipment is currently operated in the SSIs. The new procedure strategy has already been implemented in SSIs for FAs 25-1, 25-2, 25-3 and 26 and operators have received training on the changes.

ENCLOSURE 2

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

Updated NFPA 805 License Amendment Request, Attachment S,
Table S-3, "Implementation Items"

(13 pages including cover)

Table S-3 - Items provided below are those items (procedure changes, process updates, and training to affected plant personnel) that will be completed prior to the implementation of new NFPA 805 fire protection program. This will occur 180 days after issuance of the license amendment unless that date falls within a scheduled refueling outage. If this is the case, then implementation will occur 60 days after startup from that scheduled refueling outage. Note that Items 32 and 33 are associated with modifications in Table S-2 and will be completed in accordance with the timetable described in the Implementation Item.

Table S-3 Implementation Items

Item	Unit	Description	LAR Section / Source
01	1, 2, 3	Implement the results of the Radioactive Release Review: a. Within each pre-fire plan that has an access point to a non-RCA area, enhance the pre-fire plan to better identify concerns for radioactive release by incorporating one of the following options: a. Identifying the RCA in the written text or the pre-fire plan drawings is intended to aid the Incident Commander in avoiding radioactive release. For consistency, it is recommended that hardened barriers be identified. Examples of these would include: the Unit 1 Reactor Building truck bay hatch, water tight doors to the outside as well as passage doors and roll-up door. b. Incorporate a descriptive text in the pre-fire plan that highlights escape path concerns specific to that pre-fire plan. b. Add generic wording to area fire plans to prompt measures to avoid radioactive release. c. Pre-fire plans with doorways to the outside or to non-RCA areas will be revised and will have the plan drawing revised to include the door and an identification method to allow the BFN-FERO to recognize this as an RCA boundary. d. Add an appendix to the pre-fire plans for building sump drainage and site storm drains. e. Develop a standard operating procedure to support actions to prevent radioactive release. This document will stress actions to prevent the escape of potentially contaminated materials from a building or area boundary. Additional guidance will be provided for fires in yard areas and locations with limited or no engineering controls. f. Develop new pre-fire plans for the following areas: 1. East Access Building	4.4.2 and Attachment E

Table S-3 Implementation Items

Item	Unit	Description	LAR Section / Source
		2. Low Level Radwaste Storage Modules 3. Low Level Radwaste Tool Warehouse 4. South Access Building 5. Condensate Storage Tank Area 6. Auxiliary Decay Heat Removal 7. Outage Rad Material Storage Warehouse 8. Off-Gas Stack 9. Units 1, 2 “A” and “B” Chillers (Fire Area 27) g. Revise the guidance within RWI-001 and/or RWI-111 to address storage of radioactive material for compliance with the radioactive release criteria. The recommended practices would include: 1. A screening process. 2. A boundary process. 3. A source term process. 4. When radioactive materials are handled outdoors and outside of containers that exceed the source term limits, consideration should be given to reducing the potential for a fire to occur. h. Each fire brigade member will be provided training to identify potential points for radioactive release and the actions that can be taken to mitigate a release. To support the training, guidance will be provided in pre-fire plans and standard operating procedures to outline these expectations and actions.	
02	1,2,3	The Fire Protection Report will be updated to include the statement that the NRC is the authority having jurisdiction (AHJ) for fire protection changes requiring approval.	4.1 and Attachment A, 3.2.2.4
03	1,2,3	The monitoring program required by NFPA 805 Section 2.6 will be implemented as part of the fire protection program transition to NFPA 805, in accordance with NFPA 805 FAQ 10-0059, and will include a process that reviews fire protection performance and trends in performance. Program specifics are provided in LAR Section 4.6.2.	4.1, 4.6.2 and Attachment A, 3.2.3(3)

