



10 CFR 50.90

LR-N21-0043
LAR S20-01

June 9, 2021

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

Salem Generating Station
Renewed Facility Operating License Nos. DPR-70 and DPR-75
NRC Docket Nos. 50-272 and 50-311

Subject: Supplement to License Amendment Request to Adopt TSTF-490, "Delete E-Bar Definition and Revision to RCS Specific Activity Tech Spec"

References: 1. PSEG letter to NRC, "License Amendment Request to Adopt TSTF-490, Deletion of E-Bar Definition and Revision to RCS Specific Activity Tech Spec," dated September 17, 2020 (ADAMS Accession No. ML20266G247)

In the Reference 1 letter, PSEG Nuclear LLC (PSEG) submitted a license amendment request (LAR) to Renewed Facility Operating License Nos. DPR-70 and DPR-75 for Salem Generating Station Units 1 and 2 respectively. The proposed amendment would revise Technical Specifications (TS) to adopt Technical Specification Task Force (TSTF) Traveler-490, "Deletion of E Bar Definition and Revision to RCS Specific Activity Tech Spec." TSTF-490 revises the TS Definitions, Limiting Condition for Operation (LCO), Actions and Surveillance Requirements (SR) associated with Reactor Coolant System (RCS) Specific Activity in Salem TS 3/4.4.8 (Unit 1) and TS 3/4.4.9 (Unit 2).

The subject LAR identified that SR 4.4.8.1 (Salem Unit 1) and SR 4.4.9.1 (Salem Unit 2) for verifying the specific activity for Dose Equivalent Xenon-133 (DEX) would be performed in Modes 1 through 4 to align with the Modes of applicability for the associated LCO. Based on further assessment of this testing, it was identified that a representative noble gas sample to assess DEX may not be obtainable at the reduced RCS pressure and temperature conditions during operations in Mode 3 with T_{avg} less than 500°F and in Mode 4.

Based on this technical limitation for performance of the DEX SR and the limited time the reactor operates in this Mode, PSEG is proposing the following additional change to the TS to address this issue:

- Add a NOTE to the SURVEILLANCE REQUIREMENTS of TS 4.4.8.1 (Salem Unit 1) stating, "SR 4.4.8.1 is not required to be performed in MODE 4, and is not required to be performed in MODE 3 until 24 hours after $T_{avg} \geq 500^\circ\text{F}$."

- Add a NOTE to the SURVEILLANCE REQUIREMENTS of TS 4.4.9.1 (Salem Unit 2) stating, "SR 4.4.9.1 is not required to be performed in MODE 4, and is not required to be performed in MODE 3 until 24 hours after $T_{avg} \geq 500^{\circ}F$."

The proposed change is consistent with the intent of TSTF-490 to verify specific activity via a DEX sample and deferral of the DEX surveillance until $T_{avg} \geq 500^{\circ}F$ is consistent with similar exceptions in precedent license amendments issued for implementation of TSTF-490 (e.g. Watts Bar Nuclear Plant Amendments 146 and 52 (ADAMS Accession No. ML21099A246), Sequoyah Nuclear Plant Amendments 334 and 327 (ADAMS Accession No. ML15236A351)).

The 24 hours allowance in MODE 3 provides a reasonable time in which to complete the DEX surveillance after T_{avg} is greater than or equal to $500^{\circ}F$ and RCS conditions permit a representative sample to be obtained. The 24 hour allowance is acceptable based on the low likelihood of exceeding the DEX limit during this brief period in a reactor startup.

Attachment 1 to this letter provides the proposed supplemental TS mark-up pages with changes proposed by this supplement highlighted in bold italicized text. The remaining TS markups provided in the Reference 1 LAR submittal remain unaffected by this supplement. Attachment 2 provides the revised camera-ready TS pages.

PSEG has determined that the information provided does not alter the conclusions reached in the 10 CFR 50.92 no significant hazards determination previously submitted. In addition, the information provided 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 amendment.

There are no regulatory commitments contained in this letter.

If you have any questions or require additional information, please contact Mr. Michael Wiwel at 856-339-7907.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 6/9/2021
(Date)

Respectfully,



David Sharbaugh
Site Vice President
Salem Generating Station

Attachment 1: Mark-up of Proposed Technical Specification Pages
Attachment 2: Revised Camera-ready Technical Specification Pages

cc: Administrator, Region I, NRC
NRC Project Manager
NRC Senior Resident Inspector, Salem
Ms. A. Pfaff, Manager, NJBNE
PSEG Corporate Commitment Tracking Coordinator
Station Commitment Tracking Coordinator

Attachment 1**Mark-up of Proposed Technical Specification Pages**

The following Technical Specification page for Renewed Facility Operating License DPR-70 is affected by this change request:

<u>Technical Specification</u>	<u>Page</u>
4.4.8	3/4 4-20

The following Technical Specification page for Renewed Facility Operating License DPR-75 is affected by this change request:

<u>Technical Specification</u>	<u>Page</u>
4.4.9	3/4 4-23

SPECIFIC ACTIVITY

LIMITING CONDITION FOR OPERATION

3.4.8 The specific activity of the primary coolant shall be limited to:

- a. $\leq 1.0 \mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131, and
- b. $\leq 100/\text{E}\mu\text{Ci}/\text{gram}$. 600 $\mu\text{Ci}/\text{gm}$ DOSE EQUIVALENT XE-133

APPLICABILITY: MODES 1, 2, 3, 4 and 5

ACTION:

and

Replace with Insert-C

~~MODES 1, 2 and 3*~~

- a. ~~With the specific activity of the primary coolant $> 1.0 \mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or exceeding the limit line shown on Figure 3.4-1, be in at least HOT STANDBY with $T_{\text{avg}} < 500^\circ\text{F}$ within 6 hours.~~
- b. ~~With the specific activity of the primary coolant $> 100/\text{E}\mu\text{Ci}/\text{gram}$, be in at least HOT STANDBY with $T_{\text{avg}} < 500^\circ\text{F}$ within 6 hours.~~
- c. ~~LCO 3.0.4.c is applicable.~~

~~MODES 1, 2, 3, 4 and 5~~

- a. ~~With the specific activity of the primary coolant $> 1.0 \mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131 or $> 100/\text{E}\mu\text{Ci}/\text{gram}$, perform the sampling and analysis requirements of item 4a of Table 4.4-4 until the specific activity of the primary coolant is restored to within its limits.~~

SURVEILLANCE REQUIREMENTS

~~4.4.8 The specific activity of the primary coolant shall be determined to be within the limits by performance of the sampling and analysis program of Table 4.4-4.~~

NOTE Added by this Supplement

~~NOTES~~

SR 4.4.8.1 is not required to be performed in MODE 4, and is not required to be performed in MODE 3 until 24 hours after $T_{\text{avg}} \geq 500^\circ\text{F}$.

4.4.8.1 Verify the specific activity of the primary coolant $\leq 600 \mu\text{Ci}/\text{gm}$ DOSE EQUIVALENT XE-133 in accordance with the Surveillance Frequency Control Program

~~*With $T_{\text{avg}} \geq 500^\circ\text{F}$.~~

4.4.8.2 Verify the specific activity of the primary coolant $\leq 1.0 \mu\text{Ci}/\text{gm}$ DOSE EQUIVALENT I-131 in accordance with the Surveillance Frequency Control Program, and between 2 and 6 hours after a THERMAL POWER change of $\geq 15\%$ RATED THERMAL POWER within a one hour period.

REACTOR COOLANT SYSTEM

3/4.4.9 SPECIFIC ACTIVITY

LIMITING CONDITION FOR OPERATION

3.4.9 The specific activity of the primary coolant shall be limited to:

a. $\leq 1.0 \mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131, and

b. ~~$\leq 100/\text{E}\mu\text{Ci}/\text{gram}$~~ 600 $\mu\text{Ci}/\text{gm}$ DOSE EQUIVALENT XE-133

APPLICABILITY: MODES 1, 2, 3, ⁴~~4~~ and 5.

ACTION: and

~~MODES 1, 2 and 3*~~

Replace with Insert-C

~~a. With the specific activity of the primary coolant $> 1.0 \mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or exceeding the limit line shown on Figure 3.4-1, be in at least HOT STANDBY with $T_{\text{avg}} < 500^\circ\text{F}$ within 6 hours.~~

~~b. With the specific activity of the primary coolant $> 100/\text{E}\mu\text{Ci}/\text{gram}$ be in at least HOT ST~~

~~c. LCO 3.0.4.c is applica~~

Added by this Supplement
-----NOTE-----
SR 4.4.9.1 is not required required to be performed in MODE 4, and is not required to be performed in MODE 3 until 24 hours after $T_{\text{avg}} \geq 500^\circ\text{F}$.

~~MODES 1, 2, 3, 4 and 5~~

~~a. With the specific act EQUIVALENT I-131 or $> 100/\text{E}\mu\text{Ci}/\text{gram}$, perform the sampling and analysis requirements of item 4a of Table 4.4-4 until the specific activity of the primary coolant is restored to within its limits.~~

4.4.9.1 Verify the specific activity of the primary coolant $\leq 600 \mu\text{Ci}/\text{gm}$ DOSE EQUIVALENT XE-133 in accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

~~4.4.9 The specific activity of the primary coolant shall be determined to be within the limits by performance of the sampling and analysis program of Table 4.4-4.~~

4.4.9.2 Verify the specific activity of the primary coolant $\leq 1.0 \mu\text{Ci}/\text{gm}$ DOSE EQUIVALENT I-131 in accordance with the Surveillance Frequency Control Program, and between 2 and 6 hours after a THERMAL POWER change of $\geq 15\%$ RATED THERMAL POWER within a one hour period.

