



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

CNL-19-005

February 1, 2019

10 CFR 50.90

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

Sequoyah Nuclear Plant, Units 1 and 2
Renewed Facility Operating License Nos. DPR-77 and DPR-79
NRC Docket Nos. 50-327 and 328

**SUBJECT: Sequoyah Nuclear Plant, Units 1 and 2, Application to Adopt
TSTF-563, "Revise Instrument Testing Definitions to Incorporate the
Surveillance Frequency Control Program" (SQN-TS-19-01)**

In accordance with the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) 10 CFR 50.90, Tennessee Valley Authority (TVA) is submitting for Nuclear Regulatory Commission (NRC) approval, a request for an amendment to Renewed Facility Operating License Nos. DPR-77 and DPR-79 for the Sequoyah Nuclear Plant (SQN), Units 1 and 2.

TVA requests adoption of TSTF-563, "Revise Instrument Testing Definitions to Incorporate the Surveillance Frequency Control Program." TSTF-563 revises the Technical Specification (TS) definitions of Channel Calibration, Channel Operational Test, and Trip Actuating Device Operational Test, which currently permit performance by means of any series of sequential, overlapping, or total channel steps, to allow the required frequency for testing the components or devices in each step to be determined in accordance with the TS Surveillance Frequency Control Program.

Enclosure 1 to this letter provides a description and assessment of the proposed change. Enclosure 2 provides the existing SQN Unit 1 and Unit 2 TS pages marked to show the proposed changes. Enclosure 3 provides revised (clean) TS pages.

TVA has determined that there are no significant hazards consideration associated with the proposed change and that the license amendment qualifies for a categorical exclusion from environmental review pursuant to the provisions of 10 CFR 51.22(c)(9). Additionally, in accordance with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter and enclosures to the Tennessee Department of Environment and Conservation.

U.S. Nuclear Regulatory Commission
CNL-19-005
Page 2
February 1, 2019

TVA requests approval of the proposed license amendment within 12 months of the date of this letter with implementation within 30 days following NRC approval.

There are no new regulatory commitments made in this letter.

Please address any questions regarding this submittal to Mr. Michael A. Brown at (423) 751-3275.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 1st day of February 2019.

Respectfully,



E. K. Henderson
Director, Nuclear Regulatory Affairs

Enclosures:

1. Description and Assessment of the Proposed Change
2. Proposed Technical Specification Changes (Unit 1 and 2 Markups)
3. Revised Technical Specification Pages (Unit 1 and 2 Clean)

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

Enclosure 1
Description and Assessment of the Proposed Change

1.0 DESCRIPTION

Tennessee Valley Authority (TVA) requests adoption of Technical Specification Task Force (TSTF) traveler TSTF-563, "Revise Instrument Testing Definitions to Incorporate the Surveillance Frequency Control Program," into the Technical Specifications (TS) of Sequoyah Nuclear Plant (SQN), Units 1 and 2. TSTF-563 revises the Technical Specification (TS) definitions of Channel Calibration, Channel Operational Test, and Trip Actuating Device Operational Test, which currently permit performance by means of any series of sequential, overlapping, or total channel steps, to allow the required frequency for testing the components or devices in each step to be determined in accordance with the TS Surveillance Frequency Control Program.

2.0 ASSESSMENT

2.1 Applicability of Safety Evaluation

TVA has reviewed the safety evaluation for TSTF-563 provided to the Technical Specifications Task Force in a letter dated December 4, 2018. This review included a review of the Nuclear Regulatory Commission (NRC) staff's evaluation, as well as the information provided in TSTF-563. As described herein, TVA has concluded that the justifications presented in TSTF-563 and the safety evaluation prepared by the NRC staff are applicable to Sequoyah Nuclear Plant, Units 1 and 2, and justify this amendment for the incorporation of the changes to the SQN Unit 1 and 2 TS.

A Surveillance Frequency Control Program was incorporated into the SQN Units 1 and 2 TS as part of the conversion to the Improved Technical Specifications in a license amendment dated September 30, 2015 (NRC Agency Documents Access and Management System (ADAMS) Accession No. ML15238B460).

2.2 Optional Changes and Variations

TVA is not proposing any variations from the TS changes described in the TSTF-563 or the applicable parts of the NRC staff's safety evaluation dated December 4, 2018.

3.0 REGULATORY ANALYSIS

3.1 No Significant Hazards Consideration Analysis

The Tennessee Valley Authority (TVA) requests adoption of TSTF-563, "Revise Instrument Testing Definitions to Incorporate the Surveillance Frequency Control Program," into the Technical Specifications (TS) of Sequoyah Nuclear Plant (SQN), Units 1 and 2. TSTF-563 revises the Technical Specification (TS) definitions of Channel Calibration, Channel Operational Test (COT), and Trip Actuating Device Operational Test (TADOT), which currently permit performance by means of any series of sequential, overlapping, or total channel steps, to allow the required frequency for testing the components or devices in each step to be determined in accordance with the TS Surveillance Frequency Control Program.

Enclosure 1
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TVA has evaluated whether or not a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No

The proposed change revises the TS definitions of Channel Calibration, COT, and TADOT to allow the frequency for testing the components or devices in each step to be determined in accordance with the TS Surveillance Frequency Control Program. All components in the channel continue to be tested. The frequency at which a channel test is performed is not an initiator of any accident previously evaluated, so the probability of an accident is not affected by the proposed change. The channels surveilled in accordance with the affected definitions continue to be required to be operable and the acceptance criteria of the surveillances are unchanged. As a result, any mitigating functions assumed in the accident analysis will continue to be performed.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any previously evaluated?

