



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

CNL-20-045

April 22, 2020

10 CFR 50.90  
10 CFR 50.91

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555-0001

Sequoyah Nuclear Plant, Unit 2  
Renewed Facility Operating License No. DPR-79  
NRC Docket No. 50-328

Subject: **Sequoyah Nuclear Plant, Unit 2 – Supplement to Exigent License  
Amendment Request to Revise Technical Specification 4.2.2, “Control Rod  
Assemblies” (SQN-TS-20-05) (EPID L-2020-LLA-0078)**

Reference: TVA Letter to NRC, CNL-20-042, “Sequoyah Nuclear Plant Unit 2 – Exigent  
License Amendment Request to Revise Technical Specification 4.2.2, “Control  
Rod Assemblies” (SQN-TS-20-05),” dated April 17, 2020 (ML20108F672)

In the Reference letter, Tennessee Valley Authority (TVA) submitted a request for an exigent amendment to Renewed Facility Operating License No. DPR-79 for Sequoyah Nuclear Plant, Unit 2 (SQN2) for Nuclear Regulatory Commission (NRC) approval. The proposed amendment will revise Technical Specification 4.2.2, “Control Rod Assemblies,” to permit the SQN2 Cycle 24 (U2C24) core to contain 52 full length control rods with no full length control rod assembly in core location H-08 for one cycle. This letter is to inform the NRC that the U2C24 core design evaluated in the Reference letter will differ from the actual U2C24 core design to be loaded into SQN2.

During the offload and inspection of fuel assemblies for U2C24, fuel assembly ML04 was found to be damaged. The damage to fuel assembly ML04 is documented in TVA’s Corrective Action Program as Condition Report 1602379. All other fuel assemblies planned for use in U2C24 have been inspected and are acceptable.

It has been determined that fuel assembly ML04 cannot be loaded as planned in the U2C24 core. This has necessitated the U2C24 core design being modified from that used in the Reference letter. TVA procedures will ensure the redesigned U2C24 core without the H-08 control rod meets all safety analysis acceptance criteria.

The redesigned U2C24 core is neutronically similar and physically identical to the Reference letter core with the following changes.

- The assembly slated for use in core location M-09 (fuel assembly ML04) is discharged to the Spent Fuel Pool.
- The assembly slated for use in core location R-08 is moved to core location M-09.
- An assembly from the Spent Fuel Pool is in core location R-08.

Redesign criteria has been established by the Sequoyah fuel vendor to assess differences between core designs to determine if substantial changes to key parameters will challenge safety analysis limits. The changes of the Reference letter core design and the redesigned U2C24 core acceptably met the redesign criteria, requiring only a few core and safety analysis parameters be recalculated. Because a reduced scope core redesign process is being used, most of the safety analysis parameters in the Reference letter do not need to be recalculated to ensure the redesigned U2C24 core meets safety analysis limits.

TVA is proposing the following license condition for SQN2 to ensure the redesigned U2C24 core will operate within the bounds of the safety analyses.

Prior to Cycle 24 startup from Unit 2 Refueling Outage 23, TVA shall ensure the Cycle 24 core design will not adversely affect the safety of the plant in accordance with TVA procedure, NFDP-111, "Nuclear Design and Core Analysis."

The proposed license condition does not change the no significant hazards consideration or the environmental considerations contained in the Reference letter. Additionally, in accordance with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter to the Tennessee Department of Environment and Conservation.

There are no new regulatory commitments associated with this submittal. Please address any questions regarding this request to Kimberly D. Hulvey, Senior Manager, Fleet Licensing, at (423) 751-3275.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 22nd day of April 2020.

Respectfully,



James Barstow  
Vice President, Nuclear Regulatory Affairs & Support Services

cc: see page 3

U.S. Nuclear Regulatory Commission  
CNL-20-045  
Page 3  
April 22, 2020

cc:

NRC Regional Administrator - Region II  
NRC Senior Resident Inspector - Sequoyah Nuclear Plant  
NRC Project Manager – Sequoyah Nuclear Plant  
Director, Division of Radiological Health - Tennessee State Department of Environment  
and Conservation