SALEM GENERATING STATION

UNITS 1 AND 2

DOCKET NOS. 50-272 AND 50-311

ENVIRONMENTAL QUALIFICATION REVIEW REPORT

VOLUME 1

(NON-PROPRIETARY VERSION)

December 1, 1980

SALEM GENERATING STATION

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VOLUME 2

(NON-PROPRIETARY VERSION)

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SALEM GENERATING STATION
UNITS 1 AND 2
ENVIRONMENTAL QUALIFICATION REVIEW REPORT - REVISION 2

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SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Reactor Coolant Identification: Refer to Master List Page 9 Component: RTD Manufacturer: Rosemount Model: [ ]A,C Service: RC Hot/Cold Leg Wide Range Temperature Function: Post-Accident Monitoring Accuracy: Spec. ± 5% Qualification [ ]A,B,C Location: Piping - Containment	Operating Time	LOCA/NSLB 14 DAYS	144 hr. Test Equivalent 17 DAYS	1	8,9,10	Sequential Test (Radiation,	Reference 12	Note A
	Temperature	271/350°F	[ ]A,B,C (Fig. 1A, 1B)	2,3	8,9,11	Accident Environment Simulation) (Note B)		
	Pressure	43.2/42.8 PSIG	[ ]A,B,C (Fig. 1A, 1B)	4	8,9			
	Relative Humidity	100%	[ ]A,B,C	—				
	Chemical Spray	Boric Acid & NaOH pH > 8.5 > 22.5 HRS	Boric Acid & NaOH 1.14% wt% B, Min % 24 HRS	5				
	Radiation	≤ 5 x 10⁷ R	[ ]A,B,C	6,7	8,9,7			
	Aging	—	Replacement at each Refueling	—	8,9,7, 12			
Flood Level El: 83'-1" Above Flood Level: YES	Submergence	N/A	None	—		—	None	—

References:

1. Post Accident Time Required for Instrumentation and Controls
2. FSAR; Figure 7.5-5 & Q5.82, Q5.85
3. NRC SER for Salem (Supp. 4) NUREG 0517, 4/80; Pg. 3-10
4. FSAR; Figs. 7.5-4, 14.3-25, Pg. 14.3-56 & Q5.85
5. FSAR; Pg. 6.4-10 & Table 6.2-4
6. PSE&G Calculations for Radiation - Environ. Qual.
7. PSE&G/NRC Letter - 5/22/80
8. WCAP 9157, 9/77 (EQ10.00)
9. PSE&G Documentation Evaluation EQ10
10. PSE&G Calculation - EQ 10.02
11. PSE&G Analysis - EQ 10.03
12. NRC SER for Salem (Supp. 4) NUREG 0517, 4/80; Pg. 3-15

Notes:

A. Replacement at each Refueling Pending Requalification per NRC Requirements in Ref. 12.

B. Test was conducted for Model [ ]A,C, Model [ ]A,C is similar and all test data is applicable.

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: REACTOR COOLANT Identification: PA0039 & PA0088 (UNIT 1) Component: PRESSURE TRANSMITTER Manufacturer: BARTON Model: [ ]A,C PROD. LOT 2 Service: RC SYSTEM PRESSURE Function: POST ACCIDENT MONITORING Accuracy: Spec. ± 10 % Demon. [ ]A,B,C Location: PANEL CONTAINMENT	Operating Time	LOCA/SLIB 120 DAYS	1E DAYS IN ADVERSE ENVIR. ≃ 120 DAYS POST-ACCIDENT	1, 2	8,9	SEQUENTIAL TEST NOTE B	NONE	—
	Temperature	271/296°F	[ ]A,B,C Fig. 2, 3A, 3B, 3C	3, 4 NOTE A				—
	Pressure	43.2/62.8 PSIG	[ ]A,B,C	5				—
	Relative Humidity	100%	[ ]A,B,C	—				—
	Chemical Spray	0.2 WT. % NAOH 1.2 WT % BORIC ACID	0.17 WT. % NAOH 1.14 WT % BORIC ACID	6				—
	Radiation	5×10^7 R	[ ]A,B,C	7	—	—		—
	Aging	—	REPLACEMENT BY JUNE 30, 1982	—	—	ANALYSIS	—	REFER TO BASIS #2
Flood Level El: 83'-1" Above Flood Level: YES	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	—

References:

1. SALEM EMERGENCY OPERATING PROCEDURES 14.0, 14.4, 14.6
2. POST ACCIDENT TIME REQUIRED FOR INSTRUMENTATION AND CONTROLS
3. FSAR; FIGURE 7.5-5
4. WYLE REPORT No. ~~44437~~-2, REV. A; FIGURE ~~3~~-4B
5. FSAR; FIGURE 14.3-25, PAGE 14.3-56 AND RESPONSE TO Q5.82 & Q5.85
6. FSAR; PAGE 6.4-10
7. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS
8. (W) LETTER REPORT NS-TMA-2180, 12/21/79 (EQ 26.00)
9. PSE&G DOCUMENTATION EVALUATION - EQ 26

Notes:

A. PEAK AMBIENT TEMPERATURE SEE BY DEVICE IS LESS THAN MSLB PROFILE DUE TO LOCATION WITHIN INSTRUMENT PANEL (WYLE REPORT No. 44439-2, REV. A)

B. RADIATION EXPOSURE, SEISMIC, THEN SIMULATED ACCIDENT ENVIRONMENT

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: REACTOR COOLANT Identification: PA0039 & PA0088 (UNIT 2) Component: PRESSURE TRANSMITTER Manufacturer: BARTON Model: [ ]A,C PROD. LOT 1 Service: RC SYSTEM PRESSURE Function: POST ACCIDENT MONITORING Accuracy: Spec. ± 10% Demon. [ ]A,B,C Location: PANEL CONTAINMENT	Operating Time	LOCA/MSLB 120 DAYS	15 DAYS IN ADVERSE ENVIR ≥ 120 DAYS POST-ACCIDENT	1, 2	8, 9, 11	SEQUENTIAL TEST WITH SUPPLEMENTAL ADVERSE ENVR TESTING	NONE	—
	Temperature	271/196°F	[ ]A,B,C F-6.4-5A, 5B	3, 4 NOTE A		NOTE B		—
	Pressure	43.2/42.8 PSIA	[ ]A,B,C	5				—
	Relative Humidity	100 %	[ ]A,B,C	—				—
	Chemical Spray	0.2 WT. % NAOH 1.2 WT % BORIC ACID	0.17 WT. % NAOH 1.14 WT. % BORIC ACID	6				—
	Radiation	5×10^7 R	[ ]A,B,C	7	—	—		—
	Aging	—	REPLACEMENT AT JUNE 30, 1982	—	10	NRC	—	REFER TO BASIS #2
Flood Level El: 83'-1" Above Flood Level: YES	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	—

References:

1. SALEM EMERGENCY OPERATING PROCEDURES; 1 4.0, 1 4.4, 1 4.6
2. POST ACCIDENT TIME REQUIRED FOR INSTRUMENTATION AND CONTROLS
3. FSAR; FIGURE 7.5-5
4. WYLE REPORT No. 44439-2, REV. A; FIGURE III-4B.
5. FSAR; FIGURE 14.3-25, PAGE 14.3-56 AND RESPONSE TO Q5.82 & Q5.85
6. FSAR; PAGE 6.4-10
7. PSE&G RADIATION CALCULATION PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS
8. (W) LETTER REPORT NS-TMA-1950 9/29/78 (EQ18.00)
9. (W) LETTER REPORT NS-TMA-2120, 9/14/79 (EQ18.01)
10. NRC SER FOR SALEM (SUPP. 4, NUREG 0517 4/80; PAGE 3-1
11. PSE&G DOCUMENTATION EVALUATION EQ18

