CENTRAL FILES

50-272

Frederick W. Schneider
Vice President
Production

Public Service Electric and Gas Company 80 Park Place Newark, N.J. 07101 201/430-7373

June 4, 1980

Mr. Boyce H. Grier, Director
U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region 1
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Mr. Grier:

NRC IE BULLETIN NO. 79-01B
ENVIRONMENTAL QUALIFICATION OF
CLASS 1E EQUIPMENT
NO. 1 UNIT
SALEM GENERATING STATION

In response to your letter of January 14, 1980, transmitting NRC IE Bulletin 79-01B, which was received on January 17, 1980, the attached partial response is hereby submitted for your review. This submittal is being made pursuant to our letters of February 29, March 7, March 21, and April 14, 1980 and discussions with Mr. R. W. McGaughy and Mr. A. E. Finkel of your office.

Please note that the enclosed submittal does not complete the effort required for this Bulletin. Our work effort was discussed with Mr. A. Finkel of your office. Mr. Finkel indicated that PSE&G should determine the percentage complete and provide a schedule for when the remaining information would be submitted.

The master list information is approximately 95% complete in identifying components. The qualification data sheets are approximately 40% completed. It should be noted that many components in the master list will not have qualification data sheets since they are not located in areas subject to a high energy line breakthrough which the equipment must operate. Our immediate effort is in verifying which items need to operate in adverse environments. In order to complete the submittal requirements of this Bulletin fully, we expect that the final submittal will not be made until September 1980. Periodic submittals will be made when appropriate.

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We wish to add that a similar review of qualification data must be made on Unit 2, but against different guidelines of NUREG-0588, "Interim Staff Position on Environmental Qualification of Safety-Related Equipment." In addition, a qualification review with respect to radiation is being done as part of TMI Lessons Learned requirements (NUREG-0578). Some information applicable to the Bulletin will come from these reviews.

If you require additional information on the enclosed submittal or on our revised schedule for completion, we will be please to discuss it with you.

Sincerely,

F W Schneider

CC: Office of Inspection and Enforcement
Division of Reactor Operations Inspection
Washington, D. C.

Mr. A. E. Finkel, Reactor Inspector
Office of Inspection and Enforcement
King of Prussia, Pa.

Mr. L. J. Norrholm
Hancocks Bridge, N.J.

STATE OF NEW JERSEY)
) SS: COUNTY OF ESSEX
)

FREDERICK W. SCHNEIDER, being duly sworn according to law deposes and says:

I am a Vice President of Public Service Electric and Gas Company, and as such, I signed the letter dated June 4, 1980, to Mr. Boyce H. Grier, Director, NRC Office of Inspection and Enforcement, Region 1, in partial response to NRC Bulletin No. 79-01B "Environmental Qualification of Class IE Equipment."

The matters set forth in said response letter are true to the best of my knowledge, information, and belief.

Frederick W. Schneider
FREDERICK W. SCHNEIDER

Subscribed and sworn to before me
this 9 day of JUNE, 1980

Norman Winston
Notary Public of New Jersey

My commission expires on OCT. 1, 1983

SALEM GENERATING STATION
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SYSTEM COMPONENT EVALUATION SHEET

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-0518 Component: Solenoid Valve Manufacturer: ASCO Model: 206-381-3F Service: Control for Valve 1SS110 Function: Closes Valve Upon Isolation Signal Accuracy: N/A Spec. Demon. Location: Panel El. Containment 78	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envir	1, 2	7, 8	Sequential Test with a Supplemental Adverse Envir.		
	Temperature	LOCA/MSLB 271/296°F	346°F and 350°F (Figure 1 & 2)	3, 4 (Note A)	7, 8	Test (Note B)	None	
	Pressure	LOCA/MSLB 43.2/42.8 psig	110 psig and 54 psig (Figure 1 & 2)	5	7, 8		None	
	Relative Humidity	100%	100%	—	7		None	
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 PPM Boron with NaOH for PH of ≥ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 year Qualified Life for Elastomers and Coils	—	7	Thermal- Simulated 4 yrs @ 140°F 40000 cycles of operation and Radiation 5×10^7 R	None	
Flood Level El: 83'-1" Above Flood Level: No	Submergence	Not Required	N/A	9	N/A	N/A	None	—

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-13,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR: Page 6.4-10
7. Automatic Switch Co. Test Report AQS 21678/TR (3/78)
8. Wyle Labs Test Report No. #4439-1 (3/23/79)
9. FSAR: Response to Q 6.28

Notes:

A. Due to location within Instrument Panel Enclosure, Peak Ambient Temperature seen by device is less than MSLB Profile (Wyle Report No. 4439-2 Rev. A)