Table S-3 Implementation Items

Item	Unit	Description	LAR Section / Source
04	1,2,3	Revise procedure NPG-SPP-18.4.7 to only allow untreated lumber with a cross section dimension of 6" x 6" or larger to be used.	4.1 and Attachment A, 3.3.1.2(1)
05	1,2,3	Procedure NPG-SPP-18.4.7 allows plastic sheeting materials that meet the requirements of NFPA 701 or UL Standard 214. UL Standard 214 has been withdrawn and will be removed from NPG-SPP-18.4.7.	4.1 and Attachment A, 3.3.1.2(2)
06	1,2,3	Revise procedure NPG-SPP-18.4.8, to include controls on the use of electric heaters, and to prohibit the use of portable fuel-fired heaters in plant areas containing equipment important to nuclear safety or where there is a potential for radiological releases resulting from a fire.	4.1 and Attachment A, 3.3.1.3.4
07	1,2,3	Revise appropriate procedures to inspect and ensure guides and bearings of active NFPA 805 required sliding fire doors are maintained well lubricated.	4.1 and Attachment A, 3.11.3(1)
08	1,2,3	Plant specifications do not include requirements for wiring installed above suspended ceilings. Revise Specification G-38 to specify that future wiring above suspended ceilings shall be listed for plenum use, routed in armored cable, routed in metallic conduit, or routed in cable trays with solid metal top and bottom covers.	4.1 and Attachment A, 3.3.5.1
09	1,2,3	To ensure future plant design meets the requirements for electrical raceway construction limits, revise Specification G-40 to state that flexible conduit shall only be used in lengths up to three feet.	4.1 and Attachment A, 3.3.5.2
10	1,2,3	Revise current plant transformer fire protection testing procedures (FP-0-026-INS007A, FP-0-026-INS007B, FP-0-026-INS007D, FP-1-026-INS007, FP-2-026-INS007, and FP-3-026-INS007) to ensure that the gravel drainage areas around the transformers are free of debris and capable of performing their design function.	4.1 and Attachment A, 3.3.9
11	1,2,3	Procedure NPG-SPP-1.3 will be revised to include a requirement for the prompt cleanup of combustible liquids discovered on insulation, including high flashpoint lubricating oils. Procedure NPG-SPP-18.4.7 will be updated to keep such fluids from coming in contact with hot pipes and surfaces, including insulated pipes and surfaces.	4.1 and Attachment A, 3.3.10

Table S-3 Implementation Items

Item	Unit	Description	LAR Section / Source
12	1,2,3	There are corrective actions identified in MDQ099920100012 that will be completed prior to NFPA 805 implementation, as follows: ▪ Update FPDP-1 to document annual funds for equipment, vehicles, training and education, medical and job-related physical performance evaluations, and other necessary items to accomplish the fire brigade's objectives. ▪ Update FPDP-4 to identify the roles and responsibilities of any responding public fire department and other outside agencies. ▪ Update Fire Brigade procedures to document how the FBL accounts for each member of the FERO present at the scene of emergency. ▪ Update FPDP-4 to document that standard operating procedures shall: ○ be maintained in written form and shall address the site-specific functions identified in the industrial fire brigade organizational statement. ○ include information regarding site-specific hazards to which industrial fire brigade members can be exposed during a fire or other emergency. ○ address the site-specific limitations of emergency response organizations. ○ be accessible to all industrial fire brigade members. ▪ Establish a risk management policy for the fire brigade in accordance NFPA 600. ▪ Update training documentation to include training in accordance with NFPA 600 to all personnel who may enter the warm zones. ▪ Update procedures to include standard operating procedures requiring Fire Brigade members to wear SCBA when entering the hot zone. ▪ Update procedures to provide identification that is easily recognizable to indicate FERO members. ▪ Update training documentation to include pre-fire plan awareness as part of the training for support personnel.	4.1 and Attachment A, 3.4.1(a)(1), 3.4.3(a)(1)

