



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

January 17, 2017

Mr. Joseph W. Shea  
Vice President, Nuclear Licensing  
Tennessee Valley Authority  
1101 Market Street, LP 3R-C  
Chattanooga, TN 37402-2801

SUBJECT: BROWNS FERRY NUCLEAR PLANT, UNITS 1, 2, AND 3 - ISSUANCE OF  
AMENDMENTS REGARDING REVISIONS TO TECHNICAL  
SPECIFICATION 4.3.1.2, "FUEL STORAGE CRITICALITY" (CAC NOS.  
MF8271, MF8272, AND MF8273)

Dear Mr. Shea:

The Nuclear Regulatory Commission has issued the enclosed Amendment Nos. 296, 320, and 280 to Renewed Facility Operating License Nos. DPR-33, DPR-52, and DPR-68, for the Browns Ferry Nuclear Plant (BFN), Units 1, 2, and 3, respectively. These amendments are in response to your application dated August 12, 2016. The amendments update the language in Technical Specification (TS) 4.3.1.2, "Fuel Storage Criticality," to specifically prohibit storage of fuel in the new fuel storage vault for all three BFN units.

A copy of our related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in black ink, reading "Farideh E. Saba", is positioned above the typed name.

Farideh E. Saba, Senior Project Manager  
Plant Licensing Branch II-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-259, 50-260, and 50-296

Enclosures:

1. Amendment No. 296 to DPR-33
2. Amendment No. 320 to DPR-52
3. Amendment No. 280 to DPR-68
4. Safety Evaluation

cc w/enclosures: Distribution via Listserv



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-259

BROWNS FERRY NUCLEAR PLANT, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 296  
Renewed License No. DPR-33

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Tennessee Valley Authority (the licensee) dated August 12, 2016, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

Enclosure 1

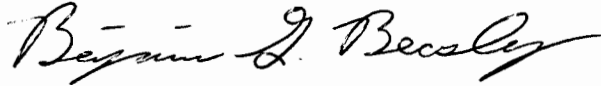
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-33, and is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 296, are hereby incorporated in the renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Benjamin G. Beasley, Chief  
Plant Licensing Branch II-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Renewed Facility Operating  
License and Technical Specifications

Date of Issuance: January 17, 2017

ATTACHMENT TO LICENSE AMENDMENT NO. 296

BROWNS FERRY NUCLEAR PLANT, UNIT 1

TO RENEWED FACILITY OPERATING LICENSE NO. DPR-33

DOCKET NO. 50-259

Replace page 3 of Renewed Facility Operating License No. DPR-33 with the attached revised page 3. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

Replace the following page of Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

REMOVE  
4.0-2

INSERT  
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- (3) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use at any time any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
  - (4) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use in amounts as required any byproduct, source, or special nuclear material without restriction to chemical or physical form for sample analysis or equipment and instrument calibration or associated with radioactive apparatus or components;
  - (5) Pursuant to the Act and 10 CFR Parts 30 and 70, to possess but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
- C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
- (1) Maximum Power Level  
  
The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 3458 megawatts thermal.
  - (2) Technical Specifications  
  
The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 296, are hereby incorporated in the renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.  
  
For Surveillance Requirements (SRs) that are new in Amendment 234 to Facility Operating License DPR-33, the first performance is due at the end of the first surveillance interval that begins at implementation of the Amendment 234. For SRs that existed prior to Amendment 234, including SRs with modified acceptance criteria and SRs whose frequency of performance is being extended, the first performance is due at the end of the first surveillance interval that begins on the date the surveillance was last performed prior to implementation of Amendment 234.

## 4.0 DESIGN FEATURES (continued)

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### 4.3 Fuel Storage

#### 4.3.1 Criticality

- 4.3.1.1 The spent fuel storage racks are designed and shall be maintained with:
- a.  $k_{\text{eff}} \leq 0.95$  if fully flooded with unborated water, which includes an allowance for uncertainties as described in Section 10.3 of the FSAR; and
  - b. A nominal 6.563 inch center to center distance between fuel assemblies placed in the storage racks.
- 4.3.1.2 The new fuel storage vault shall not be used for fuel storage. New fuel shall be stored in the spent fuel storage racks.