Notes:

A. PEAK AMBIENT TEMPERATURE SEEN BY DEVICE IS LESS THAN MSLB PROFILE DUE TO LOCATION WITHIN INSTRUMENT PANEL (WYLE REPORT No. 44439-2, REV. A)

B. RADIATION EXPOSURE, SEISMIC THEN SIMULATED ACCIDENT ENVIRONMENT

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: PRESSURIZER Identification: LA-00BR, LA-00BP7 & LA-00BR (UNIT 1) Component: DIFFERENTIAL PRESSURE TRANSMITTER Manufacturer: BARTON Model: [ ]A,C PROD. LOT 2 Service: PRESSURIZER LEVEL Function: POST-ACCIDENT MONITORING Accuracy: Spec. ± 20% Demon. [ ] A,B,C Location: INSTR. PANEL CONTAINMENT	Operating Time	LOCA/MSLB 120 DAYS	14 DAYS IN ADVERSE ENVIR. ≥ 120 DAYS POST-ACCIDENT	1, 2	8, 9	SEQUENTIAL TEST	NONE	—
	Temperature	271/291°F	[ ]A,B,C Fig 2B, 6A, 6B & C	3, 4 NOTE A				—
	Pressure	43.2/42B PSIG	[ ] A,B,C	5				—
	Relative Humidity	100%	[ ] A,B,C	—				—
	Chemical Spray	0.2 WT. % NAOH 1.2 WT. % BORIC ACID	0.17 WT. % NAOH 1.1N WT. % BORIC ACID	6				—
	Radiation	5×10^7 R	[ ] A,B,C	7	—	—		—
	Aging	—	REPLACEMENT BY JUNE 30, 1982	—	—	ANALYSIS	—	REFER TO B&W #2
Flood Level El: 83'-1" Above Flood Level: YES	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	—

References:

1. SALEM EMERGENCY OPERATING PROCEDURES; I 4.4, 14.6
2. POST ACCIDENT TIME REQUIRED FOR INSTRUMENTATION AND CONTROLS
3. FSAR; FIGURE 7.5-5
4. WYLE REPORT No. 44439-2, REV. A; FIGURE III-43
5. FSAR; FIGURE 14.3-25, PAGE 14.3-56 AND RESPONSE TO Q5.82 & Q5.85
6. FSAR; PAGE 4.6-10
7. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS
8. (NW) LETTER REPORT NS-TMA-2164, 12/21/79 (EQ26.04)
9. PSE&G DOCUMENTATION EVALUATION - EQ 26

Notes:

A. PEAK AMBIENT TEMPERATURE SEEN BY DEVICE IS LESS THAN MSLB PROFILE DUE TO LOCATION WITHIN INSTRUMENT PANEL (WYLE REPORT No. 44439-2, REV. A)

B. RADIATION EXPOSURE, SEISMIC, THEN SIMULATED ACCIDENT ENVIRONMENT

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: PRESSURIZER Identification: LA00BG, LA00BT & LA00BB (UNIT 2) Component: DIFFERENTIAL PRESSURE TRANSMITTER Manufacturer: BARTON Model: [ ]A,C PROD. LOT 1 Service: PRESSURIZER LEVEL Function: POST-ACCIDENT MONITORING Accuracy: Spec. ± 20% Demon. [ ]A,B,C Location: INSTR. PANEL CONTAINMENT	Operating Time	LOCA/MSLB 120 DAYS	15 DAYS IN ADVERSE ENVIR. ≈ 120 DAYS POST-ACCIDENT	1,2	8,9,11	SEQUENTIAL TEST	NONE	—
	Temperature	271/296°F	[ ]A,B,C Fig. 4,7A,7B,7B	3,4 NOTE A				—
	Pressure	43.2/42.8 PSIG.	[ ]A,B,C	5				—
	Relative Humidity	100%	[ ]A,B,C	—				—
	Chemical Spray	0.2 WT. % NAOH 1.2 WT % BORIC ACID	0.17 WT. % NAOH 1.14 WT. % BORIC ACID	6				—
	Radiation	5×10^7 R	[ ]A,B,C	7	—	—		—
	Aging	—	REPLACEMENT BY JUNE 30, 1982	—	10	NRC	—	REFER TO BASIS #2
Flood Level El: 83'-1" Above Flood Level: YES	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	—

References:

1. SALEM EMERGENCY OPERATING PROCEDURES; 14.4, 14.6
2. POST ACCIDENT TIME REQUIRED FOR INSTRUMENTATION & CONTROLS
3. FSAR; FIGURE 7.5-5
4. WYLE REPORT No. 44439-2, REV A; FIGURE III-4B
5. FSAR; FIGURE 14.3-25, PAGE 14.3-58 AND RESPONSE TO 85.82 & Q5.85
6. FSAR; PAGE 6.4-10
7. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS
8. (W) LETTER REPORT NS-TMA-1950, 9/29/78 (EQ19.00)
9. (W) LETTER REPORT NS-TMA-2120, 9/14/79 (EQ19.01)
10. NRC SER FOR SALEM (SUPP 4) NUREG 0517 4/80; PAGE 3-11
11. PSE&G DOCUMENTATION EVALUATION EQ 18

Notes:

A. PEAK AMBIENT TEMPERATURE SEEN BY DEVICE IS LESS THAN MSLB PROFILE DUE TO LOCATION WITHIN INSTRUMENT PANEL (WYLE REPORT No. 44439-2, REV. A)

B. RADIATION EXPOSURE, SEISMIC, THEN SIMULATED ACCIDENT ENVIRONMENT

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: PRESSURIZER Identification: Component: LIMIT SWITCH Manufacturer: NAMCO Model: EA-180 Service: POSITION INDICATOR FOR VALVES Function: POSITION INDICATION OF PORV's PR1, PR2 Accuracy: Spec. N/A Demon. N/A Location: CONTAINMENT	Operating Time	LOCA/MSLB	30 DAY TEST EQUIVALENT > 120 DAYS	1	7, 8, 9	SEQUENTIAL TEST	NONE	NOTE A
	Temperature	271°/350°F	340°F Fig. 12	2, 3	7, 8			
	Pressure	432/42.8 PSIG	70 PSIG Fig. 12	4				
	Relative Humidity	100%	100%	—				
	Chemical Spray	BORIC ACID NAOH pH > 8.5 > 22.5 Hrs.	BORIC ACID NACH pH 10 4 DAYS	5				
	Radiation	5×10^7 R	2×10^8 R	6				
	Aging	—	1.5 YRS INITIAL GASKET REPLACEMENT THERE AFTER 40 YRS	—	7, 10, 11	TEST AND ANALYSIS		REFER TO NOTE B FOR MAINTENANCE
Flood Level El: 83'-1" Above Flood Level: YES	Submergence	N/A	NONE	N/A	7	N/A	NONE	—

References:

1. SALEM EMERGENCY OPERATING PROCEDURE ; E4.4
2. FSAR; FIGURE 7.5-6 & RESPONSE TO Q5.82 AND Q5.85
3. NRC SER FOR SALEM (SUPP. 4), NUREG 0517 4/80; PAGE 3-10
4. FSAR; FIGURE 14.3-25, PAGE 14.3-56 & RESPONSE TO Q5.82 AND Q5.85
5. FSAR; PAGE 6.4-10
6. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS
7. ACME CLEVELAND DEVELOPMENT CO. REPORT 9/78 "QUALIFICATION OF EA-180 SWITCH." (EQ13.00)
8. PSE&G DOCUMENTATION EVALUATION - EQ 13
9. PSE&G CALCULATION EQ 13.01
10. WYLE REPORT 17448-17 (EQ13.06)
11. PSE&G AGING REVIEW EQ13.07

Notes:

A. REFER TO BASIS 4

B. AFTER INITIAL REPLACEMENT OF TOP AND BOTTOM GASKETS AFTER 1.5 YEARS, PREVENTITIVE MAINTENANCE WILL BE PERFORMED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION EA-189-90051. ANALYSIS INDICATES SPECIAL MAINTENANCE NOT REQUIRED AND PREVENTITIVE IS UNDER REVIEW TO EXTEND TIME FRAMES.

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: MAIN STEAM Identification: VARIOUS - UNIT 1 (REFER TO MASTER LIST) Component: DIFFERENTIAL PRESSURE TRANSMITTER Manufacturer: BARTON Model: [ ]A,C PROD. LOT 2 Service: STM GEN NARROW RANGE WATER LEVEL Function: TRIP INPUT FOR PROTECTION SYSTEM AND POST ACCIDENT MONITORING Accuracy: ST/LT Spec. ±10%/±20% Demon. [ ] A,C Location: INSTR. PANEL CONTAINMENT	Operating Time	LOCA/MSLB 120 DAYS	16 DAYS IN ADVERSE ENVIR ≈120 DAYS POST ACCIDENT	1,2,3	9,10	SEQUENTIAL TEST NOTE B	NONE	—
	Temperature	271/296°F	[ ]A,B,C FIG. 2, 9A, 9B, 9C	4,5 NOTE A				—
	Pressure	43.2/42.8 PSIG	[ ]A,B,C	6				—
	Relative Humidity	100%	[ ]A,B,C	—				—
	Chemical Spray	0.2 WT. % NAOH 1.2 WT. % BORIC ACID	0.17 WT % NAOH 1.14 WT % BORIC ACID	7				—
	Radiation	5×10^7 R	[ ]A,B,C	8	—	—	—	—
	Aging	—	REPLACEMENT BY JUNE 30, 1982	—	—	ANALYSIS	—	REFER TO BASIS # 2
Flood Level El: 83'-1" Above Flood Level: YES	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	—

References:

1. FSAR; PAGE 14.3-19, 14.5-24
2. POST ACCIDENT TIME REQUIRED FOR INSTRUMENTATION AND CONTROLS
3. SALEM EMERGENCY OPERATING PROCEDURE 14, 2
4. FSAR; FIGURE 7.5-5
5. WYLE REPORT No. 44439-2, REV. A; FIGURE III - 4B
6. FSAR: FIGURE 14.3-25, PAGE 14.3-5E AND RESPONSE TO Q 5.82 & Q5.83
7. FSAR; PAGE 6, 4-10
8. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS
9. (W) LETTER REPORT NS-TMA-2184 12/21/79 (EQ 26.00)
10. PSE&G DOCUMENTATION EVALUATION EQ 26

Notes:

A. PEAK AMBIENT TEMPERATURE SEEN BY DEVICE IS LESS THAN MSLB PROFILE DUE TO LOCATION WITHIN INSTRUMENT PANEL (WYLE REPORT No. 44439-2, REV A

B. RADIATION EXPOSURE, SEISMIC THEN SIMULATED ACCIDENT ENVIRONMENT

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: MAIN STEAM Identification: VARIOUS - UNIT 2 (REFER TO MASTER LIST) Component: DIFFERENTIAL PRESSURE TRANSMITTER Manufacturer: BARTON Model: [ ]A,C PROD. LOT 1 Service: STM. GEN NARROW RANGE WATER LEVEL Function: TRIP INPUT FOR PROTECTION SYSTEM AND POST ACCIDENT MONITORING Accuracy: ST/LT Spec. +10%/±20% Demon. [ ]A,B,C Location: INSTR. PANEL CONTAINMENT	Operating Time	LOCA/MSLB 120 DAYS	15 DAYS IN ADVERSE ENVIRONMENT ≥120 DAYS POST ACCIDENT	1, 2, 3	9, 10, 12	SEQUENTIAL TEST WITH SUPPLEMENTAL ADVERSE ENVIR. TESTING NOTE B	NONE	—
	Temperature	271/296°F	[ ]A,B,C FIG 4, 2B, TR 7B	4, 5 NOTE A				—
	Pressure	43.2/42.8 PSIG	[ ]A,B,C	6				—
	Relative Humidity	100%	[ ]A,B,C					—
	Chemical Spray	0.2 WT% NaOH 1.2 WT% Boric Acid	0.17 WT.% NaOH 1.14 WT% Boric Acid	7				—
	Radiation	5×10^7 R	[ ]A,B,C	8	—	—		—
	Aging	—	REPLACEMENT BY - JUNE 30, 1982	—	11	NRC	—	REFER TO BASIS #2
Flood Level El: 83'-1" Above Flood Level: YES	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	—

References:

1. FSAR; PAGE M.3-19, 14.5-24
2. POST ACCIDENT TIME REQUIRED FOR INSTRUMENTATION AND CONTROLS
3. SALEM EMERGENCY OPERATING PROCEDURE ; I4.2
4. FSAR; FIGURE 7.5-5
5. WYLE REPORT NO. 44439-2, REV. A; FIGURE III-4B
6. FSAR; FIGURE M.3-25, PAGE 14.3-56 AND RESPONSE TO Q.S. 82 & Q.S. 85
7. FSAR: PAGE 6.4-10
8. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS
9. (EQ 13.00) LETTER REPORT NS-TMA-1950, 9/27/78
10. (EQ 8.01) LETTER REPORT NS-TMA-2120, 9/14/79
11. NRC SER FOR SALEM (SUPP. 4) NUREG 0517 4/80; PAGE 3-11
12. PSE&G DOCUMENTATION EVALUATION EQ 18

Notes:

A. PEAK AMBIENT TEMPERATURE SEEN BY DEVICE IS LESS THAN MSLB PROFILE DUE TO LOCATION WITHIN INSTRUMENT PANEL (WYLE REPORT No. 44439-2, REV. A)

B. RADIATION EXPOSURE, SEISMIC THEN SIMULATED ACCIDENT ENVIRONMENT

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: AUXILLARY FEEDWATER Identification: FA1087, FA1091 & FA1097 Component: DIFFERENTIAL PRESSURE TRANSMITTER Manufacturer: FISCHER-PORTER Model: [ ]A,C Service: #11, 12, 14 SG AUX. FW FLOW Function: POST ACCIDENT MONITORING Accuracy: Spec. Demon. Location: INBOARD & OUTBOARD PEN. AREA	Operating Time	MSLB		1,2	5 6	TEST	BASIS #12	INSUFFICIENT DOCUMENTATION
	Temperature	320° F	[ ]A,B,C 320°F	3	5 6			
	Pressure	5.8 PSIG	[ ]A,B,C 75.3 PSIG	3	5 6			
	Relative Humidity	100%	[ ]A,B,C 100%	—	5 6			
	Chemical Spray	N/A	[ ]A,B,C N/A	—	5 6			
	Radiation	$<10^5$ R	[ ]A,B,C $>10^6$ R	4	5 6	—		
	Aging	—	—	—	—	—	—	—
Flood Level El: B3'-1" Above Flood Level: N/A	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	—

