



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

CNL-19-120

November 25, 2019

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: **Proposed Technical Specifications (TS) Change TS-510 - Request for License Amendments - Maximum Extended Load Line Limit Analysis Plus - Supplement 11, Feedwater Temperature License Condition Change**

Reference: Letter from TVA to NRC, CNL-18-002, "Proposed Technical Specifications (TS) Change TS-510 - Request for License Amendments - Maximum Extended Load Line Limit Analysis Plus," dated February 23, 2018 (ML18057B276)

By the Reference letter and pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.90 Tennessee Valley Authority (TVA) submitted a request for a Technical Specification (TS) amendment (TS-510) to Renewed Facility Operating License Nos. DPR-33, DPR-52, and DPR-68 for Browns Ferry Nuclear Plant (BFN) Units 1, 2, and 3, respectively. The proposed amendment allows operation in the expanded Maximum Extended Load Line Limit Analysis Plus (MELLLA+) operating domain and use of the Detect and Suppress Solution - Confirmation Density stability solution. This letter revises the Reference request.

During a review of the analyses supporting implementation of MELLLA+ at BFN, it was identified that a proposed License Condition included in the BFN MELLLA+ License Amendment Request (LAR) does not fully cover the requirements of the analysis. The proposed License Condition is not all inclusive of the restrictions contained in the BFN MELLLA+ analysis.

The proposed BFN Units 1, 2, and 3 License Condition (provided in Attachments 1 and 2 of the Reference letter) states:

Maximum Extended Load Line Limit Analysis Plus (MELLLA+) Special Consideration

The licensee shall not operate the facility within the MELLLA+ operating domain with a feedwater heater out of service resulting in more than a 10°F reduction in feedwater temperature below the design feedwater temperature of 394.5°F.

Based on the BFN MELLLA+ analyses, any time feedwater temperature is more than 10 degrees below the design temperature for the current power level, MELLLA+ operation is not allowed, regardless of the reason for the reduced temperature. Therefore, to more completely reflect the MELLLA+ analyses, the specified reason for the feedwater temperature reduction (that is, feedwater heater out of service) is removed from the proposed License Condition. In addition, as reflected in Table 1-3 of the BFN MELLLA+ Safety Analysis Report (Attachments 5 and 6 of the Reference letter), the design/analyzed feedwater temperature varies with power level. For example, at 100 percent Rated Thermal Power (RTP), the minimum analyzed feedwater temperature was 384.4°F, and at 77.6 percent RTP, the minimum analyzed feedwater temperature was 359.9 °F. Therefore, the specific value of the feedwater design temperature is removed from the proposed License Condition.

The revised proposed BFN Units 1, 2, and 3 License Condition (which supersedes the proposed License Condition provided in Attachments 1 and 2 of the Reference letter) is as follows.

Maximum Extended Load Line Limit Analysis Plus (MELLLA+) Special Consideration

The licensee shall not operate the facility within the MELLLA+ operating domain with more than a 10°F reduction in feedwater temperature below the design feedwater temperature.

A feedwater temperature curve and/or data table, depicting design temperature and 10 degrees below design temperature, will be added to the Updated Final Safety Analysis Report and to BFN Operations procedures. The BFN Operations procedures will also include prohibitions for operating in the MELLLA+ domain with reduced feedwater temperatures 10 degrees below those design temperatures included in the MELLLA+ analyses. This curve and/or data table will cover reactor power levels that encompass the MELLLA+ operating domain. Changes to the design feedwater temperatures are controlled in accordance with 10 CFR 50.59, "Changes, tests, and experiments," and the TVA design control process.

TVA has reviewed the information supporting a finding of no significant hazards consideration and the environmental consideration provided to the NRC in the Reference letter. The supplemental information provided in this submittal does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration. In addition, the supplemental information in this submittal does not affect the bases for concluding that neither an environmental impact statement nor an environmental assessment needs to be prepared in connection with the proposed license amendment.

U.S. Nuclear Regulatory Commission
CNL-19-120
Page 3
November 25, 2019

Additionally, in accordance with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter to the Alabama State Department of Public Health.

The BFN Plant Operations Review Committee and the TVA Nuclear Safety Review Board have reviewed this proposed change and determined that operation of BFN in accordance with the proposed change will not endanger the health and safety of the public.

There are no new regulatory commitments associated with this submittal. If there are any questions or if additional information is needed, please contact Kimberly D. Hulvey at (423) 751-3275.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 25th day of November 2019.

Respectfully,



James T. Polickoski
Director, Nuclear Regulatory Affairs

cc:

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