Table S-3 Implementation Items

Item	Unit	Description	LAR Section / Source
13	1,2,3	Update Procedure FPDP-2 to require that pre-fire plans are made available in the control room and to the plant industrial fire brigade.	4.1 and Attachment A, 3.4.2, 3.4.2.3
14	1,2,3	Revise TPD-FBT to require fire brigade members to receive training in fire fighting considerations of radioactivity and health physics on a quarterly basis.	4.1 and Attachment A, 3.4.3(a)(2)
15	1,2,3	Revise TPD-FBT to include training for the secondary response group as to their responsibilities, potential hazards to be encountered, and interfacing with the fire brigade.	4.1 and Attachment A, 3.4.3(b)
16	1,2,3	Revise FPDP-4 to detail specific plans for plant security and radiation protection responsibilities regarding off-site fire authority response.	4.1 and Attachment A, 3.4.5.3
17	1,2,3	There are corrective actions identified in MDQ099920100008 that will be completed prior to NFPA 805 implementation as follows: ▪ Revise pre-fire plans to indicate that for hose stations on elevations 617' and below that are not already provided with the fire pump start buttons, a fire pump shall be started prior to operating the hose station if a fire pump is not already operating. ▪ Verify the pump motor can meet the requirements of Section 6-3.1.3 of NFPA 20 ▪ Verify the pump motor and controller can meet the requirements of Section 6-3.1.4 of NFPA 20 ▪ Verify the power supply protective devices can meet the requirements of Section 6-3.4.1 of NFPA 20 ▪ Verify the power supply protective devices can meet the requirements of Section 6-3.4.2 of NFPA 20. ▪ Revise inspection procedures to perform inspections of the battery chargers at the same time as the batteries are inspected in 0-SI-4.11.B.3.c. ▪ Revise current testing procedures to operate the electric fire pumps weekly, with at least one operation accomplished by utilizing the automatic fire pump start functions.	4.1 and Attachment A, 3.5.3
18	1,2,3	Equip all fire apparatus with 12 spanner wrenches and 6 hose connection gaskets for each size hose. Update procedure FP-0-000-INS005 to include this information.	4.1 and Attachment A, 3.5.15

Table S-3 Implementation Items

Item	Unit	Description	LAR Section / Source
19	1,2,3	There are corrective actions identified in MDQ099920110005 and MDQ099920100017 that will be completed prior to NFPA 805 implementation as follows: ▪ Revise the applicable procedure to include retention of fire alarm signals received for at least one year. ▪ Update Control of Fire Protection Impairment documentation to indicate a retention period of 1 year from the impairment correction date for impairments related to the fire alarm and detection systems in the Impairment Tracking Log. ▪ Update applicable testing procedures to exclude test magnets from being used during smoke detector testing and to ensure smoke detectors are tested and activated using chemical smoke designed solely for smoke detector testing.	4.1 and Attachment A, 3.8.1
20	1,2,3	There are corrective actions identified in MDQ099920100005, MDQ099920110001, MDQ099920110002, and MDQ099920110003 that will be completed prior to NFPA 805 implementation as follows: ▪ Update hydraulic calculations for sprinkler systems to clearly indicate the allowance for hose streams.	4.1 and Attachment A, 3.9.1(1)

Table S-3 Implementation Items

Item	Unit	Description	LAR Section / Source
21	1,2,3	There are corrective actions identified in MDQ099920100007 and MDQ099920110004 that will be completed prior to NFPA 805 implementation as follows: ▪ Revise current plant inspections/walkthroughs to include a visual check for obvious defects, such as broken or missing parts, nozzle loading, or other evidence of impaired protection for the water spray systems protecting cable trays in the Unit 3 Diesel Generator Building cable and pipe tunnel, and Turbine Building El 586 south wall, for selected cable trays. ▪ Revise BFN Procedure 3-SI-4.11.C.1.c to include operation of the manual tripping device for the Diesel Generator Building cable tray water spray system. ▪ Revise Surveillance Procedures (1- and 3-SI.4.11.C.1.c) to include an inspection of the spray nozzles for proper positioning, external loading, and corrosion, and cleaning when necessary. ▪ Revise Surveillance Procedures (1- and 3-SI.4.11.C.1.c) to include verification that the means of system actuation (heat detector, smoke detector, or test valve) cause the deluge valve to operate within 40 seconds. ▪ Revise the transformer water spray system inspection procedures to (1) verify that the water supply at the riser has not deteriorated and (2) if the reading taken at the riser indicates that the water supply has deteriorated, a gauge shall be placed on the hydraulically most remote nozzle and the results compared with the required design pressure.	4.1 and Attachment A, 3.9.1(2)
22	1,2,3	There are corrective actions identified in MDQ099920100004 that will be completed prior to NFPA 805 implementation as follows: ▪ Install warning signs in conspicuous locations in and around the Lube Oil Purification Room. ▪ Replace the existing CO_2 system safety signs with signs that comply with the three-panel format retroactively required by NFPA 12 – 2008. ▪	4.1 and Attachment A, 3.10.1(1)