References:

1. SALEM EMERGENCY OPERATING PROCEDURE ; I4.0
2. NUREG 0578 REQUIREMENTS; ITEM 2.1.7b
3. PSE & G CALCULATIONS PER HEBA, INFORMATION IN FSAR SECTION 14.5
4. PSE & G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS
5. WCAP 7410-L VOL 1, 12/70
6. SUMMARY REPORT OF NUS CORP. "EPRI EQUIPMENT QUALIFICATION PROGRAM - RESPONSES TO NRC IE BULLETIN 79-01"

Notes:

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: AUXILIARY FEEDWATER Identification: FA1095 Component: DIFFERENTIAL PRESSURE TRANSMITTER Manufacturer: FISCHER-PORTER Model: [ ]A,C Service: #13 SG AUX. FW. FLOW Function: POST ACCIDENT MONITORING Accuracy: Spec. Demon. Location: INSTR. PANEL MECH. PEN. -78	Operating Time	HEBA		1, 2	5 6	TEST	BASIS #12	INSUFFICIENT DOCUMENTATION
	Temperature	212°F	[ ]A,B,C 320°F	3 NOTE A	5 6			
	Pressure	1 PSIG	[ ]A,B,C 75.3 PSIG	3	5 6			
	Relative Humidity	100%	[ ]A,B,C 100%	—	5 6			
	Chemical Spray	N/A	[ ]A,B,C N/A	—	5 6			
	Radiation	$<5\times10^7$ R	[ ]A,B,C $>10^6$ R	4	5 6			
	Aging	—	—	—	—	—		
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	—

References:

1. SALEM EMERGENCY OPERATING PROCEDURE ; 14.0
2. NUREG 0578 REQUIREMENTS; ITEM 2.1.7b
3. PSE & G CALCULATIONS PER HEBA, INFORMATION IN FSAR SECTION 14.5
4. PSE & G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS.
5. WCAP 7410-L VOL 1, 12/70
6. SUMMARY REPORT OF NUS CORP. "EPRI EQUIPMENT QUALIFICATION PROGRAM - RESPONSES TO NRC IE BULLETIN 79-01"

Notes:

A. THE PEAK TEMPERATURE SHOULD BE LOWER BECAUSE OF THERMAL PROTECTION AFFORDED BY INSTRUMENT PANEL (RISE TIME)

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: CHRG/LETDOWN Identification: (1) 1P1N "PNJCSAPCN (UNIT #2) "PSECSAPCN (UNIT #1) Component: CHARGING/SAFETY INJECTION PUMP MOTOR Manufacturer: WESTINGHOUSE (BUFFALO) Model: Service: SUPPLEMENTAL COOLING TO RCS. Function: DRIVING POWER TO CHARGING/SAFETY INJECTION PUMP Accuracy: Spec. N/A Demon. Location: AUX. BLDG. 84'	Operating Time	RECIRC. 120 DAYS	> 120 DAYS	1, 2	4, 5	TEST	NONE	—
	Temparature	N/A	N/A	N/A	N/A	N/A	N/A	—
	Pressure	↓	↓	↓	↓	↓	↓	—
	Relative Humidity	↓	↓	↓	↓	↓	↓	—
	Chemical Spray	↓	↓	↓	↓	↓	↓	—
	Radiation	< 5 x 10³ R NOTE B	1.4 x 10⁸ R	3	4,5	TEST	NONE	—
	Aging	—	MOTOR INSULATION > 40 YEARS	—	4, 5, 7, 8	COMPONENT TEST	↓	REFER TO NOTE A FOR MAINTENANCE
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	N/A	N/A	N/A	N/A	—	—

References:

1. SALEM OPERATING PROCEDURES; I 4.0, I 4.4, I 4.6
2. FSAR; CNP 6
3. RESULTS OF P.S.E&G CALCULATIONS IN RESPONSE TO TMI EVALUATIONS (SHIELDING)
4. WESTINGHOUSE REPORT WCAP-8754 (EQ 16.00)
5. PSE&G DOCUMENTATION EVALUATION - EQ 16
6. WCAP-7410-L VOL. II (EQ 16.01)
7. WCAP-8754 REV. 1 (EQ 16.02)
8. PSE&G SALEM LUBRICATION MANUAL

Notes:

A. PREVENTITIVE MAINTENANCE REQUIRES MOTOR BEARING OIL REPLACEMENT EVERY 12 MONTHS.

B. RADIATION DOSE IS WORST CASE GENERAL DOSE IN AREA. ACTUAL DOSE FOR PUMP MOTOR WOULD BE 5.1×10^5 R.

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: SAFETY INJECTION Identification: (W) SAFW PNJ-SIAP51 (UNIT #2) (W) SAFW PSE-SIAP51 (UNIT #1) Component: SAFETY INJECTION PUMP MOTOR Manufacturer: WESTINGHOUSE (BUFFALO) Model: Service: SUPPLEMENTAL COOLING TO RCS Function: DRIVING POWER TO SAFETY INJECTION PUMP Accuracy: N/A Spec. Demon. Location: AUX. BLDG. 84'	Operating Time	RECIRC. 120 DAYS	> 120 DAYS	1, 2	4, 5	TEST	NONE	—
	Temperature	N/A	N/A	N/A	N/A	N/A	N/A	—
	Pressure	↓	↓	↓	↓	↓	↓	—
	Relative Humidity	↓	↓	↓	↓	↓	↓	—
	Chemical Spray	↓	↓	↓	↓	↓	↓	—
	Radiation	< 5 x 10⁷ R NOTE B	1.4 x 10⁸ R	3	4, 5	TEST	NONE	—
	Aging	—	MOTOR INSULATION > 40 YEARS	—	4, 5, 7, 8	COMPONENT TEST ANALYSIS	↓	REFER TO NOTE A FOR MAINTENANCE
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	NONE	N/A	NONE	N/A	—	—

References:

1. SALEM OPERATING PROCEDURES; I 4.0, I 4.4, I 4.6
2. FSAR; CNP 6
3. RESULTS OF PSE&G CALCULATIONS IN RESPONSE TO TMI. EVALUATIONS (SHIELDING)
4. WESTINGHOUSE REPORT WCAP-8754 (EQ No.00)
5. PSE&G DOCUMENTATION EVALUATION - EQ 16
6. WCAP 7810-L VOL. II (EQ No.01)
7. WCAP-8754 REV. 1 (EQ No.02)
8. PSE&G SALEM LUBRICATION MANUAL

Notes:

A. PREVENTITIVE MAINTENANCE REQUIRES MOTOR BEARING OIL REPLACEMENT EVERY 12 MONTHS.

B. RADIATION DOSE IS WORST CASE GENERAL DOSE IN AREA. ACTUAL DOSE FOR PUMP MOTOR WOULD BE 1.53×10^6 R.

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: RESIDUAL HEAT REMOVAL Identification: (W) SPIN PSE-ACAPRN (UNIT #1) (W) SPIN PNJ-ACAPRN (UNIT #2) Component: RHR PUMP MOTOR Manufacturer: WESTINGHOUSE (BUFFALO) Model: Service: POST LOCA DECAY HEAT REMOVAL Function: DRIVING POWER TO RHR PUMP Accuracy: N/A Spec. Demon. Location: AUX. BLDG. 45'	Operating Time	RECIRC.	> 120 DAYS	1, 2	4, 5	TEST	NONE	—
	Temperature	N/A	N/A	N/A	N/A	N/A	N/A	—
	Pressure	↓	↓	↓	↓	↓	↓	—
	Relative Humidity	↓	↓	↓	↓	↓	↓	—
	Chemical Spray	↓	↓	↓	↓	↓	↓	—
	Radiation	$< 6 \times 10^6$ R	1.4×10^8 R	3	4, 5	TEST	NONE	—
	Aging	—	MOTOR INSULATION > 40 YEARS	—	4, 5, 7, 8	COMPONENT TEST ANALYSIS	↓	REFER TO NOTE A FOR MAINTENANCE
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	N/A	N/A	N/A	N/A	—	—

References:

1. SALEM OPERATING PROCEDURES; I 4.0, I 4.4, I 4.6
2. FSAR; CHP 9, CHP 6.
3. RESULTS OF PS. E&G CALCULATIONS IN RESPONSE TO TMI EVALUATIONS (SHIELDING)
4. WESTINGHOUSE REPORT WCAP-8754 (EQ 16.00)
5. PSE&G DOCUMENTATION) EVALUATION EQ 16
6. WCAP 7410-L Vol. II (EQ 16.01)
7. WCAP-8754 REV. 1 (EQ 16.02)
8. PSE&G SALEM LUBRICATION MANUAL.

Notes:

A. PREVENTITIVE MAINTENANCE REQUIRES MOTOR BEARING OIL REPLACEMENT EVERY 6 MONTHS.

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: MAIN STEAM Identification: SV0587, 581, 585, 583 (UNIT 2 ONLY) Component: SOLENOID VALVE Manufacturer: ASCO Model: NV 208-302-1F Service: CONTROL FOR MAIN STEAM ISOLATION VALVES Function: CONTROL Accuracy: Spec. N/A Demon. Location: INBOARD/OUTBOARD PEN. AREAS	Operating Time	MSLB <5 SECS.		1			BASIS #8C	DOCUMENTATION INSUFFICIENT CONSIDERING ENVIR. QUAL. REQUIREMENTS
	Temperature	320°F.		2 Note A				OF 79-01B AND NUREG 0588
	Pressure	5.8 PSIG		2				
	Relative Humidity	100 %		—				
	Chemical Spray	N/A		—				
	Radiation	<10^5 R		3	4	ENGINEERING ANALYSIS		
	Aging	—		—				
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	—

References:

1. FSAR; TABLE 5.4-1
2. PSE&G CALCULATIONS PER NEBA INFORMATION FSAR SECTION 14.5
3. PSE&G RADIAT. CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS
4. RADIATION EXPOSURE IS FOR 120 DAY ACCIDENT PLUS 40 YEARS AND WOULD BE MINIMAL FOR MATTER OF SECONDS FOLLOWING INCIDENT.

Notes:

A. SOLENOIDS LOCATED IN INSTRUMENT PANELS WILL NOT EXPERIENCE SUCH A HIGH TEMPERATURE DUE TO THERMAL PROTECTION AFFORDED BY THE PANEL. DEMONSTRATED IN WYLE LABS REPORT NO. 44439-2, REVISION A AND IS APPLICABLE FOR SHORT TIME FRAMES OF PEAK TEMP.

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: MAIN STEAM Identification: SV0274, 275, 280, 281, 270, 271, 284, 285 Component: SOLENOID VALVE Manufacturer: ASCO Model: FT8321A4 Service: CONTROL FOR MAIN STEAM ISOLATION VALVES Function: CONTROL Accuracy: Spec. — Demon. N/A Location: INBOARD/ OUTBOARD PEN. AREAS	Operating Time	MSLB <5 SECS		1			BASIS = BB	DOCUMENTATION INSUFFICIENT CONSIDERING ENVIR. QUAL.
	Temperature	320°F		2 NOTE A				REQUIREMENTS OF I9-01B AND NUREG 0588
	Pressure	5.8 PSIG		2				
	Relative Humidity	100%		—				
	Chemical Spray	N/A		—				
	Radiation	$<10^5$ R		3	4	ENGINEERING ANALYSIS		
	Aging	—		—			—	—
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	—

References:

1. FSAR; TABLE 5.4-1
2. PSE&G CALCULATIONS PER HEBA, INFORMATION IN FSAR SECTION 14.5
3. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS
4. RADIATION EXPOSURE IS FOR 120 DAY ACCIDENT PLUS 40 YRS. AND WOULD BE MINIMAL FOR MATTER OF SECONDS FOLLOWING INCIDENT.

Notes:

A. SOLENOIDS LOCATED IN INSTRUMENT PANELS WILL NOT EXPERIENCE SUCH A HIGH TEMPERATURE DUE TO THERMAL PROTECTION AFFORDED BY THE PANEL. DEMONSTRATED IN WYLE LABS REPORT NO. 44439-2, REV. A AND IS APPLICABLE FOR SHORT TIME FRAMES OF PEAK TEMP.

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: CONTAINMENT PARAMETERS Identification: PA 2348-46, 2568 Component: PRESSURE BELLOWS Manufacturer: BARTON Model: [ ] A,C Service: CONTAINMENT PRESSURE Function: TRIP FUNCTION FOR PROTECTION SYSTEM Accuracy: Spec. N/A Demon. Location: CONTAINMENT	Operating Time	LOCA/MSLB	15 DAYS IN ADVERSE ENVIR ≥ 4 MONTHS POST-ACCIDENT	1	7, 8	TEST	BASIS #22	DEVICE EXHIBITED PRESSURE SPIKE UNDER TEST BUT NOT SAFETY PROBLEM
	Temperature	271/350°F	[ ] A,B,C FIG. 28 A,B,C	3, 4				
	Pressure	43.2/42.8 PSIG	[ ] A,B,C	5				
	Relative Humidity	100%	[ ] A,B,C	—	↓			
	Chemical Spray	.2 WT % NaOH 1.2 WT % BORIC ACID	1.14 WT % Boric Acid & 0.17 WT % NaOH 24 HRS	6	7, 8, 9			
	Radiation	<5X10⁷ RADS	N/A	2	7, 8	↓	↓	↓
	Aging	—	—	—	—	—	—	—
Flood Level El: 83'-1" Above Flood Level: YES	Submergence	N/A	NONE	N/A	7	—	NONE	—

References:

1. SALEM EMERGENCY OPERATING PROCEDURES; I-4.0, 4.4, 4.6
2. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS.
3. FSAR; FIGURE 7.5-5 AND RESPONSE TO Q5.82 & Q5.85
4. NRC SER FOR SALEM (SUPP. 4) NUREG 0517, 4/80; PAGE 3-10
5. FSAR; FIGURE 14.3-25, PAGE 14.3-56 AND RESPONSE TO Q5.82 & Q5.85
6. FSAR; PAGE 6.4-10
7. WCAP 9157, 9/77 (EQ 28.00)
8. PSE&G DOCUMENTATION EVALUATION EQ 28
9. (EJ) LETTER 11/19/80 - ESA-EQ-198 (EQ 28.05)

