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

Salem Nuclear Generating Station, Units 1 and 2
Facility Operating License Nos. DPR-70 and DPR-75
NRC Docket Nos. 50-272 and 50-311

Subject: Additional Information Related to Relief Requests S1-I3R-93, S2-I3R-94,
and SC-I3R-95 (TACs: ME1478, ME1479, ME1480, ME1481)

Reference: 1) Letter from Jeffrie Keenan (PSEG Nuclear LLC) to USNRC, dated
June 11, 2009

2) Email from USNRC to Jeffrie Keenan (PSEG Nuclear LLC), dated
November 23, 2009

3) Letter from Jeffrie Keenan (PSEG Nuclear LLC), dated
December 23, 2009

In Reference 1, PSEG Nuclear LLC submitted relief requests S1-I3R-93, S2-I3R-94, and SC-I3R-95 as alternatives to certain requirements specified in Section XI of the American Society of Mechanical Engineers *Boiler and Pressure Vessel Code* for Salem Nuclear Generating Station, Unit Nos. 1 and 2. In Reference 2, the NRC requested additional information. PSEG responded to the NRC request in Reference 3. During a January 6, 2010 teleconference the NRC requested additional clarification to Reference 3. Attachment 1 to this letter provides the requested information. There are no regulatory commitments in this letter.

Should you have any questions regarding this submittal, please contact Mrs. Erin West at 856-339-5411.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeffrie Keenan", written over a horizontal line.

Jeffrie Keenan
Licensing Manager

AC47
NER

Attachments:

1. Additional Information

cc: S. Collins, Regional Administrator – NRC Region I
R. Ennis, Project Manager - Salem, USNRC
NRC Senior Resident Inspector - Salem
P. Mulligan, Manager IV, NJBNE
L. Marabella, Corporate Commitment Tracking Coordinator
H. Berrick, Commitment Tracking Coordinator

ATTACHMENT 1

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

Additional Information Related to Relief Requests S1-I3R-93, S2-I3R-94, AND SC-I3R-95 (TACs: ME1478, ME1479, ME1480, ME1481)

In Reference 1, PSEG proposed alternatives to certain requirements specified in Section XI of the American Society of Mechanical Engineers *Boiler and Pressure Vessel Code* for Salem Nuclear Generating Station (Salem), Unit Nos. 1 and 2. In Reference 2, the NRC requested additional information. PSEG responded to the NRC request in Reference 3. During a teleconference with PSEG and Westinghouse on January 6, 2010 the NRC requested additional clarification regarding Reference 3.

PSEG's responses are provided below.

For Salem Unit 1, PSEG has revised Table 3 "Details of TWCF Calculation for 42 EFPY of Operation," to contain copper and nickel percent weight values for the Lower Shell Axial Welds, 3-042A, B, & C, that are consistent with those identified in Table 4-5 of WCAP-15565, Revision 1. This report, entitled "Salem Unit 1 Heatup and Cooldown Curves for Normal Operation," was submitted to the NRC on March 28, 2001 (Reference 4). The revised Table 3 is included on the following page of this response. Use of the copper and nickel percent weight values in WCAP-15565, Revision 1, for the Lower Shell Axial Welds has no impact on the value of through-wall cracking frequency (TWCF) calculated for Salem Unit 1.

For Salem Unit 2, the values of copper and nickel percent weight content identified in Table 3, "Details of TWCF Calculation for 50 EFPY of Operation," of Relief Request S2-I3R-94, for the Intermediate Shell Axial Welds, 2-442 A, B, & C, are consistent with the values identified in Table E-4 of WCAP-15692. This report, entitled "Analysis of Capsule Y from the Public Service Electric and Gas Company Salem Unit 2 Reactor Vessel Radiation Surveillance Program," was submitted to the NRC on October 10, 2001 (Reference 5).

References

- 1) Letter from Jeffrie Keenan (PSEG Nuclear LLC) to USNRC, dated June 11, 2009 (ML091740140)
- 2) Email from USNRC to Jeffrie Keenan (PSEG Nuclear LLC), dated November 23, 2009 (ML093270329)
- 3) Letter from Jeffrie Keenan (PSEG Nuclear LLC), dated December 23, 2009 (ML100040070)
- 4) Letter from D.F. Garchow (PSEG Nuclear LLC), dated March 28, 2001 (ML011000129)
- 5) Letter from G. Salamon (PSEG Nuclear LLC), dated October 10, 2001 (ML012910321)

Revised Table 3 for Salem Unit 1

Table 3 Details of TWCF Calculation for 42 EFPY of Operation								
Inputs								
Reactor Coolant System Temperature, T _{RCS} [°F]:					N/A	T _{wall} [inches]:		8.84
#	Region/Component Description	Material /Flux Type	Cu [wt%]	Ni [wt%]	R.G. 1.99 Pos.	CF [°F]	Un-Irradiated RT _{NDT(u)} [°F]	Fluence [10 ¹⁹ Neutron/cm ² , E>1 MeV]
1	Inter. Plate B2402-1	A 533B	.24	.53	2.1	155.8	45	1.59
2	Inter. Plate B2402-2	A 533B	.24	.53	2.1	142.8	-5	1.59
3	Inter. Plate B2402-3	A 533B	.22	.51	2.1	107.7	-3	1.59
4	Lower Plate B2403-1	A 533B	.19	.48	1.1	128.8	4	1.57
5	Lower Plate B2403-2	A 533B	.19	.49	1.1	129.9	18	1.57
6	Lower Plate B2403-3	A 533B	.19	.48	1.1	128.8	6	1.57
7	Inter. Ax. Weld 2-042A	Linde 1092	.18	1.04	1.1	217.2	-56	1.16
8	Inter. Ax. Weld 2-042B	Linde 1092	.18	1.04	1.1	217.2	-56	1.16
9	Inter. Ax. Weld 2-042C	Linde 1092	.18	1.04	1.1	217.2	-56	0.599
10	Low. Ax. Weld 3-042A	Linde 1092	.19	1.04	1.1	223.6	-56	0.961
11	Low. Ax. Weld 3-042B	Linde 1092	.19	1.04	1.1	223.6	-56	0.961
12	Low. Ax. Weld 3-042C	Linde 1092	.19	1.04	1.1	223.6	-56	1.57
13	Circ Weld 9-042	Linde 1092	.22	.73	1.1	196.6	-56	1.57
Outputs								
Methodology Used to Calculate ΔT ₃₀ :			Regulatory Guide 1.99, Revision 2					
	Controlling Material Region # (From Above)	RT _{MAX-XX} [R]	Fluence [10 ¹⁹ Neutron/cm ² , E>1 MeV]	Fluence Factor	ΔT ₃₀ [°F]	TWCF _{95-XX}		
Axial Weld – AW	1	666.95	1.16	1.041	162.26	6.54E-09		
Circumferential Weld - CW	1	679.91	1.57	1.125	175.22	1.73E-12		
Plate – PL	1	680.44	1.59	1.128	175.75	5.34E-10		
TWCF _{95-TOTAL} (α _{AW} TWCF _{95-AW} + α _{PL} TWCF _{95-PL} + α _{CW} TWCF _{95-CW}):								1.59E-08