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(continued)



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-260

BROWNS FERRY NUCLEAR PLANT, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 320  
Renewed License No. DPR-52

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Tennessee Valley Authority (the licensee) dated August 12, 2016, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

Enclosure 2

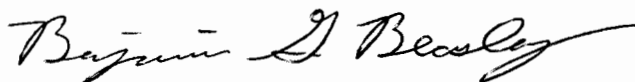
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-52, and is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 320, are hereby incorporated in the renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Benjamin G. Beasley, Chief  
Plant Licensing Branch II-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Renewed Facility Operating  
License and Technical Specifications

Date of Issuance: January 17, 2017

ATTACHMENT TO LICENSE AMENDMENT NO. 320  
TO RENEWED FACILITY OPERATING LICENSE NO. DPR-52  
BROWNS FERRY NUCLEAR PLANT, UNIT 2  
DOCKET NO. 50-260

Replace page 3 of Renewed Facility Operating License No. DPR-52 with the attached revised page 3. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

Replace the following page of Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

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4.0-2

sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

- (4) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use in amounts as required any byproduct, source, or special nuclear material without restriction to chemical or physical form for sample analysis or equipment and instrument calibration or associated with radioactive apparatus or components;
- (5) Pursuant to the Act and 10 CFR Parts 30 and 70, to possess but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 3458 megawatts thermal.

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 320, are hereby incorporated in the renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

For Surveillance Requirements (SRs) that are new in Amendment 253 to Facility Operating License DPR-52, the first performance is due at the end of the first surveillance interval that begins at implementation of the Amendment 253. For SRs that existed prior to Amendment 253, including SRs with modified acceptance criteria and SRs whose frequency of performance is being extended, the first performance is due at the end of the first surveillance interval that begins on the date the surveillance was last performed prior to implementation of Amendment 253.

- (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

## 4.0 DESIGN FEATURES (continued)

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### 4.3 Fuel Storage

#### 4.3.1 Criticality

- 4.3.1.1 The spent fuel storage racks are designed and shall be maintained with:
- a.  $k_{\text{eff}} \leq 0.95$  if fully flooded with unborated water, which includes an allowance for uncertainties as described in Section 10.3 of the FSAR; and
  - b. A nominal 6.563 inch center to center distance between fuel assemblies placed in the storage racks.
- 4.3.1.2 The new fuel storage vault shall not be used for fuel storage. New fuel shall be stored in the spent fuel storage racks.

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-296

BROWNS FERRY NUCLEAR PLANT, UNIT 3

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 280  
Renewed License No. DPR-68

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Tennessee Valley Authority (the licensee) dated August 12, 2016, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-68, and is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 280, are hereby incorporated in the renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Benjamin G. Beasley, Chief  
Plant Licensing Branch II-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Renewed Facility Operating  
License and Technical Specifications

Date of Issuance: January 17, 2017

ATTACHMENT TO LICENSE AMENDMENT NO. 280  
BROWNS FERRY NUCLEAR PLANT, UNIT 3  
TO RENEWED FACILITY OPERATING LICENSE NO. DPR-68  
DOCKET NO. 50-296

Replace page 3 of Renewed Facility Operating License No. DPR-68 with the attached revised page 3. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

Replace the following page of Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

REMOVE  
4.0-2

INSERT  
4.0-2

- (3) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use at any time any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (4) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use in amounts as required any byproduct, source, or special nuclear material without restriction to chemical or physical form for sample analysis or equipment and instrument calibration or associated with radioactive apparatus or components;
- (5) Pursuant to the Act and 10 CFR Parts 30 and 70, to possess but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 3458 megawatts thermal.

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 280, are hereby incorporated in the renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

For Surveillance Requirements (SRs) that are new in Amendment 212 to Facility Operating License DPR-68, the first performance is due at the end of the first surveillance interval that begins at implementation of the Amendment 212. For SRs that existed prior to Amendment 212, including SRs with modified acceptance criteria and SRs whose frequency of performance is being extended, the first performance is due at the end of the first surveillance interval that begins on the date the surveillance was last performed prior to implementation of Amendment 212.