Notes:

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: VARIOUS Identification: VARIOUS (REFER TO MASTER LIST.) Component: DIFFERENTIAL PRESSURE TRANSMITTER Manufacturer: FISHER-PORTER Model: [ ] A,C Service: Function: Accuracy: Spec. Design. Location: VARIOUS	Operating Time	HEBA		1,2	5 6	TEST	NONE	NOTE B
	Temperature	285°F	[ ] A,B,C 320°F	3 NOTE A	5 6			
	Pressure	1 PSIG	[ ] A,B,C 75.3 PSIG	3 NOTE A	5 6			
	Relative Humidity	100%	[ ] A,B,C 100%	—	5 6			
	Chemical Spray	N/A	[ ] A,B,C N/A	—	5 6			
	Radiation	$< 5 \times 10^7$	[ ] A,B,C $> 10^6$ R	4 NOTE A	5 6			
	Aging	—	REQUIREMENT BY JUNE 30, 1982	—	—	—	—	—
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	—

References:

1. SALEM EMERGENCY OPERATING PROCEDURES; I-0.0, 0.4 & 4.6
2. NUREG 0578 REQUIREMENTS; ITEM 2.1.76
3. P.S.E&G CALCULATIONS PER NEBA, INFORMATION IN FSAR SECTION 14.5
4. P.S.E&G RADIATION CALCULATIONS PER ENVIROMENTAL QUALIFICATION REVIEW REQUIREMENTS
5. WCAP 7410-L VOL. 1, 12/70
6. SUMMARY REPORT OF NUS. CORP. "EPRI EQUIPMENT QUALIFICATION PROGRAM-RESPONSES TO NRC IE BULLETIN 79-01."

Notes:

A. WORST CASE CONDITION
B. REFER TO BASIS #27

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: VARIOUS Identification: VARIOUS (REFER TO MASTER LIST.) Component: DIFFERENTIAL PRESSURE TRANSMITTER Manufacturer: FISHER - PORTER Model: [ ]A,C Service: Function: Accuracy: Spec. Demon. Location:	Operating Time	RECIRC.		1, 2 NOTE A	5 6	TEST	NONE	NOTE B
	Temperature	N/A	[ ] A,B,C 320°F	3	5 6			
	Pressure		[ ] A,B,C 75.3 PSIG	3	5 6			
	Relative Humidity		[ ] A,B,C 100%		5 6			
	Chemical Spray		[ ] A,B,C N/A		5 6			
	Radiation	$<5\times10^5$ R	[ ] A,B,C $>10^6$ R	4 NOTE A	5 6			
	Aging	—	REPLACEMENT BY JUNE 30, 1982	—	—	—	—	—
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	—

References:

1. SALEM EMERGENCY OPERATING PROCEDURES; E-0.0, 0.4 & 0.6
2. NUREG 0578 REQUIREMENTS; ITEM 2.1.76
3. P.S. E/G CALCULATIONS PER NEBA, INFORMATION IN FSAR SECTION 14.5
4. P.S. E/G RADIATION CALCULATIONS PER ENVIROMENTAL QUALIFICATION REVIEW REQUIREMENTS.
5. WCAP 7410-L VOL. 1, 12/70
6. SUMMARY REPORT OF NUS CORP. "EPRI" EQUIPMENT QUALIFICATION PROGRAM - RESPONSES TO NRC IE BULLETIN 79-01"

Notes:

A. WORST CASE CONDITION
B. REFER TO BASIS #27

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: VARIOUS Identification: VARIOUS (REFER TO MASTER LIST) Component: SOLENOID VALVES Manufacturer: ASCO Model: NP SERIES Service: PILOT VALVE FOR SAFETY-RELATED CONTROL VALVES Function: VALVE OPERATION Accuracy: Spec. N/A Demon. Location: VARIOUS (REFER TO MASTERLIST)	Operating Time	LOCA/MSLB AS NECESSARY	30 DAYS IN ADVERSE ENVIRONMENT	8	6,9	SEQUENTIAL TEST NOTE B	NONE	NONE
	Temperature	271/350°F	346°F FIG. 10 350°F FIG. 11	1,2 NOTE A	6,7,9			
	Pressure	43.2/42.8 PSIG	110 PSIG FIG 10 54 PSIG FIG 11	3 NOTE A				
	Relative Humidity	100%	100%	—				
	Chemical Spray	NaOH & Boric Acid pH > 8.5 > 22.5 Hrs.	NaOH & Boric Acid pH 9.5-10.5 > 24 Hrs.	4	6,9			
	Radiation	5×10^7 R	1.5×10^8 R (TOTAL - 2×10^8 R)	5 NOTE A				
	Aging	—	40 YEARS FOR VALVE ASSEMBLY WITH EQR AND ELASTOMER REPLACEMENT EVERY 4,4 YEARS	—				COMMITMENT BY SALEM IN RESPONSE TO BULLETIN 79-01A
Flood Level El: 83'-1" Above Flood Level: NOTE C	Submergence	N/A	N/A	N/A	N/A	N/A	NONE NOTE C	QUALIFICATION APPLICABLE TO SOLENOIDS ABOVE FLOOD LEVEL ONLY

References:

1. FSAR; FIGURE 7.5-5 AND RESPONSE TO Q5.82 & Q5.85
2. NRC SER FOR SALEM (SUPP 4), NUREG 0517 4/80; PAGE 3-10
3. FSAR; FIGURE 14.3-25, PAGE 14.3-56 & RESPONSE TO Q5.82 & Q5.85
4. FSAR; 6.4-10
5. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS
6. AUTOMATIC SWITCH CO. TEST REPORT AQS 21678/TR, 3/78
7. WYLE REPORT NO. 44439-4, 3/23/79
8. SALEM EMERGENCY OPERATING PROCEDURES; I4.0, I4.4, I4.6
9. PSE&G DOCUMENTATION REVIEW - EQ 12

Notes:

A. TEST REQUIREMENTS WERE TO WORST CASE ENVIRONMENTAL CONDITIONS AT SALEM WHICH IS LOCA/MSLB IN CONTAINMENT.

B. THERMAL AGING, RADIATION AGING, WEAR AGING, SEISMIC, ACCIDENT RADIATION, THEN SIMULATED ACCIDENT ENVIRONMENT.

C. SOLENOID VALVES SV0394, SV0397, SV0399, SV0400, SV0427, SV0491, SV0492, SV0493, SV0518, SV0519, SV0520, SV0521 ARE SUBJECT TO SUBMERGENCE, REFER TO BASIS 28.