Table S-3 Implementation Items

Item	Unit	Description	LAR Section / Source
23	1,2,3	Post-transition, for personnel performing fire modeling or Fire PRA development and evaluation, TVA will develop and maintain qualification requirements for individuals assigned various tasks. Position Specific Guides will be developed to identify and document required training and mentoring to ensure individuals are appropriately qualified per the requirements of NFPA 805 Section 2.7.3.4 to perform assigned work.	4.7.3
24	1,2,3	For program documentation and configuration control, implement the following: ▪ The Fire Protection Design Basis Document described in Section 2.7.1.2 of NFPA 805 and necessary supporting documentation described in Section 2.7.1.3 of NFPA 805 will be created as part of transition to 10 CFR 50.48(c) to ensure program implementation following receipt of the safety evaluation. ▪ The configuration control procedures which govern fire protection-related documents and databases will be revised to reflect the new NFPA 805 licensing bases requirements. ▪ Several NFPA 805 document types, such as NSCA Supporting Information and Non-Power Mode NSCA Treatment, will generally require new control procedures and processes to be developed since they are new documents and databases created as a result of the transition to NFPA 805. The new procedures will be modeled after the existing processes for similar types of documents and databases. System level design basis documents will be revised to reflect the NFPA 805 role that the system components now play. ▪ Configuration control of the Fire PRA model will be maintained by integrating the Fire PRA model into the existing processes used to ensure configuration control of the Internal Events PRA model.	4.7.1, 4.7.2, and 4.7.3
25	1,2,3	The additional considerations of NEI 00-01, Revision 2, Chapter 3 will be addressed by linking the EOIs to fire safe shutdown procedures consistent with the recommendations of BWROG document, BWROG-TP-11-011, entitled, “BWROG Assessments of Generic Multiple Spurious Operations (MSOs) in Post-Fire Safe Shutdown Circuit Analysis for the Operating BWR Plants, dated June, 2011,” with the exception of the MCR abandonment Fire Safe Shutdown procedures. The MCR abandonment Fire Safe Shutdown procedures will include procedure steps for fires impacting the ability to scram from the MCR.	4.2.1.1

Table S-3 Implementation Items

Item	Unit	Description	LAR Section / Source
26	1,2,3	Revise Shutdown Risk Management procedures to reflect the following recommendations during higher risk evolutions (e.g., OPDRV and moving irradiated fuel assemblies) from the calculation entitled, "NFPA 805 Transition - Non-Power Operation Modes Analysis": ▪ Restriction of hot work in areas during periods of increased vulnerability. ▪ Restriction of combustible loading. ▪ Restriction of transient combustible materials in areas during periods of increased vulnerability. ▪ Consider plant equipment configuration changes (e.g., removing power from equipment once it is placed in its desired position). ▪ Provision of additional fire patrols at periodic intervals or other appropriate compensatory measures (such as surveillance cameras) during increased vulnerability. ▪ Reschedule the work to a period with lower risk or higher defense-in-depth. ▪ Housekeeping. ▪ Presence of functional fire detection and suppression equipment.	4.3.2 and Attachment D
27	1,2,3	The following implementation item is required based on the results of the Operator Action Feasibility Analysis: ▪ Develop / revise post-fire response procedures to reflect the NSCA.	Attachment G
28	1,2,3	The following implementation item is required based on the results of the Operator Action Feasibility Analysis: ▪ Identify required tools during the procedure validation and verification.	Attachment G
29	1,2,3	The following implementation item is required based on the results of the Operation Action Feasibility Analysis: ▪ Document staffing requirements for revised post-fire response procedures.	Attachment G

Table S-3 Implementation Items

Item	Unit	Description	LAR Section / Source
30	1,2,3	The following implementation item is required based on the results of the Operation Action Feasibility Analysis: ▪ Train operators on revised post-fire response procedures.	Attachment G
31	1,2,3	The following implementation item is required based on the results of the Operation Action Feasibility Analysis: ▪ Revise training requirements for post-fire response procedures to include periodic drills.	Attachment G
32	1, 2, 3	Update the Fire PRA model, as necessary, after all modifications are complete (returned to operation) and in their as-built configuration. The update will include a verification of the validity of the reported change in risk on as-built conditions after the modifications are completed. If this verification determines that the risk metrics have changed such that the RG 1.174 acceptance guidelines are not met, the Nuclear Regulatory Commission (NRC) will be notified and additional analytical efforts, and/or procedure changes, and/or plant modifications will be made to assure the RG 1.174 risk acceptance criteria are met.	Section 4.8.2
33	1,2,3	Update the fire HRA (Human Reliability Analysis) upon completion of all procedure updates, all modifications and all training. The update will include a verification of the validity of the reported change in risk on as-built conditions after the procedure updates, modifications, and training are completed. If this verification determines that the risk metrics have changed such that the RG 1.174 acceptance guidelines are not met, the Nuclear Regulatory Commission (NRC) will be notified and additional analytical efforts, and/or procedure changes, and/or plant modifications will be made to assure the RG 1.174 risk acceptance criteria are met.	Attachments G and V