B. Sequential Test Included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an additional Accident Test Sequence.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-0519 Component: Solenoid Valve Manufacturer: ASCO Model: 206-381-3F Service: Control for Valve 1SS107 Function: Closes Valve Upon Isolation Signal Accuracy: N/A Spec. Demon. Location: Panel El. Containment 78	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envir	1, 2	7, 8	Sequential Test with a Supplemental Adverse Envir.		
	Temperature	LOCA/MSLB 271/296°F	346°F and 350°F (Figure 1 & 2)	3, 4 (Note A)	7, 8	Test (Note B)	None	
	Pressure	LOCA/MSLB 43.2/42.8 PSIG	110 PSIG and 54 PSIG (Figure 1 & 2)	5	7, 8		None	
	Relative Humidity	100%	100%	—	7		None	
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 PPM Boron with NaOH for PH of ≤ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 year Qualified Life for Elastomers and Coils	—	7	Thermal- Simulated 4 yrs @ 140°F 40000 cycles of operation and Radiation 5×10^7 R	None	
Flood Level El: 83'-1" Above Flood Level: No	Submergence	Not Required	N/A	9	N/A	N/A	None	—

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-13,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR: Page 6.4-10
7. Automatic Switch Co. Test Report AQS 21678/TR (3/78)
8. Wyle Labs Test Report No. 44439-1 (3/23/79)
9. FSAR: Response to Q6.28

Notes:

A. Due to location within Instrument Panel Enclosure, Peak Ambient Temperature seen by device is less than MSLB profile (Wyle Report No. 44439-2 Rev. A)

B. Sequential Test Included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an additional Accident Test Sequence.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-0520 Component: Solenoid Valve Manufacturer: ASCO Model: 206-381-3F Service: Control for Valve 1SS104 Function: Closes Valve Upon Isolation Signal Accuracy: N/A Spec. Demon. Location: Panel El. Containment 78	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envir	1, 2	7, 8	Sequential Test with a Supplemental Adverse Envir.		
	Temperature	LOCA/MSLB 271/296 °F	346°F and 350°F (Figure 1 & 2)	3, 4 (Note A)	7, 8	Test (Note B)	None	
	Pressure	LOCA/MSLB 43.2/42.8 Psig	110 Psig and 54 Psig (Figure 1 & 2)	5	7, 8		None	
	Relative Humidity	100%	100%	—	7		None	
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 PPM Boron with NaOH for PH of ≤ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 year Qualified Life for Elastomers and Coils	—	7	Thermal- Simulated 4 yrs @ 140°F 40000 cycles of operation and Radiation 5×10^8 R	None	
Flood Level El: 83'-1" Above Flood Level: No	Submergence	Not Required	N/A	9	N/A	N/A	None	—

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-13,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR: Page 6.4-10
7. Automatic Switch Co. Test Report AQS 21678/TR (3/78)
8. Wyle Labs Test Report No. 44439-1 (3/23/79)
9. FSAR: Response to Q6.28

Notes:

A. Due to location within Instrument Panel Enclosure, Peak Ambient Temperature seen by device is less than MSLB Profile (Wyle Report No. 44439-2 Rev. A)

B. Sequential Test Included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an Additional Accident Test Sequence.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-0521 Component: Solenoid Valve Manufacturer: ASCO Model: 206-381-3F Service: Control for Valve 1SS103 Function: Closes Valve Upon Isolation Signal Accuracy: N/A Spec. Demon. Location: Panel El. Containment 78	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envir	1, 2	7, 8	Sequential Test with a Supplemental Adverse Envir.		
	Temperature	LOCA/MSLB 271/296°F	346°F and 350°F (Figure 1 & 2)	3, 4 (Note A)	7, 8	Test (Note B)	None	—
	Pressure	LOCA/MSLB 43.2/42.8 Psig	110 Psig and 54 Psig (Figure 1 & 2)	5	7, 8		None	—
	Relative Humidity	100%	100%	—	7		None	—
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 PPM Boron with NaOH for PH of ≤ 10	6	7			
	Radiation		2×10^8 R		7	—		
	Aging	—	4 year Qualified Life for Elastomers and Coils	—	7	Thermal- Simulated 4 yrs @ 140°F 40000 cycles of operation and Radiation 5×10^7 R	None	—
Flood Level El: 83'-1" Above Flood Level: No	Submergence	Not Required	N/A	9	N/A	N/A	None	—

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-13,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR: Page 6.4-10
7. Automatic Switch Co. Test Report AQS 21678/TR (3/78)
8. Wyle Labs Test Report No. 44439-1 (3/23/79)
9. FSAR: Response to Q6.28

Notes:

A. Due to location within Instrument Panel Enclosure, Peak Ambient Temperature seen by device is less than MSLB Profile (Wyle Report No. 44439-2 Rev. A)