Response: No

The proposed change revises the TS definitions of Channel Calibration, COT, and TADOT to allow the frequency for testing the components or devices in each step to be determined in accordance with the TS Surveillance Frequency Control Program. The design function or operation of the components involved are not affected and there is no physical alteration of the plant (i.e., no new or different type of equipment will be installed). No credible new failure mechanisms, malfunctions, or accident initiators not considered in the design and licensing bases are introduced. The changes do not alter assumptions made in the safety analysis. The proposed changes are consistent with the safety analysis assumptions.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No

The proposed change revises the TS definitions of Channel Calibration, COT, and TADOT to allow the frequency for testing the components or devices in each step to be determined in accordance with the TS Surveillance Frequency Control Program. The Surveillance Frequency Control Program assures sufficient safety margins are maintained, and that that design, operation, surveillance methods, and acceptance

Enclosure 1
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criteria specified in applicable codes and standards (or alternatives approved for use by the Nuclear Regulatory Commission (NRC)) will continue to be met as described in the plants' licensing basis. The proposed change does not adversely affect existing plant safety margins, or the reliability of the equipment assumed to operate in the safety analysis. As such, there are no changes being made to safety analysis assumptions, safety limits, or limiting safety system settings that would adversely affect plant safety as a result of the proposed change. Margins of safety are unaffected by method of determining surveillance test intervals under an NRC-approved licensee-controlled program.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, TVA concludes that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

3.2 Conclusion

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with NRC regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

4.0 ENVIRONMENTAL EVALUATION

The proposed change would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure.

Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed change.

Enclosure 2

**Proposed Technical Specification Changes (Unit 1 and 2 Mark-Ups)
(6 total pages)**

1.0 USE AND APPLICATION

1.1 Definitions

NOTE

The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications and Bases.

<u>Term</u>	<u>Definition</u>
ACTIONS	ACTIONS shall be that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times.
ACTUATION LOGIC TEST	An ACTUATION LOGIC TEST shall be the application of various simulated or actual input combinations in conjunction with each possible interlock logic state required for OPERABILITY of a logic circuit and the verification of the required logic output. The ACTUATION LOGIC TEST, as a minimum, shall include a continuity check of output devices.
AXIAL FLUX DIFFERENCE (AFD)	AFD shall be the difference in normalized flux signals between the top and bottom halves of a two section excore neutron detector.
CHANNEL CALIBRATION	A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds within the necessary range and accuracy to known values of the parameter that the channel monitors. The CHANNEL CALIBRATION shall encompass all devices in the channel required for channel OPERABILITY. Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors may consist of an inplace qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping, or total channel steps.
CHANNEL CHECK	A CHANNEL CHECK shall be the qualitative assessment, by observation, of channel behavior during operation. This determination shall include, where possible, comparison of the channel indication and status to other indications or status derived from independent instrument channels measuring the same parameter.

, and each step must be performed within the Frequency in the Surveillance Frequency Control Program for the devices included in the step

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CORE ALTERATION

CORE ALTERATION shall be the movement of any fuel, sources, reactivity control components, or other components affecting reactivity within the reactor vessel with the head removed and fuel in the vessel. Suspension of CORE ALTERATIONS shall not preclude completion of movement of a component to a safe position.

CORE OPERATING LIMITS REPORT (COLR)

The COLR is the unit specific document that provides cycle specific parameter limits for the current reload cycle. These cycle specific parameter limits shall be determined for each reload cycle in accordance with Specification 5.6.3. Plant operation within these limits is addressed in individual Specifications.

DOSE EQUIVALENT I-131

DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcuries per gram) that alone would produce the same dose when inhaled as the combined activities of iodine isotopes I-131, I-132, I-133, I-134, and I-135 actually present. The determination of DOSE EQUIVALENT I-131 shall be performed using thyroid dose conversion factors from Table III of TID-14844, AEC, 1962, "Calculation of Distance Factors for Power and Test Reactor Sites."

DOSE EQUIVALENT XE-133

DOSE EQUIVALENT XE-133 shall be that concentration of Xe-133 (microcuries per gram) that alone would produce the same acute dose to the whole body as the combined activities of noble gas nuclides Kr-85m, Kr-85, Kr-87, Kr-88, Xe-131m, Xe-133m, Xe-133, Xe-135m, Xe-135, and Xe-138 actually present. If a specific noble gas nuclide is not detected, it should be assumed to be present at the minimum detectable activity. The determination of DOSE EQUIVALENT XE-133 shall be performed using effective dose conversion factors for air submersion listed in Table III.1 of EPA Federal Guidance Report No. 12, 1993, "External Exposure to Radionuclides in Air, Water, and Soil."

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STAGGERED TEST BASIS	A STAGGERED TEST BASIS shall consist of the testing of one of the systems, subsystems, channels, or other designated components during the interval specified by the Surveillance Frequency, so that all systems, subsystems, channels, or other designated components are tested during n Surveillance Frequency intervals, where n is the total number of systems, subsystems, channels, or other designated components in the associated function.
THERMAL POWER	THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.
TRIP ACTUATING DEVICE OPERATIONAL TEST (TADOT)	A TADOT shall consist of operating the trip actuating device and verifying the OPERABILITY of all devices in the channel required for trip actuating device OPERABILITY. The TADOT shall include adjustment, as necessary, of the trip actuating device so that it actuates at the required setpoint within the necessary accuracy. The TADOT may be performed by means of any series of sequential, overlapping, or total channel steps.

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Enclosure 3

**Revised Technical Specification Pages (Unit 1 and 2 Clean)
(6 total pages)**

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