Tennessee Valley Authority, Post Office Box 2000, Soddy-Daisy, Tennessee 37379

June 7, 1999

TVA-SQN-TS-99-09 10 CFR 50.90

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

Gentlemen:

In the Matter of)
Tennessee Valley Authority)

Docket No. 50-328

SEQUOYAH NUCLEAR PLANT (SQN) - UNIT 2 - TECHNICAL SPECIFICATION (TS) CHANGE NO 99-09, "REVISION OF DOSE EQUIVALENT IODINE-131 REACTOR COOLANT MAXIMUM SPECIFIC ACTIVITY"

In accordance with the provisions of 10 CFR 50.4 and 50.90, TVA is submitting a request for an amendment to SQN's License DPR-79 to change the TSs for Unit 2. The proposed change modifies the Unit 2 TSs and Bases to increase the maximum allowed specific activity of the primary coolant from 0.35 microcuries/gram dose equivalent I-131 to 1.0 microcuries/gram dose equivalent I-131 for the Unit 2 Cycle 10 (U2C10) core. This change, to be implemented for only the present operating cycle, reverses the revision to the Unit 2 TS submitted on June 26, 1998, that implemented the criteria provided for in NRC Generic Letter (GL) 95-05, "Voltage-Based Repair Criteria for Westinghouse Steam Generator Tubes Affected by Outside Diameter Stress Corrosion Cracking."

This change is needed as a provisional allowance to provide operational flexibility with respect to the reactor coolant specific activity since an unexpected increase in the specific activity associated with Iodine-131 occurred during

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startup following the U2C9 refueling outage. TVA considers the unexpected increase in the specific activity to potentially be the result of actions taken to address the industry operating experience issued for the V. C. Summer Nuclear Station that documented potential Westinghouse fuel assembly top nozzle defects resulting in the failure of the top assembly hold-down spring screws. Specifically, TVA identified 24 fuel assemblies that were scheduled to be reinserted in the U2C10 core that had hold-down spring screws from the same heat lot as the V. C. Summer fuel. In order to address this concern, TVA elected to replace these 24 fuel assemblies with fuel stored in the spent fuel pool from previous operating cycles. The replacement assemblies were either selected from cores in which fuel leakage did not occur or were inspected by ultrasonic testing or fuel sipping to provide assurance that only high quality, nonleaking fuel assemblies were placed in the core. However, the increased specific activity could be the result of foreign material or other mechanisms that could affect the new or burned fuel, and TVA is continuing to investigate the root cause. Notwithstanding these actions, an increase in the Iodine-131 specific activity occurred following startup. Therefore, TVA is requesting the above described change to the Unit 2 TS to provide operational flexibility for the U2C10 operating core.

TVA has determined that there are no significant hazards considerations associated with the proposed change and that the change is exempt from environmental review pursuant to the provisions of 10 CFR 51.22(c)(9). The SQN Plant Operations Review Committee and the SQN Nuclear Safety Review Board have reviewed this proposed change and determined that operation of SQN Unit 2, in accordance with the proposed change, will not endanger the health and safety of the public. Additionally, in accordance with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter to the Tennessee State Department of Public Health.

Enclosure 1 to this letter provides the description and evaluation of the proposed change. This includes TVA's determination that the proposed change does not involve a significant hazards consideration and is exempt from environmental review. Enclosure 2 contains copies of the appropriate TS pages from Unit 2 marked up to show the proposed change. Enclosure 3 forwards the revised TS pages for Unit 2 which incorporate the proposed change.

TVA requests that the revised TS be made effective within 45 days of NRC approval. If you have any questions about this change, please telephone me at (423) 843-7170 or Jim Smith at (423) 843-6672.

Sincerely,

Pedro Salas
Licensing and Industry Affairs Manager

Subscribed and sworn to before me
on this 7th day of June

Peggy M. Billingsley
Notary Public

My Commission Expires October 9, 2002

Enclosures
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ENCLOSURE 1

TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT (SQN)
UNIT 2
DOCKET NO. 328

PROPOSED TECHNICAL SPECIFICATION (TS) CHANGE DESCRIPTION AND EVALUATION OF THE PROPOSED CHANGE

I. DESCRIPTION OF THE PROPOSED CHANGE

TVA proposes to revise the SQN Unit 2 TSs and Bases to increase the maximum allowed specific activity of the primary coolant from 0.35 microcuries/gram dose equivalent I-131 to 1.0 microcuries/gram dose equivalent I-131 for the Unit 2 Cycle 10 (U2C10) core. This change, to be implemented for only the present operating cycle, reverses the revision to the Unit 2 TS submitted on June 26, 1998, that implemented the criteria provided for in NRC Generic Letter (GL) 95-05, "Voltage-Based Repair Criteria for Westinghouse Steam Generator Tubes Affected by Outside Diameter Stress Corrosion Cracking." This change is needed as a provisional allowance to provide operational flexibility with respect to the reactor coolant specific activity since an unexpected increase in the specific activity associated with Iodine-131 occurred during startup following the U2C9 refueling outage.