B. Sequential Test Included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an Additional Accident Test Sequence.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-802 Component: Solenoid Valve Manufacturer: ASCO Model: NP8344A74E Service: Control For Valve 1VC2 Function: Closes Valve upon Isolation Signal Accuracy: N/A Spec. Demon. Location: El. Containment	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envr. ≈	1,2	7,8	Sequential Test with a Supplemental Adverse Envr.		
	Temperature	LOCA/MSLB 271/350°F	346°F and 350°F (Figure 1&2)	3,4	7,8	Test (Note A)	None	—
	Pressure	LOCA/MSLB 43.2/42.8 PSIG	110 PSIG and 54 PSIG (Figure 1&2)	5	7,8		None	—
	Relative Humidity	100%	100%	—	7		None	—
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 PPM Boron with NaOH for pH of ≈ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 year qualified life for Elastomers and Coils	—	7	Thermal - simulated 4 yrs. @ 140°F 40,000 cycles of operation and Radiation 5×10^7 R	None	—
Flood Level El: 83'-1" Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	None	—

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-12,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR; Page 6.4-10
7. Automatic Switch Co. Test Rep. AQS21678/TR (3/78)
8. Wyle Labs Test Report No. 44439-1 (3/23/79)

Notes:

A. Sequential Test Included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an additional Accident Test Sequence.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: CONTAINMENT ISOLATION Identification: SV-1021 Component: SOLENOID VALVE Manufacturer: ASCO Model: NP8344A76E Service: CONTROL FOR VALVE 1VC2 Function: CLOSES VALVE UPON ISOLATION SIGNAL Accuracy: N/A Spec. Demon. Location: El. CONTAINMENT	Operating Time	ISOLATION ≤ 20 SECONDS	30 DAYS IN ADVERSE ENVR. ≈	1,2	7,8	SEQUENTIAL TEST WITH A SUPPLEMENTAL ADVERSE ENVR.		
	Temperature	LOCA/NSLB 271/350°F	346°F AND 350°F (FIGURE 1 #2)	3,4	7,8	TEST (NOTE A)	NONE	—
	Pressure	LOCA/NSLB 43.2/42.8 PSIG	110 PSIG AND 54 PSIG (FIGURE 1 #2)	5	7,8		NONE	—
	Relative Humidity	100%	100%	—	7		NONE	—
	Chemical Spray	0.2 WT. % NaOH 1.2 WT. % BORIC ACID	3000 PPM BORON WITH NaOH FOR PH OF ≈ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 YEAR QUALIFIED LIFE FOR ELASTOMERS AND COILS	—	7	THERMAL - SIMULATED 4 YRS. @ 140°F 40,000 CYCLES OF OPERATION AND RADIATION 5×10^8 R	NONE	—
Flood Level El: 83'-1" Above Flood Level: YES	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	—

References:

1. TECH SPECS: PAGE 3/4 3-28 AND 3/4 6-12, 3/4 6-12,
2. FSAR: SECTION 5.4
3. FSAR: FIGURE 7.5-5 AND RESPONSE TO Q5.82
4. NRC MEMORANDUM 12/20/78, SALEM EQUIPMENT QUALIFICATION TEMPERATURE ENVELOPE
5. FSAR: FIGURE 14.3-25, PAGE 14.3-56 AND RESPONSE TO Q5.82
6. FSAR; PAGE 6.4-10
7. AUTOMATIC SWITCH CO. TEST REA... AQS21678/TR (3/78)
8. WYLE LABS TEST REPORT No. 44439-1 (3/23/79)

Notes:

A. SEQUENTIAL TEST INCLUDED RADIATION EXPOSURE, SEISMIC THEN SIMULATED ACCIDENT ENVIRONMENT. IN ADDITION THE SAME TEST SPECIMENS WENT THROUGH AN ADDITIONAL ACCIDENT TEST SEQUENCE.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-0803 Component: Solenoid Valve Manufacturer: ASCO Model: NP8344A74E Service: Control For Valve 1VC3 Function: Closes Valve upon Isolation Signal Accuracy: N/A Spec. Demon. Location: El. Containment	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envr. ≈	1,2	7,8	Sequential Test with a Supplemental Adverse Envr.		
	Temperature	LOCA/MSLB 271/350°F	346°F and 350°F (Figure 1 #2)	3,4	7,8	Test (Note A)	None	—
	Pressure	LOCA/MSLB 43.2/42.8 PSIG	110 PSIG and 54 PSIG (Figure 1 #2)	5	7,8		None	—
	Relative Humidity	100%	100%	—	7		None	—
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 PPM Boron with NaOH for pH of ≈ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 year Qualified Life for Elastomers and Coils	—	7	Thermal - simulated 4 yrs. @ 140°F 40,000 cycles of operation and Radiation 5×10^7 R	None	—
Flood Level El: 83'-1" Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	None	—

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-12,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR; Page 6.4-10
7. Automatic Switch Co. Test Report AQS21678/TR (3/78)
8. Wyle Labs Test Report No. 44439-1 (3/23/79)

Notes:

A. Sequential Test Included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an additional Accident Test Sequence.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-1022 Component: Solenoid Valve Manufacturer: ASCO Model: NP8344A76E Service: Control For Valve 1VC3 Function: Closes Valve upon Isolation Signal Accuracy: N/A Spec. Demon. Location: El. Containment	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envir. ≈	1,2	7,8	Sequential Test with a Supplemental Adverse Envir. Test (Note A)		
	Temperature	LOCA/MSLB 271/350°F	346°F and 350°F (Figure 1 #2)	3,4	7,8		None	—
	Pressure	LOCA/MSLB 43.2/42.8 PSIG	110 PSIG and 54 PSIG (Figure 1 #2)	5	7,8		None	—
	Relative Humidity	100%	100%	—	7		None	—
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 ppm Boron with NaOH for pH of ≈ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 year Qualified Life for Elastomers and Coils	—	7	Thermal - simulated 4 yrs. @ 140°F 40,000 cycles of operation and Radiation 5×10^7 R	None	—
Flood Level El: 83'-1" Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	None	—

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-12,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR; Page 6.4-10
7. Automatic Switch Co. Test Re[illegible] AQS21678/TR (3/78)
8. Wyle Labs Test Report No. 44439-1 (3/23/79)

Notes:

A. Sequential Test Included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an additional Accident Test Sequence.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-399 Component: Solenoid Valve Manufacturer: ASCO Model: 206-381-3F Service: Control for Valve 1WL12 Function: Closes Valve Upon Isolation Signal Accuracy: N/A Spec. Demon. Location: Panel El. Containment 78	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envir	1, 2	7, 8	Sequential Test with a Supplemental Adverse Envir.		
	Temperature	LOCA/MSLB 271/296°F	346°F and 350°F (Figure 1 & 2)	3, 4 (Note A)	7, 8	Test (Note B)	None	—
	Pressure	LOCA/MSLB 43.2/42.8 Psig	110 Psig and 54 Psig (Figure 1 & 2)	5	7, 8		None	—
	Relative Humidity	100%	100%	—	7		None	—
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 PPM Boron with NaOH for PH of ≤ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 year Qualified Life for Elastomers and Coils	—	7	Thermal- Simulated 4 yrs @ 140°F 40000 cycles of operation and Radiation 5×10^7 R	None	—
Flood Level El: 83'-1" Above Flood Level: No	Submergence	Not Required	N/A	9	N/A	N/A	None	—

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-13,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR: Page 6.4-10
7. Automatic Switch Co. Test Report AQS 21678/TR (3/78)
8. Wyle Labs Test Report No. 44439-1 (3/23/79)
9. FSAR: Response to Q6.28

Notes:

A. Due to location within Instrument Panel Enclosure, Peak Ambient Temperature seen by device is less than MSLB Profile (Wyle Report No. 44439-2 Rev. A)

B. Sequential Test Included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an Additional Accident Test Sequence.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-0397 Component: Solenoid Valve Manufacturer: ASCO Model: 206-381-3F Service: Control for Valve 1WI2 Function: Closes Valve Upon Isolation Signal Accuracy: N/A Spec. Demon. Location: Panel El. Containment 78	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envir	1, 2	7, 8	Sequential Test with a Supplemental Adverse Envir.		
	Temperature	LOCA/MSLB 271/296°F	346°F and 350°F (Figure 1 & 2)	3, 4 (Note A)	7, 8	Test (Note B)	None	—
	Pressure	LOCA/MSLB 43.2/42.8 Psig	110 Psig and 54 Psig (Figure 1 & 2)	5	7, 8		None	—
	Relative Humidity	100%	100%	—	7		None	—
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 PPM Boron with NaOH for PH of ≤ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 year Qualified Life for Elastomers and Coils	—	7	Thermal- Simulated 4 yrs @ 140°F 40000 cycles of operation and Radiation 5×10^7 R	None	—
Flood Level El: 83'-1" Above Flood Level: No	Submergence	Not Required	N/A	9	N/A	N/A	None	—

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-13,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR: Page 6.4-10
7. Automatic Switch Co. Test Report AQS 21678/TR (3/78)
8. Wyle Labs Test Report No. 44439-1 (3/23/79)
9. FSAR: Response to Q6.28

Notes:

A. Due to location within Instrument Panel Enclosure, Peak Ambient Temperature seen by device is less than MSLB Profile (Wyle Report No. 44439-2 Rev. A)

B. Sequential Test Included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an additional Accident Test Sequence.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-394 Component: Solenoid Valve Manufacturer: ASCO Model: 206-381-3F Service: Control for Valve 1WL16 Function: Closes Valve Upon Isolation Signal Accuracy: N/A Spec. Demon. Location: Panel El. Containment 78	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envir	1, 2	7, 8	Sequential Test with a Supplemental Adverse Envir.		
	Temperature	LOCA/MSLB 271/296°F	346°F and 350°F (Figure 1 & 2)	3, 4 (Note A)	7, 8	Test (Note B)	None	—
	Pressure	LOCA/MSLB 43.2/42.8 Psig	110 Psig and 54 Psig (Figure 1 & 2)	5	7, 8		None	—
	Relative Humidity	100%	100%	—	7		None	—
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 PPM Boron with NaOH for PH of ≥ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 year Qualified Life for Elastomers and Coils	—	7	Thermal- Simulated 4 yrs @ 140°F 40000 cycles of operation and Radiation 5×10^7 R	None	—
Flood Level El: 83'-1" Above Flood Level: No	Submergence	Not Required	N/A	9	N/A	N/A	None	—