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: VARIOUS Identification: VARIOUS (REFER TO MASTER LIST.) Component: LIMIT SWITCH Manufacturer: NAMCO Model: EA-180 Service: VALVE POSITION INDICATOR Function: OPERATOR INDICATION AND VALVE CONTROL Accuracy: Spec. N/A Demon. Location:	Operating Time	LOCA/MSLB 120 DAYS	30 DAY TEST EQUIVALENT >120 DAYS	1	7,8,9	SEQUENTIAL TEST	NONE	—
	Temperature	LOCA/MSLB 271°/350°F	340°F FIGURE 12	2,3	7,8			—
	Pressure	LOCA/MSLB 42/42.8 PSIG	70 PSI FIGURE 12	4				—
	Relative Humidity	100%	100%	—				—
	Chemical Spray	BORIC ACID+ NAOH pH>8.5 >22.5 HRS.	BORIC ACID+ NAOH pH 10 4 DAYS	5				—
	Radiation	5×10^7 R	2×10^8 R	6				—
	Aging	—	1.5 YRS. INITIAL GASKET REPLACEMENT THEREAFTER 40 YRS	—	7,10,11	TEST AND ANALYSIS		REFER TO NOTE B FOR MAINTENANCE
Flood Level El: 83'-1" Above Flood Level: N/A NOTE A	Submergence	N/A	NONE	N/A	7	N/A	NOTE A	NOTE A

References:

1. POST ACCIDENT TIME FOR REQUIRED INSTRUMENTATION AND CONTROLS
2. FSAR, FIGURE 7.5-5 AND RESPONSE TO Q5.82 & Q5.85
3. NRC SER FOR SALEM (SUPP 4) NUREG 0517 4/80; PAGE 3-10
4. FSAR; FIGURE 14.3-25, PAGE 14.3-56 AND RESPONSE TO Q5.82 & Q5.85
5. FSAR; PAGE 6.4-10
6. P.S.E&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS
7. ACME CLEVELAND DEVELOPMENT CO. REPORT 9/80 "QUALIFICATION OF EA-180 SWITCH." (EQ13.00)
8. PSE&G DOCUMENTATION EVALUATION - EQ 13
9. PSE&G CALCULATION EQ13.01
10. ANCO REPORT 17448-17 (EQ 13.00)
11. PSE&G ANCO REVIEW EQ13.07

Notes:

A. THE LIMIT SWITCHES FOR WL98, CV3-3, SV123 ARE SUBJECT TO SUBMERGENCE. SEE BASIS #29.

B. AFTER INITIAL REPLACEMENT OF TOP AND BOTTOM GASKETS AFTER 1.5 YEARS, PREVENTITIVE MAINTENANCE WILL BE PERFORMED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION EA-189-90051. ANALYSIS INDICATES SPECIAL MAINTENANCE NOT REQUIRED AND PREVENTITIVE IS UNDER REVIEW TO EXTEND TIME FRAMES

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: Electrical Cabling Identification: N/A Component: Terminal Block Manufacturer: Buchanan Model: 2B112N Service: Connection Point Within PSE&G Terminal Box/Panels Function: Provide Electrical Termination And/Or Junction Point Accuracy: Spec. N/A Demon. Location: Containment (Note A)	Operating Time	LOCA/MSLB 120 Days	>240 Hr. Test Equivalent 292 Days	1	7,8	Sequential Test Radiation Then Accident	None	—
	Temperature	271/350°F	290/350°F Figs. 17, 18A/BB	2,3		Environment Simulation		—
	Pressure	43.2/42.8 PSIG.	≥ 50 PSIG. Figs. 17, 18A, 18B	4				—
	Relative Humidity	100%	100%					—
	Chemical Spray	Boric Acid & NaOH pH > 8.5 > 22.5 Hrs	Boric Acid & NaOH pH 8.5-10 24 Hrs	5				—
	Radiation	5×10^7 R	2×10^6 R	6				—
	Aging	—	Expected Age Insensitivity > 40 Years	—	9,10	Analysis		No Special Maintenance
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	None	—	7	—	None	Note B

References:

1. Post Accident Time For Required Instrumentation And Controls
2. FSAR; Fig. 7.5-5 & Q5.85
3. NRC SER For Salem (Supp. 4) NUREG 0517 4/80; Pg. 3-10
4. FSAR; Figs. 7.5-4, 14.3-25, Pg. 14.3-56 & Q5.85
5. FSAR; Pg 6.4-10 & Table 6.2-11
6. PSE&G Calculations For Radiation - Environ. Qual.
7. Conax Test Report No. IPS-400 (4/79) (EQ M.00)
8. PSE&G Documentation Evaluation - EQ 19
9. Wyle Labs Report No. 17448-1 (EQ M.01)
10. PSE&G Evaluation EQ M.02

Notes:

A. Blocks / Junction Boxes Qualified To Worst Case Containment Conditions

B. Some Components May Become Flooded After Performing Safety Function Following In-Containment Accident. Blocks Associated With Such Components Are Not Required To Be Operable In A Submerged State

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: ELECTRICAL CABLING Identification: N/A Component: CABLE SPLICES/ THERMOFIT TUBING Manufacturer: RAYCHEM Model: WCSF-N Service: TERMINATION/JUNCTION OF ELECTRIC CABLES Function: ELECTRICAL INSULATION AND SEALING Accuracy: Spec. N/A Demon. Location: CONTAINMENT (NOTE A)	Operating Time	LOCA/MSLB 120 DAYS	30 DAY TEST EQUIVALENT >602 DAYS	1	6,7,8	SEQUENTIAL TEST - PRE AGING (THERMAL & RADIATION), ACCIDENT RADIATION, THEN ACCIDENT	NONE	—
	Temperature	271/350°F	357°F FIG. 19	2,9	6,7			—
	Pressure	43.2/42.8 PSIG	> 70 PSIG FIG. 19	3		ENVIRONMENT SIMULATION		—
	Relative Humidity	100%	100%	—				—
	Chemical Spray	BORIC ACID & NaOH pH > 8.5 > 22.5 HRS	BORIC ACID & NaOH pH 9.5-11.0 > 9 DAYS	4				—
	Radiation	5×10^7 R	1.5×10^8 R	5	↓			—
	Aging	—	> 40 YEARS	—	6,10,11,12	—	—	NO SPECIAL MAINTENANCE
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	NONE	—	6	—	NONE	NOTE B

References:

1. POST ACCIDENT TIME FOR REQUIRED INSTRUMENTATION AND CONTROLS
2. FSAR; FIG. 7.5-5 & Q5.82, Q5.85
3. FSAR; FIGS. 7.5-4, 14.3-25 & Q5.85
4. FSAR; PG. 6.4-10 & TABLE 6.2-11
5. PSE&G CALCULATIONS FOR RADIATION - ENVIRON. QUAL.
6. FIRL REPORT NO. F-C4033-3 (1/75)
7. PSE&G DOCUMENTATION (EQ01.00) EVALUATION - EQ01
8. PSE&G CALCULATION - EQ 01.03
9. NRC SER FOR SALEM (SUPP. 4), NUREG 0517 4/80; PG. 3-10
10. WYLE REPORT 17448-2 (EQ 01.06)
11. RAYCHEM REPORT EDR-2001 (EQ 01.08)
12. PSE&G AGING REVIEW EQ 01.07

Notes:

A. SPLICE QUALIFIED TO WORST CASE CONTAINMENT CONDITIONS
B. SOME COMPONENTS MAY BECOME FLOODED AFTER PERFORMING SAFETY FUNCTION FOLLOWING IN-CONTAINMENT ACCIDENT. SPLICES ASSOCIATED WITH SUCH COMPONENTS ARE NOT REQUIRED TO BE OPERABLE IN A SUBMERGED STATE.