The specific changes are as follows:

1. Add a notation (**) to Limiting Condition of Operation (LCO) 3.4.8.a that references the addition of the note at the bottom of the page stating, "For Unit 2 Cycle 10 operation, a DOSE EQUIVALENT I-131 less than or equal to 1.0 microcurie per gram shall be maintained."

2. Add a notation (**) to LCO 3.4.8 Action for Modes 1, 2, and 3*, Item a, that references the addition of the note at the bottom of the page stating, "For Unit 2 Cycle 10 operation, a DOSE EQUIVALENT I-131 less than or equal to 1.0 microcurie per gram shall be maintained."

3. Add a notation (#) to LCO 3.4.8 Action for Modes 1, 2, and 3*, Item a, that references the addition of the note at the bottom of the page stating, "For Unit 2 Cycle 10 operation, refer to Figure 3.4-1a."

4. Add a notation (**) to LCO 3.4.8 Action for Modes 1, 2, 3, 4, and 5, Item a, that references the addition of the note at the bottom of the page stating, "For Unit 2

Cycle 10 operation, a DOSE EQUIVALENT I-131 less than or equal to 1.0 microcurie per gram shall be maintained."

5. Add a notation (**) to Table 4.4-4, "PRIMARY COOLANT SPECIFIC ACITVITY SAMPLE AND ANALYSIS PROGRAM," Item 4.a, that references the addition of the note at the bottom of the page stating, "For Unit 2 Cycle 10 operation, a DOSE EQUIVALENT I-131 less than or equal to 1.0 microcurie per gram shall be maintained."

6. Add Figure 3.4-1a, the maximum allowable I-131 spiking values (i.e., region of Acceptable Operation), which may occur during power operation for U2C10 operation.

7. Add a notation (**) to Bases 3/4.4.6.2, "Operational Leakage," fifth paragraph, second and third sentences that references the addition of the note at the bottom of the page stating, "For Unit 2 Cycle 10 operation, the limiting leakage in the faulted loop following a main steam line break is 2.7 gpm."

8. Add a notation (**) to Bases 3/4.4.8, "Specific Activity," second paragraph, first and second sentences referencing the addition of a note at the bottom of the page that states, "For Unit 2 Cycle 10 operation, a DOSE EQUIVALENT I-131 less than or equal to 1.0 microcurie per gram shall be maintained." And a second notation (#) to the first and second sentences referencing an additional note that states, "For Unit 2 Cycle 10 operation, refer to Figure 3.4-1a."

II. REASON FOR THE PROPOSED CHANGE

This change is needed as a provisional allowance to provide operational flexibility with respect to the reactor coolant specific activity since an unexpected increase in the specific activity associated with Iodine-131 occurred following the U2C9 refueling outage. TVA considers the unexpected increase in the specific activity to potentially be the result of actions taken to address the industry operating experience issued for the V. C. Summer Nuclear Station that documented potential Westinghouse fuel assembly top nozzle defects resulting in the failure of the top assembly hold-down spring screws. Specifically, TVA identified 24 fuel assemblies that were scheduled to be reinserted in the U2C10 core, that had hold-down spring screws from the same heat lot as the V. C. Summer fuel. In order to address this concern, TVA elected to replace these 24 fuel assemblies with fuel stored in the spent fuel pool from previous operating cycles. The replacement assemblies were either selected from cores in which fuel leakage did not occur or were

inspected by ultrasonic testing or fuel sipping to provide assurance that only high quality, nonleaking fuel assemblies were placed in the core. However, the increased specific activity could be the result of foreign material or other mechanisms that could affect the new or burned fuel and TVA is continuing to investigate the root cause. Notwithstanding these actions, an increase in the Iodine-131 specific activity occurred following startup. Therefore, TVA is requesting the above described change to the Unit 2 TS to provide operational flexibility for the U2C10 operating core.