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-13,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR: Page 6.4-10
7. Automatic Switch Co. Test Report AQS 21678/TR (3/78)
8. Wyle Labs Test Report No. 44439-1 (3/23/79)
9. FSAR: Response to Q6.28

Notes:

A. Due to location within Instrument Panel Enclosure, Peak Ambient Temperature seen by device is less than MSLB Profile (Wyle Report No. 44439-2 Rev. A)

B. Sequential Test Included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an Additional Accident Test Sequence.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-401 Component: Solenoid Valve Manufacturer: ASCO Model: 206-381-3F Service: Control for Valve 1WL96 Function: Closes Valve Upon Isolation Signal Accuracy: N/A Spec. Demon. Location: Panel El. Containment 78	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envir	1, 2	7, 8	Sequential Test with a Supplemental Adverse Envir.		
	Temperature	LOCA/MSLB 271/296°F	346°F and 350°F (Figure 1 & 2)	3, 4 (Note A)	7, 8	Test (Note B)	None	—
	Pressure	LOCA/MSLB 43.2/42.8 Psig	110 Psig and 54 Psig (Figure 1 & 2)	5	7, 8		None	—
	Relative Humidity	100%	100%	—	7		None	—
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 PPM Boron with NaOH for PH of ≤ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 year Qualified Life for Elastomers and Coils	—	7	Thermal- Simulated 4 yrs @ 140°F 40000 cycles of operation and Radiation 5×10^7 R	None	—
Flood Level El: 83'-1" Above Flood Level: No	Submergence	Not Required	N/A	9	N/A	N/A	None	—

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-13,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR: Page 6.4-10
7. Automatic Switch Co. Test Report AQS 21678/TR (3/78)
8. Wyle Labs Test Report No. 44439-1 (3/23/79)
9. FSAR: Response to Q6.28

Notes:

A. Due to location within Instrument Panel enclosure, Peak Ambient Temperature seen by device is less than MSLB Profile (Wyle Report No. 44439-2 Rev. A)

B. Sequential Test Included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an additional Accident Test Sequence.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-0927 Component: Solenoid Valve Manufacturer: ASCO Model: NP8344A74E Service: Control For Valve 1VC6 Function: Closes Valve upon Isolation Signal Accuracy: N/A Spec. Demon. Location: El. Containment	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envr. ≈	1,2	7,8	Sequential Test with a Supplemental Adverse Envr.		
	Temperature	LOCA/MSLB 271/350°F	346°F and 350°F (Figure 1 #2)	3,4	7,8	Test (Note A)	None	—
	Pressure	LOCA/MSLB 43.2/42.8 PSIG	110 PSIG and 54 PSIG (Figure 1 #2)	5	7,8		None	—
	Relative Humidity	100%	100%	—	7		None	—
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 PPM Boron with NaOH for PH of ≈ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 year Qualified Life for Elastomers and Coils	—	7	Thermal - simulated 4 yrs. @ 140°F 40,000 cycles of operation and Radiation 5×10^7R	None	—
Flood Level El: 83'-1" Above Flood Level: yes	Submergence	N/A	N/A	N/A	N/A	N/A	None	—

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-12,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR; Page 6.4-10
7. Automatic Switch Co. Test Rep. AQS21678/TR (3/78)
8. Wyle Labs Test Report No. 44439-1 (3/23/79)

Notes:

A. Sequential Test Included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an additional Accident Test Sequence.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-1026 Component: Solenoid Valve Manufacturer: ASCO Model: NP8344A76E Service: Control For Valve 1VC6 Function: Closes Valve upon Isolation Signal Accuracy: N/A Spec. Demon. Location: El. Containment	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envir. ≈	1,2	7,8	Sequential Test with a Supplemental Adverse Envir.		
	Temperature	LOCA/MSLB 271/350°F	346°F and 350°F (Figure 1 &2)	3,4	7,8	Test (Note A)	None	—
	Pressure	LOCA/MSLB 45.2/42.8 PSIG	110 PSIG and 54 PSIG (Figure 1 &2)	5	7,8		None	—
	Relative Humidity	100%	100%	—	7		None	—
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 PPM Boron with NaOH for PH of ≈ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 year Qualified Life for Elastomers and Coils	—	7	Thermal - Simulated 4 yrs. @ 140°F 40,000 cycles of operation and Radiation 5×10^7 R	None	—
Flood Level El: 83'-1" Above Flood Level: YES	Submergence	N/A	N/A	N/A	N/A	N/A	None	—

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-12,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR; Page 6.4-10
7. Automatic Switch Co. Test Re[illegible] AQS21678/TR (3/78)
8. Wyle Labs Test Report No. 44439-1 (3/23/79)

Notes:

A. Sequential Test Included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an additional Accident Test Sequence.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-0427 Component: Solenoid Valve Manufacturer: ASCO Model: NP8316S4E Service: Control for Valve 1SJ123 Function: Closes Valve Upon Isolation Signal Accuracy: N/A Spec. Demon. Location: Panel El. Containment	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envir	1, 2	7, 8	Sequential Test with a Supplemental Adverse Envir.		
	Temperature	LOCA/MSLB 271/296°F	346°F and 350°F (Figure 1 & 2)	3, 4 (Note A)	7, 8	Test (Note B)	None	—
	Pressure	LOCA/MSLB 43.2/42.8 Psig	110 Psig and 54 Psig (Figure 1 & 2)	5	7, 8		None	—
	Relative Humidity	100%	100%	—	7		None	—
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 PPM Boron with NaOH for PH of ≥ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 year Qualified Life for Elastomers and Coils	—	7	Thermal- Simulated 4 yrs @ 140°F 40000 cycles of operation and Radiation 5×10^7 R	None	—
Flood Level El: 83'-1" Above Flood Level: No	Submergence	Not Required	N/A	9	N/A	N/A	None	—

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-13,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR: Page 6.4-10
7. Automatic Switch Co. Test Report AQS 21678/TR (3/78)
8. Wyle Labs Test Report No. 44439-1 (3/23/79)
9. FSAR: Response to Q6.28

Notes:

A. Due to location within Instrument Panel Enclosure, Peak Ambient Temperature seen by device is less than MSLB Profile (Wyle Report No. 44439-2 Rev. A)

B. Sequential Test included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an additional Accident Test Sequence.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-0491 Component: Solenoid Valve Manufacturer: ASCO Model: NP 831654E Service: Control for Valve 1CV3 Function: Closes Valve Upon Isolation Signal Accuracy: N/A Spec. Demon. Location: Panel El. Containment	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envir	1, 2	7, 8	Sequential Test with a Supplemental Adverse Envir.		
	Temperature	LOCA/MSLB 271/296°F	346°F and 350°F (Figure 1 & 2)	3, 4 (Note A)	7, 8	Test (Note B)	None	—
	Pressure	LOCA/MSLB 43.2/42.8 psig	110 psig and 54 psig (Figure 1 & 2)	5	7, 8		None	—
	Relative Humidity	100%	100%	—	7		None	—
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 PPM Boron with NaOH for PH of ≤ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 year qualified life for Elastomers and Coils	—	7	Thermal- Simulated 4 yrs @ 140°F 40000 cycles of operation and Radiation 5×10^7 R	None	—
Flood Level El: 83'-1" Above Flood Level: No	Submergence	Not Required		9				

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-13,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR: Page 6.4-10
7. Automatic Switch Co. Test Report AQS 21678/TR (3/78)
8. Wyle Labs Test Report No. 44439-1 (3/23/79)
9. FSAR: Response to Q6.28

Notes:

A. Due to location within Instrument Panel Enclosure, Peak Ambient Temperature seen by device is less than MSLB profile (Wyle Report No. 44439-2 Rev. A)

B. Sequential Test Included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an Additional Accident Test Sequence.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-492 Component: Solenoid Valve Manufacturer: ASCO Model: NP8316546 Service: Control for Valve 1CV4 Function: Closes Valve Upon Isolation Signal Accuracy: N/A Spec. Demon. Location: Panel El. Containment	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envir	1, 2	7, 8	Sequential Test with a Supplemental Adverse Envir.		
	Temperature	LOCA/MSLB 271/296°F	346°F and 350°F (Figure 1 & 2)	3, 4 (Note A)	7, 8	Test (Note B)	None	
	Pressure	LOCA/MSLB 43.2/42.8 Psig	110 Psig and 54 Psig (Figure 1 & 2)	5	7, 8		None	
	Relative Humidity	100%	100%	—	7		None	
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 PPM Boron with NaOH for PH of ≤ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 year Qualified Life for Elastomers and Coils	—	7	Thermal- Simulated 4 yrs @ 140°F 40000 cycles of operation and Radiation 5×10^7 R	None	
Flood Level El: 83'-1" Above Flood Level: No	Submergence	Not Required		9				

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-13,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR: Page 6.4-10
7. Automatic Switch Co. Test Report AQS 21678/TR (3/78)
8. Wyle Labs Test Report No. 44439-1 (3/23/79)
9. FSAR: Response to Q6.28

Notes:

A. Due to location within Instrument Panel Enclosure, Peak Ambient Temperature seen by device is less than MSLB Profile (Wyle Report No. 44439-2 Rev. A)