Table S-3 Implementation Items

Item	Unit	Description	LAR Section / Source
34	1,2,3	Revise the following EEEEs to meet the administrative requirements for engineering evaluations in accordance with the applicable criteria provided in RG 1.205 and NEI 04-02, as supplemented by FAQ 06-0008 and FAQ 07-0054. ▪ The following EEEEs documented in the Fire Hazard Analysis: ○ FHA Section 3.3.4.e SBGT Duct Penetrations ○ FHA Section 4.1 Flood Control Doors ○ FHA Section 4.2 Personnel and Equipment Access Locks ○ FHA Section 4.3 Main Steam and Feedwater Piping Tunnel Barriers ▪ MDQ0100890035 - Fire Boundary Seal Design for Gypsum Walls ▪ RIMS B22 911004 003 Engineering Evaluation of the Bus Duct Penetrations ▪ RIMS B22 911004 201 Engineering Evaluation for the Unprotected Openings in 1-Hour Floor Ceiling Assemblies on Elevation 621.25 and 639 Reactor Buildings	4.2.2
35	1,2,3	Revise NPG-SPP-18.4.7 to establish limits on the types and quantities of materials in designated storage areas.	4.1 and Attachment A, 3.3.1.2(4)
37	1,2,3	Revise design output to ensure interior epoxy floor finishes meet the Class I requirements and interior carpet floor finishes meet the Class I requirements.	4.1 and Attachment A, 3.3.3
38	1,2,3	Develop specific guidance and restrictions on bulk flammable gas storage onsite.	4.1 and Attachment A, 3.3.7, 3.3.7.1, 3.3.7.2
39	1,2,3	Revise FPDP-4 to require that off-site fire authorities be offered a plan for their interface during fire emergencies onsite.	4.1 and Attachment A, 3.4.5.1
40	1,2,3	Establish a contract for maintenance and hydrostatic testing of fire extinguishers in accordance with NFPA 10.	4.1 and Attachment A, 3.7
41	1,2,3	Revise flow drawings for the CO_2 systems to note the CO_2 shutoff valves are locked in the open position.	4.1 and Attachment A, 3.10.5
42	1,2,3	Revise design output procedure to ensure interior wall and ceiling finishes meet the NFPA 101 material requirements.	4.1 and Attachment A, 3.3.3

Table S-3 Implementation Items

Item	Unit	Description	LAR Section / Source
43	1,2,3	Revise the procedure NPG-SPP-18.4.8, Control of Ignition Sources (Hot Work), to incorporate corrective actions identified in MDQ0009992013000160.	4.1 and Attachment A, 3.3.1.3.1
45	1,2,3	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).	Attachment C and V
46	1,2,3	Verification of the condition of electrical cabinet doors to meet Fire Modeling Assumptions will be included in the monitoring Program.	Response to RAI PRA 01.d.i
47	1,2,3	Perform a focused-scope peer review of the Fire PRA. The peer review will include, as a minimum, the following elements: Fire PRA Cable Selection and Location (CS), Human Reliability Analysis (HRA), Fire Risk Quantification (FQ), Uncertainty and Sensitivity Analysis (UNC), Accident Sequence Analysis (AS), and LERF Analysis (element LE-C6). Any focused scope peer review Finding level Facts and Observations (F&Os) will be resolved prior to self-approval of post-transition changes.	Response to RAI PRA 11.a, b and c, PRA RAI 23.d and PRA RAI 24 Part b
48	1,2,3	Develop and deliver training to Fire Operations on incipient detection systems alarm response procedures.	Response to FPE RAI 10, Revision 1
49	1,2,3	Revise the program that monitors BFN Residual Heat Removal (RHR) heat exchanger performance for consistency with the assumptions of the NFPA 805 Net Positive Suction Head (NPSH), Containment Parameters, and AREVA Fuel peak centerline temperature (PCT) Analysis calculation related to the RHR heat exchanger k-factor.	Attachment X / NRC electronic mail from F. Saba (NRC) to G Williams (TVA) and C. Szabo (TVA), "Browns Ferry NFPA 805 LAR," dated June 10, 2015