~~*With $T_{\text{avg}} \geq 500^\circ\text{F}$.~~

Attachment 2**Revised Camera-ready Technical Specification Page**

The following Technical Specification page for Renewed Facility Operating License DPR-70 is affected by this change request:

<u>Technical Specification</u>	<u>Page</u>
4.4.8	3/4 4-20

The following Technical Specification page for Renewed Facility Operating License DPR-75 is affected by this change request:

<u>Technical Specification</u>	<u>Page</u>
4.4.9	3/4 4-23

REACTOR COOLANT SYSTEM

SPECIFIC ACTIVITY

LIMITING CONDITION FOR OPERATION

3.4.8 The specific activity of the primary coolant shall be limited to:

- a. $\leq 1.0 \mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131, and
- b. $\leq 600 \mu\text{Ci}/\text{gm}$ DOSE EQUIVALENT XE-133.

APPLICABILITY: MODES 1, 2, 3, and 4

ACTION:

NOTE

Specification 3.0.4.c is applicable

- a. With the specific activity of the primary coolant $> 1.0 \mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT I-131:
 1. Verify DOSE EQUIVALENT I-131 $\leq 60 \mu\text{Ci}/\text{gram}$ at least once every 4 hours and restore DOSE EQUIVALENT I-131 to $\leq 1.0 \mu\text{Ci}/\text{gram}$ within 48 hours, or
 2. Be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With the specific activity of the primary coolant $> 600 \mu\text{Ci}/\text{gram}$ DOSE EQUIVALENT XE-133:
 1. Restore DOSE EQUIVALENT XE-133 to $\leq 600 \mu\text{Ci}/\text{gram}$ within 48 hours, or
 2. Be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

NOTE

SR 4.4.8.1 is not required to be performed in MODE 4, and is not required to be performed in MODE 3 until 24 hours after $T_{\text{avg}} \geq 500^\circ\text{F}$.

- 4.4.8.1 Verify the specific activity of the primary coolant $\leq 600 \mu\text{Ci}/\text{gm}$ DOSE EQUIVALENT XE-133 in accordance with the Surveillance Frequency Control Program.
- 4.4.8.2 Verify the specific activity of the primary coolant $\leq 1.0 \mu\text{Ci}/\text{gm}$ DOSE EQUIVALENT I-131 in accordance with the Surveillance Frequency Control Program, and between 2 and 6 hours after a THERMAL POWER change of $\geq 15\%$ RATED THERMAL POWER within a one hour period.

REACTOR COOLANT SYSTEM

3/4.4.9 SPECIFIC ACTIVITY

LIMITING CONDITION FOR OPERATION

3.4.9 The specific activity of the primary coolant shall be limited to:

- a. $\leq 1.0 \mu\text{Ci/gram DOSE EQUIVALENT I-131}$, and
- b. $\leq 600 \mu\text{Ci/gm DOSE EQUIVALENT XE-133}$.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

NOTE

Specification 3.0.4.c is applicable

- a. With the specific activity of the primary coolant $> 1.0 \mu\text{Ci/gram DOSE EQUIVALENT I-131}$:
 1. Verify DOSE EQUIVALENT I-131 $\leq 60 \mu\text{Ci/gram}$ at least once every 4 hours and restore DOSE EQUIVALENT I-131 to $\leq 1.0 \mu\text{Ci/gram}$ within 48 hours, or
 2. Be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With the specific activity of the primary coolant $> 600 \mu\text{Ci/gram DOSE EQUIVALENT XE-133}$:
 1. Restore DOSE EQUIVALENT XE-133 to $\leq 600 \mu\text{Ci/gram}$ within 48 hours, or
 2. Be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

NOTES

SR 4.4.9.1 is not required to be performed in MODE 4, and is not required to be performed in MODE 3 until 24 hours after $T_{\text{avg}} \geq 500^\circ\text{F}$.

- 4.4.9.1 Verify the specific activity of the primary coolant $\leq 600 \mu\text{Ci/gm DOSE EQUIVALENT XE-133}$ in accordance with the Surveillance Frequency Control Program.
- 4.4.9.2 Verify the specific activity of the primary coolant $\leq 1.0 \mu\text{Ci/gm DOSE EQUIVALENT I-131}$ in accordance with the Surveillance Frequency Control Program, and between 2 and 6 hours after a THERMAL POWER change of $\geq 15\%$ RATED THERMAL POWER within a one hour period.