B. Sequential Test Included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an additional Accident Test Sequence.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-0493 Component: Solenoid Valve Manufacturer: ASCO Model: NP831654E Service: Control for Valve 1CVS Function: Closes Valve Upon Isolation Signal Accuracy: N/A Spec. Demon. Location: Panel El. Containment	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envir	1, 2	7, 8	Sequential Test with a Supplemental Adverse Envir.		
	Temperature	LOCA/MSLB 271/296°F	346°F and 350°F (Figure 1 & 2)	3, 4 (Note A)	7, 8	Test (Note B)	None	—
	Pressure	LOCA/MSLB 43.2/42.8 Psig	110 Psig and 54 Psig (Figure 1 & 2)	5	7, 8		None	—
	Relative Humidity	100%	100%	—	7		None	—
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 PPM Boron with NaOH for PH of ≤ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 year Qualified Life for Elastomers and Coils	—	7	Thermal- Simulated 4 yrs @ 140°F 40000 cycles of operation and Radiation 5×10^7 R	None	—
Flood Level El: 83'-1" Above Flood Level: No	Submergence	Not Required		9				

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-13,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR: Page 6.4-10
7. Automatic Switch Co. Test Report AQS 21678/TR (3/78)
8. Wyle Labs Test Report No. 44439-1 (3/23/79)
9. FSAR: Response to Q6.28

Notes:

A. Due to location within Instrument Panel Enclosure, Peak Ambient Temperature seen by device is less than MSLB Profile (Wyle Report No. 44439-2 Rev. A)

B. Sequential Test Included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an additional Accident Test Sequence.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-0506 Component: Solenoid Valve Manufacturer: ASCO Model: 206-381-3F Service: Control For Valve 1PR17 Function: Closes Valve upon Isolation Signal Accuracy: N/A Spec. Demon. Location: El. Containment	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envr. ≈	1,2	7,8	Sequential Test with a Supplemental Adverse Envr. Test (Note A)	None	—
	Temperature	LOCA/MSLB 271/350°F	346°F and 350°F (Figure 1 #2)	3,4	7,8			
	Pressure	LOCA/MSLB 49.2/42.8 PSIG	110 PSIG and 54 PSIG (Figure 1 #2)	5	7,8			
	Relative Humidity	100%	100%	—	7			
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 PPM Boron with NaOH for pH of ≈ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 year Qualified Life for Elastomers and Coils	—	7	Thermal - Simulated 4 yrs. @ 140°F 40,000 cycles of operation and Radiation 5×10^7 R	None	—
Flood Level El: 83'-1" Above Flood Level: No	Submergence	Not Required	N/A	9	N/A	N/A	None	—

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-12,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR; Page 6.4-10
7. Automatic Switch Co. Test Rep. AQS21678/TR (3/78)
8. Wyle Labs Test Report No. 44439-1 (3/23/79)
9. FSAR: Response to Q6.28

Notes:

A. Sequential Test Included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an additional Accident Test Sequence.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-1077 Component: Solenoid Valve Manufacturer: ASCO Model: 206-381-6F Service: Control For Valve IVC7 Function: Closes Valve upon Isolation Signal Accuracy: N/A Spec. Demon. Location: El. Containment	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envr. ≈	1,2	7,8	Sequential Test with a Supplemental Adverse Envr.		
	Temperature	LOCA/NSLB 271/350°F	346°F and 350°F (Figure 1 #2)	3,4	7,8	Test (Note A)	None	—
	Pressure	LOCA/NSLB 43.2/42.8 PSIG	110 PSIG and 54 PSIG (Figure 1 #2)	5	7,8		None	—
	Relative Humidity	100%	100%	—	7		None	—
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 PPM Boron with NaOH for pH of ≈ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 year Qualified Life for Elastomers and Coils	—	7	Thermal - simulated 4 yrs. @ 140°F 40,000 cycles of operation and Radiation 5×10^8R	None	—
Flood Level El: 83'-1" Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	None	—

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-12,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR; Page 6.4-10
7. Automatic Switch Co. Test Re[illegible] AQS21678/TR (3/78)
8. Wyle Labs Test Report No. 44439-1 (3/23/79)

Notes:

A. Sequential Test Included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an additional Accident Test Sequence.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-1079 Component: Solenoid Valve Manufacturer: ASCO Model: 206-381-6F Service: Control For Valve 1VC9 Function: Closes Valve upon Isolation Signal Accuracy: N/A Spec. Demon. Location: El. Containment	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envr. ≈	1,2	7,8	Sequential Test with a Supplemental Adverse Envir.		
	Temperature	LOCA/NSLB 271/350°F	346°F and 350°F (Figure 1 #2)	3,4	7,8	Test (Note A)	None	—
	Pressure	LOCA/NSLB 43.2/42.8 PSIG	110 PSIG and 54 PSIG (Figure 1 #2)	5	7,8		None	—
	Relative Humidity	100%	100%	—	7		None	—
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 PPM Boron with NaOH for all of ≈ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 year Qualified Life for Elastomers and Coils	—	7	Thermal - simulated 4 yrs. @ 140°F 40,000 cycles of operation and Radiation 5×10^7 R	None	—
Flood Level El: 83'-1" Above Flood Level: YES	Submergence	N/A	N/A	N/A	N/A	N/A	None	—

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-12,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR; Page 6.4-10
7. Automatic Switch Co. Test Rep. AQS21678/TR (3/78)
8. Wyle Labs Test Report No. 44439-1 (3/23/79)

