



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

CNL-18-026

May 25, 2018

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: **Browns Ferry Nuclear Plant, Units 1, 2, and 3 - Third Update on Progress of Facility Modifications for MSIV Leak Rate**

- References:
1. TVA letter to NRC, CNL-15-070, "Browns Ferry Nuclear Plant, Units 1, 2, and 3 - Withdrawal of Proposed Technical Specification Change to Revise the Leakage Rate Through MSIVs - TS-485," dated May 29, 2015 (ML15159B009)
  2. TVA letter to NRC, CNL-15-123, "Updated Reply to Notice of Violation; EA-11-252; and Follow-up to 10 CFR 50.9, 'Completeness and accuracy of information,' Notification," dated July 15, 2015 (ML15198A353)
  3. TVA Letter to NRC, CNL-16-008, "Browns Ferry Nuclear Plant, Units 1, 2, and 3 - Update on Progress of Facility Modifications for MSIV Leak Rate," dated May 26, 2016 (ML16148A108)
  4. TVA Letter to NRC, CNL-17-052, "Browns Ferry Nuclear Plant, Units 1, 2, and 3 - Second Update on Progress of Facility Modifications for MSIV Leak Rate," dated May 26, 2017 (ML17146A199)

In Reference 1, Tennessee Valley Authority (TVA) withdrew a license amendment request (LAR) for the Browns Ferry Nuclear Plant (BFN) Units 1, 2, and 3. The LAR had proposed making the primary alternate leakage (ALT) pathway become the secondary pathway and the secondary pathway would become the credited primary ALT pathway. Additionally, the individual leakage and combined leakage rates through each MSIV would be decreased.

Reference 1 was submitted to the NRC to resolve a non-conforming/degraded condition related to the ALT pathway. In Reference 2, TVA informed the Nuclear Regulatory Commission (NRC) that to resolve the non-conforming/degraded condition, TVA would perform facility and licensing basis modifications such that the current licensing basis dose calculations would remain valid. Additionally, in Reference 1, TVA committed to provide the NRC with an annual status of the progress towards resolving the non-conformance beginning one year from the date of Reference 1 and continuing until the non-conformance has been resolved. The first annual update was provided in Reference 3. The second annual update was provided in Reference 4.

Accordingly, the third annual update of progress of facility modifications is provided below.

As described in Reference 4, the proposed facility modifications are as follows:

1. "The main steam line (MSL) drain valves FCV-1-168, -1-169, -1-170, and 1-171 will be replaced with fail-open Air Operated Valves (AOVs) with the same valve open control logic for turbine speed < 1700 rpm. Thus, an open 2" flow path will be assured.
2. MOV FCV-1-58 will be replaced with a fail-open flow control valve. A second fail-open valve will be added in a parallel line around FCV-1-58 for defense-in-depth in the event that offsite power is not lost during the LOCA.
3. TVA will ensure, by design output, that FCV-1-57 is open and that the motive power is removed when the Unit is in Modes 1, 2 or 3."

### BFN Unit 3

For BFN Unit 3, the facility and licensing basis modifications described above are complete.

1. The MSL MOV drain valves 3-FCV-001-0168, 3-FCV-001-0169, 3-FCV-001-0170 and 3-FCV-001-0171 were replaced with AOVs that fail-open on loss of control air or loss of power.
2. MOV 3-FCV-001-0058 was replaced with a fail-open AOV and the second valve (3-FCV-001-0185) was added in parallel to 3-FCV-001-0058.
3. 3-FCV-001-0057 is open with power removed when BFN Unit 3 is in Modes 1, 2, and 3.

Therefore, the compensatory measures described in Reference 2 are no longer required for BFN Unit 3.

### BFN Units 1 and 2

For BFN Units 1 and 2, the associated design change packages have been issued and lessons learned from the BFN Unit 3 modifications will be incorporated in their upcoming outages.

The FCV-001-0057 valves for BFN Units 1 and 2 are open with power removed when the units are in Modes 1, 2, and 3.

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The remaining modifications for BFN Units 1 and 2 will be completed prior to those units exceeding 3458 MWt. There are no changes to the existing compensatory measures described in Reference 2.

Dates When Full Compliance Will be Achieved

The schedule for modifying each of the BFN units is as follows:

Unit 3: Complete  
Unit 1: Refueling Outage 12 - Fall 2018  
Unit 2: Refueling Outage 20 - Spring 2019

Therefore, full compliance will be achieved following the refueling outage scheduled for BFN Unit 2 in Spring 2019.

Should you have any questions concerning this submittal, please contact J. L. Paul, Nuclear Site Licensing Manager, at (256) 729-2636.

Respectfully,



Signing For:

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