III. SAFETY ANALYSIS

The proposed TS change increases the allowed reactor coolant specific activity for Iodine-131 from 0.35 microcuries/gram to 1.0 microcuries/gram, and as a result, decreases the allowable leakage quantity that can be postulated to occur at the faulted steam generator (SG) during a main steam line break (MSLB) accident from 8.21 gallons per minute (gpm) to 2.7 gpm. The described changes will return these parameters to the same values under which the plant operated prior to the implementation of TS Change 98-02 submitted on June 26, 1998. The June 26, 1998 submittal was a voluntary change that allowed for a greater leakage quantity during an MSLB accident as described in GL 95-05. The offsite dose analysis contained in Chapter 15 of the Updated Final Safety Analysis Report (UFSAR) presently reflects a dose equivalent Iodine-131 specific activity of 1.0 microcurie/gram. The allowance provided in GL 95-05 was not included in the offsite dose calculations. Therefore, the change submitted in TS Change 98-02 has not been relied on for any other design or operational changes beyond the allowance provided for in GL 95-05 for the steam generator tube plugging criteria.

Increasing the reactor coolant specific activity, while decreasing the postulated primary-to-secondary leakage during a MSLB accident, keeps the amount of activity released to the environment unchanged. Design basis and offsite dose calculation assumptions remain satisfied. The control room dose, the low population zone dose, and the dose at the exclusion area boundary remain bounded as described in the UFSAR. Additionally, the analysis for the present SG conditions on Unit 2 shows the largest steam line break leak rate projected for end-of-cycle conditions is 0.94 gpm, approximately a factor of three less than the 2.7 gpm allowance. Therefore, based on the above, this proposed change to SQN Units 1 and 2 TSs is acceptable.

IV. NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

TVA has concluded that operation of SQN Units 1 and 2, in accordance with the proposed change to the technical specifications (TSs) [or operating license(s)], does not involve a significant hazards consideration. TVA's conclusion is based on its evaluation, in accordance with 10 CFR 50.91(a)(1), of the three standards set forth in 10 CFR 50.92(c).

A. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed TS change increases the allowed reactor coolant specific activity for Iodine-131 and decreases the leakage quantity that would be postulated to occur at the faulted steam generator (SG) during a main steam line break (MSLB) accident. The described changes will return these parameters to the same values under which the plant operated prior to the implementation of TS Change 98-02 submitted on June 26, 1998. The June 26, 1998 submittal was a voluntary change that allowed for a greater leakage quantity during an MSLB accident as described in Generic Letter 95-05. Returning these parameters to their previous values does not affect or increase the probability of any accidents previously evaluated.

An increase in the consequences of an accident would not occur because the proportional increase in reactor coolant specific activity, while proportionally decreasing the allowable primary-to-secondary leakage during a postulated MSLB accident to values under which the plant was previously operated, was evaluated in WCAP-13990 during the establishment of the original primary-to-secondary leak limits. No changes to the physical plant, to the plant operation, or maintenance practices have been implemented that would invalidate the limits defined in WCAP-13990.

The control room dose, the low population zone dose, and the dose at the exclusion area boundary remain bounded by the acceptance criteria of the Updated Final Safety Analysis Report. Therefore, the proposed TS change does not result in an increase in the consequences of an accident previously analyzed.

B. **The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.**

The proposed TS change does not alter the configuration of the plant. The changes do not directly affect plant operation. The change will not result in the installation of any new equipment or systems or the modification of any existing equipment or systems. No new operating procedures, conditions, or modes will be created by this proposed change. SG tube structural integrity, as defined in draft Regulatory Guide 1.121, remains unchanged. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

C. **The proposed amendment does not involve a significant reduction in a margin of safety.**

Raising the allowed reactor coolant specific activity, while decreasing the allowed primary-to-secondary leakage during a postulated MSLB accident, keeps the amount of activity released to the environment unchanged. Design basis and offsite dose calculation assumptions remain satisfied. Therefore, the proposed change does not result in a significant reduction in the margin of safety.

V. ENVIRONMENTAL IMPACT CONSIDERATION

The proposed change does not involve a significant hazards consideration, a significant change in the types of or significant increase in the amounts of any effluents that may be released offsite, or a significant increase in individual or cumulative occupational radiation exposure. Therefore, the proposed change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental assessment of the proposed change is not required.