Notes:

A. Sequential Test Included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an additional Accident Test Sequence.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: CONTAINMENT ISOLATION Identification: SV-1081 Component: SOLENOID VALVE Manufacturer: ASCO Model: 206-381-6F Service: CONTROL FOR VALVE 1VC11 Function: CLOSES VALVE UPON ISOLATION SIGNAL Accuracy: N/A Spec. Demon. Location: El. CONTAINMENT	Operating Time	ISOLATION ≤ 20 SECONDS	30 DAYS IN ADVERSE ENVR. ≈	1,2	7,8	SEQUENTIAL TEST WITH A SUPPLEMENTAL ADVERSE ENVR.		
	Temperature	LOCA/MSLB 271/350°F	346°F AND 350°F (FIGURE 1&2)	3,4	7,8	TEST (NOTE A)	NONE	—
	Pressure	LOCA/MSLB 43.2/42.8 PSIG	110 PSIG AND 54 PSIG (FIGURE 1&2)	5	7,8		NONE	—
	Relative Humidity	100%	100%	—	7		NONE	—
	Chemical Spray	0.2 WT. % NAOH 1.2 WT. % BORIC ACID	3000 PPM BORON WITH NAOH FOR PH OF ≈ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 YEAR QUALIFIED LIFE FOR ELASTOMERS AND COILS	—	7	THERMAL - SIMULATED 4 YRS. @ 140°F 40,000 CYCLES OF OPERATION AND RADIATION 5×10^7R	NONE	—
Flood Level El: 83'-1" Above Flood Level: YES	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	—

References:

1. TECH SPECS: PAGE 3/4 3-28 AND 3/4 6-12, 3/4 6-12,
2. FSAR: SECTION 5.4
3. FSAR: FIGURE 7.5-5 AND RESPONSE TO Q5.82
4. NRC MEMORANDUM 12/20/78, SALEM EQUIPMENT QUALIFICATION TEMPERATURE ENVELOPE
5. FSAR: FIGURE 14.3-25, PAGE 14.3-56 AND RESPONSE TO Q5.82
6. FSAR; PAGE 6.4-10
7. AUTOMATIC SWITCH CO. TEST REPORT AQS21678/TR (3/78)
8. WYLE LABS TEST REPORT No. 44439-1 (3/23/79)

Notes:

A. SEQUENTIAL TEST INCLUDED RADIATION EXPOSURE, SEISMIC THEN SIMULATED ACCIDENT ENVIRONMENT. IN ADDITION THE SAME TEST SPECIMENS WENT THROUGH AN ADDITIONAL ACCIDENT TEST SEQUENCE.

SALEM GENERATING STATION
UNIT NO. 1
DOCKET NO. 50-272

SYSTEM COMPONENT EVALUATION SHEET

TABLE II

Page___

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Containment Isolation Identification: SV-1083 Component: Solenoid Valve Manufacturer: ASCO Model: 206-381-6F Service: Control For Valve 1VC13 Function: Closes Valve upon Isolation Signal Accuracy: N/A Spec. Demon. Location: El. Containment	Operating Time	Isolation ≤ 20 seconds	30 days in Adverse Envr. ≈	1,2	7,8	Sequential Test with a Supplemental Adverse Envr.		
	Temperature	LOCA/MSLB 271/350°F	346°F and 350°F (Figure 1 #2)	3,4	7,8	Test (Note A)	None	—
	Pressure	LOCA/MSLB 45.2/42.8 PSIG	110 PSIG and 54 PSIG (Figure 1 #2)	5	7,8		None	—
	Relative Humidity	100%	100%	—	7		None	—
	Chemical Spray	0.2 wt. % NaOH 1.2 wt. % Boric Acid	3000 PPM Boron with NaOH for PH of ≈ 10	6	7			
	Radiation		2×10^8 R		7			
	Aging	—	4 year Qualified Life for Elastomers and Coils	—	7	Thermal - simulated 4 yrs. @ 140°F 40,000 cycles of operation and Radiation 5×10^7 R	None	—
Flood Level El: 83'-1" Above Flood Level: yes	Submergence	N/A	N/A	N/A	N/A	N/A	None	—

References:

1. Tech Specs: Page 3/4 3-28 and 3/4 6-12, 3/4 6-12,
2. FSAR: Section 5.4
3. FSAR: Figure 7.5-5 and Response to Q5.82
4. NRC Memorandum 12/20/78, Salem Equipment Qualification Temperature Envelope
5. FSAR: Figure 14.3-25, Page 14.3-56 and Response to Q5.82
6. FSAR; Page 6.4-10
7. Automatic Switch Co. Test Rep. AQS21678/TR (3/78)
8. Wyle Labs Test Report No. 44439-1 (3/23/79)

Notes:

A. Sequential Test Included Radiation Exposure, Seismic then Simulated Accident Environment. In addition the same test specimens went through an additional Accident Test Sequence.