## 4.0 DESIGN FEATURES (continued)

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### 4.3 Fuel Storage

#### 4.3.1 Criticality

- 4.3.1.1 The spent fuel storage racks are designed and shall be maintained with:
- a.  $k_{\text{eff}} \leq 0.95$  if fully flooded with unborated water, which includes an allowance for uncertainties as described in Section 10.3 of the FSAR; and
  - b. A nominal 6.563 inch center to center distance between fuel assemblies placed in the storage racks.
- 4.3.1.2 The new fuel storage vault shall not be used for fuel storage. New fuel shall be stored in the spent fuel storage racks.
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(continued)



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 296

TO RENEWED FACILITY OPERATING LICENSE NO. DPR-33,

AMENDMENT NO. 320 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-52,

AND AMENDMENT NO. 280 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-68

TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT, UNITS 1, 2, AND 3

DOCKET NOS. 50-259, 50-260, AND 50-296

1.0 INTRODUCTION

By letter dated August 12, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16225A663), Tennessee Valley Authority (the licensee) submitted a license amendment request (LAR) that would update language in Technical Specification (TS) 4.3.1.2, "Fuel Storage Criticality," for Browns Ferry Nuclear Plant (BFN), Units 1, 2, and 3, to prohibit storage of fuel in the new fuel storage vault (NFSV). The proposed language would also clarify that new fuel is to be stored in the spent fuel storage racks, which are located in the spent fuel pool (SFP).

BFN, Units 1, 2, and 3, each contain identical NFSV layouts with storage racks that provide space for up to 10 channeled or unchanneled fresh fuel assemblies. According to the BFN Updated Final Safety Analysis Report (UFSAR), the racks provide space for 30 percent of the reactor core load, which implies that there are 23 storage racks for each NFSV. Since the NFSV configuration is the same for BFN, Units 1, 2, and 3, the same evaluation and proposed change were presented for all three BFN units.

2.0 REGULATORY EVALUATION

The Nuclear Regulatory Commission (NRC) staff review was performed consistent with the guidance in NUREG-0800, "Standard Review Plan [SRP] for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light-Water Reactor] Edition" (SRP), Section 9.1.1, "Criticality Safety of Fresh and Spent Fuel Storage and Handling," Revision 3, March 2007 (ADAMS Accession No. ML070570006). The applicable regulations, as described in the SRP, are listed below, along with their applicability to BFN.

Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix A, "General Design Criteria [GDC] for Nuclear Power Plant," Criterion 62, "Prevention of criticality in fuel storage

and handling,” requires, “Criticality in the fuel storage and handling system shall be prevented by physical systems or processes, preferably by use of geometrically safe configurations.”

The BFN units were licensed under draft Atomic Energy Commission (AEC) GDC, not the final ones as described in 10 CFR Part 50, Appendix A. However, Appendix A of the BFN UFSAR provides a description of conformance to the draft AEC GDCs. A review of the BFN UFSAR shows that the draft AEC GDCs that BFN was licensed under contain very similar criteria. In particular, BFN Criterion 66 was similar to GDC 62.

Paragraph 50.68(b)(1) of 10 CFR requires,

Plant procedures shall prohibit the handling and storage at any one time of more fuel assemblies than have been determined to be safely subcritical under the most adverse moderation conditions feasible by unborated water.

Paragraph 50.68(b)(2) of 10 CFR requires,

The estimated ratio of neutron production to neutron absorption and leakage (k-effective) of the fresh fuel in the fresh fuel storage racks shall be calculated assuming the racks are loaded with fuel of the maximum fuel assembly reactivity and flooded with unborated water and must not exceed 0.95, at a 95 percent probability, 95 percent confidence level. This evaluation need not be performed if administrative controls and/or design features prevent such flooding or if fresh fuel storage racks are not used.

Paragraph 50.68(b)(3) of 10 CFR requires,

If optimum moderation of fresh fuel in the fresh fuel storage racks occurs when the racks are assumed to be loaded with fuel of the maximum fuel assembly reactivity and filled with low-density hydrogenous fluid, the k-effective corresponding to this optimum moderation must not exceed 0.98, at a 95 percent probability, 95 percent confidence level. This evaluation need not be performed if administrative controls and/or design features prevent such moderation or if fresh fuel storage racks are not used.

Paragraph 50.68(b)(4) of 10 CFR requires, in part,

If no credit for soluble boron is taken, the k-effective of the spent fuel storage racks loaded with fuel of the maximum fuel assembly reactivity must not exceed 0.95, at a 95 percent probability, 95 percent confidence level, if flooded with unborated water.

BFN does not currently use the NFSVs for fresh fuel storage, therefore, 10 CFR 50.68(b)(2) and (3) do not apply. However, the other requirements must be satisfied for new fuel stored in the spent fuel storage racks.

### 3.0 TECHNICAL EVALUATION

No new analysis or evaluation was submitted for the NFSVs, therefore, the technical evaluation of this LAR was focused on ensuring that the proposed change was consistent with SRP Section 9.1.1, Revision 3, and the other applicable regulatory requirements.

As described by the licensee in its letter dated August 12, 2016, fuel movement into the NFSVs is currently prohibited by a combination of:

- (1) A statement in Section 10.2 of the UFSAR that new fuel is not placed in the NFSVs unless a criticality analysis of optimum moderation is performed,
- (2) Procedural prohibitions on the placement of fuel in the NFSVs, and
- (3) Steel and concrete covers over the NFSVs to act as a physical barrier.

Section 4.3.1.2 of the TSs references Section 10.2 of the UFSAR, so the existing TS incorporate the requirement for a criticality analysis using optimum moderation, by reference. However, the possibility exists that a later update of the UFSAR may inadvertently lead to a non-conservative TS, because there is no explicit prohibition of fuel storage in the NFSVs without a criticality analysis using optimum moderation conditions. Therefore, the licensee is requesting that the current TS 4.3.1.2 text be removed in its entirety and replaced with,

The new fuel storage vault shall not be used for fuel storage. New fuel shall be stored in the spent fuel storage racks.

The proposed LAR that explicitly prohibits storage of new fuel in the NFSVs is more conservative than the current language in the TS, and would satisfy NRC subcriticality requirements stated in the regulatory evaluation section of this safety evaluation.

The current SFP nuclear criticality safety analysis of record for Browns Ferry assumes that the SFP is filled with a design basis fuel assembly with all lattices at the burnup of maximum reactivity. The design basis fuel assembly is selected, such that, the peak reactivity of each lattice bounds the peak reactivity for all lattices that are stored in the SFP at the same axial elevations. TS 4.3.1.1 ensures that any fuel to be stored in the SFP will meet the regulatory requirement typically by demonstrating that its reactivity is bounded by the design basis fuel assembly in the SFP nuclear criticality safety analysis of record. If a fresh fuel assembly is most reactive at the beginning of its lifetime, then it would be required to be bounded by the reactivity of the design basis fuel assembly. If a fresh fuel assembly is most reactive at a later time in its lifetime, then the reactivity of the fuel assembly at that time would be bounded by the design basis fuel assembly. Therefore, the lower reactivity of the fuel assembly at the beginning of its lifetime will also be bounded. As a result, the current TS 4.3.1.1 requirement for the SFP will bound storage of fresh fuel assemblies.

Based on the above discussion, the NRC staff finds that: (1) the proposed prohibition of fuel storage in the NFSV is conservative relative to the current TS, and (2) fresh fuel storage in the SFP is bounded by the current licensing basis and all regulatory requirements continue to be met. Therefore, the proposed TS change is acceptable.

#### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Alabama State official was notified of the proposed issuance of the amendments. The State official had no comments.

#### 5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding published in the *Federal Register* on October 11, 2016 (81 FR 70187). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

#### 6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by the operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Scott T. Krepel

Date: January 17, 2017

January 17, 2017

Mr. Joseph W. Shea  
Vice President, Nuclear Licensing  
Tennessee Valley Authority  
1101 Market Street, LP 3R-C  
Chattanooga, TN 37402-2801

SUBJECT: BROWNS FERRY NUCLEAR PLANT, UNITS 1, 2, AND 3 - ISSUANCE OF  
AMENDMENTS REGARDING REVISIONS TO TECHNICAL  
SPECIFICATION 4.3.1.2, "FUEL STORAGE CRITICALITY" (CAC NOS.  
MF8271, MF8272, AND MF8273)

Dear Mr. Shea:

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A copy of our related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,  
/RA/

Farideh E. Saba, Senior Project Manager  
Plant Licensing Branch II-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-259, 50-260, and 50-296

Enclosures:

1. Amendment No. 296 to DPR-33
2. Amendment No. 320 to DPR-52
3. Amendment No. 280 to DPR-68
4. Safety Evaluation

cc w/enclosures: Distribution via Listserv

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\*via memorandum

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