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: ELECTRICAL CABLING Identification: REFERENCE SPECIFIC SYSTEM Component: ELECTRICAL PENETRATIONS Manufacturer: CONAX CORP. Model: CANISTER TYPE LVP, MVP Service: PROVIDE ELECTRICAL FEEDS THRU CONTAINMENT BOUNDARY Function: Accuracy: Spec. Demon. N/A Location: CONTAINMENT, ELEC. PEN	Operating Time	LOCA/MSLB 120 DAYS	MVP-707 HR TEST EQUIV. >1000 DAYS LVP-216 HR. TEST EQUIV. >400 DAYS	9	7, 10, 11, 12, 13	SEQUENTIAL TEST	NONE	—
	Temperature	271°/350°F	MVP-342°F LVP-340°F NOTE B FIG. 20	1, 2 NOTE A	7, 10, 12, 14			—
	Pressure	43.2/42.8 PSIG	MVP-98 PSIG LVP-110 PSIG	3 NOTE A	7, 10, 12, 14			—
	Relative Humidity	100%	100%	—	6, 7			—
	Chemical Spray	NAOH & BORIC ACID pH > 8.5 > 22.5 HRS.	NAOH & BORIC ACID pH 8.5 - 9.5	4	6, 7, 10, 12			—
	Radiation	5×10^7 R	MVP-1×10^8 R LVP-2×10^8 R	5	6, 7			—
	Aging	—	>40 YRS.	—	7, 8, 15	TEST/ANALYSIS		—
Flood Level El: 83'-1" Above Flood Level: YES	Submergence	N/A	N/A	N/A	N/A	N/A		—

References:

1. FSAR; FIGURE 3.5-5 AND RESPONSE TO Q5.82 AND Q5.85
2. NRC SER FOR SALEM (SUPP 4), NUREG 0517, 4/80; PAGE 3-10
3. FSAR; FIGURE M.3-25, PAGE M.3-56 AND RESPONSE TO Q5.82 AND Q5.85
4. FSAR; PAGE 6.4-10
5. PSE+G CALCULATIONS (RADIATION) PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS
6. CONAX REPORT IPS-422 (EQ02.00)
7. PSE+G DOCUMENTATION EVALUATION EQ-02
8. CONAX REPORT IPS-325 (EQ02.02)
9. POST ACCIDENT TIME REQUIRED FOR INSTRUMENTATION AND CONTROLS
10. CONAX REPORT IPS-414 (EQ02.03)
11. PSE+G CALCULATION EQ 02.06
12. CONAX REPORT IPS-395 (EQ02.04)
13. PSE+G CALCULATION EQ 02.07
14. PSE+G FIGURE EQ 02.08
15. PSE&G AGING REVIEW EQ02.09

Notes:

A. TEST REQUIREMENTS WERE TO WORST CASE ENVIRONMENTAL CONDITIONS AT SALEM WHICH IS LOCA/MSLB IN CONTAINMENT

B. THERMAL ANALYSIS BY WESTO HAS SHOWN QUALIFICATION FOR TEMP >350°. THIS INFO. WAS SUBMITTED AS APPENDIX 3C, AMEND. 60 FOR NORTH ANNA FSAR. CONAX HAS CONFIRMED VIA LETTER OF 1/9/79 THAT SALEM PENETRATIONS ARE THE SAME AS NORTH ANNA'S AND THEREFORE SIMILARLY QUALIFIED FOR >350°F.

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: ELECTRICAL CABLING * Identification: REFERENCE SPECIFIC SYSTEM COMPONENT CABLE MARK NUMBER Component: ELECTRICAL CABLES Manufacturer: AMERICAN INSULATED WIRE Model: Service: Function: SPECIFIC SYSTEM COMPONENT REFERENCED ABOVE * Accuracy: Spec. N/A Demon. Location: CONTAINMENT (NOTE A)	Operating Time	LOCA/MSLB 120 DAYS	83/100 DAYS EQUIVALENT 241 DAYS	1	7,8,9	SEQUENTIAL TEST	NONE	—
	Temperature	271/350°F	340°F FIG. 21A-B	2,3	7,9,10	(PREAGED, RADIATION, ACCIDENT)		TIME-TEMP. ANALYSIS PERFORMED
	Pressure	42.2/42.8 PSIG	40/60 PSIG FIG. 21A-B	4	7,8,9			—
	Relative Humidity	100%	100%	—	7,9			—
	Chemical Spray	BORIC ACID & NaOH pH > 8.5 >22.5 HRS	PH 8-10.5 BORIC ACID & NaOH 100 DAYS	5	7,8			—
	Radiation	5×10^7 R	2×10^8 R	6	7,8			—
	Aging	—	11 YEARS ADDITIONAL ANALYSIS PENDING	—	8,11,12			NO SPECIAL MAINTENANCE
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	NONE	—	—	—	NONE	NOTE B

References:

1. POST ACCIDENT TIME FOR REQUIRED INSTRUMENTATION AND CONTROLS
2. FSAR; FIG. 7.5-5 & QS.82, QS.85
3. NRC SER FOR SALEM (SUPP 4), NUREG 0517 4/80; PG. 3-10
4. FSAR; PGS. 7.5-4, IV.3-25, PG. IV.3-56 & QS.82, QS.85
5. FSAR; PG. 6.4-10 & TABLE 6.2-11
6. PSE&G CALCULATIONS FOR RADIATION - ENVIRON. QUAL.
7. PSE&G DOCUMENTATION EVALUATION - EQDY
8. F.I.R.L. FINAL REPORT FC5115 (EQDY.001)
9. F.I.R.L. FINAL REPORT FC4197-2 (EQDY.002)
10. STONE & WEBSTER THERMAL ANALYSIS 1/25/79 (EQDY.04)
11. WYLE REPORT 17448-7
12. BECHTEL AGING ANALYSIS EQ 08.05

Notes:

A. CABLES QUALIFIED TO WORSE CASE CONTAINMENT CONDITIONS

B. SOME COMPONENTS MAY BECOME FLOODED AFTER PERFORMING SAFETY FUNCTION FOLLOWING IN-CONTAINMENT ACCIDENT. CABLES ASSOCIATED WITH SUCH COMPONENTS ARE NOT REQUIRED TO BE OPERABLE IN A SUBMERGED STATE.

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: ELECTRICAL CABLING Identification: REFERENCE SPECIFIC SYSTEM COMPONENT CABLE MARK NUMBER Component: ELECTRICAL CABLES Manufacturer: SAMUEL MOORE Model: Service: Function: SPECIFIC SYSTEM COMPONENT REFERENCED ABOVE * Accuracy: Spec. N/A Demon. Location: CONTAINMENT (NOTE A)	Operating Time	LOCA/MSLB 120 DAYS	100 DAYS EQUIVALENT 442 DAYS	1	7, 8	SEQUENTIAL TEST	NONE	—
	Temperature	271/350°F	340° F FIG. 22	2, 3	7, 8, 9	(RADIATION, PREAGE, RADIATION, ACCIDENT)		TIME - TEMP. ANALYSIS PERFORMED
	Pressure	43.2/42.8 PSIG	105 PSIG FIG. 22	4	7, 8			—
	Relative Humidity	100%	100%	—				—
	Chemical Spray	BORIC ACID & NaOH pH > 8.5 > 22.5 HRS	BORIC ACID & NaOH PH 9-11 30 DAYS	5				—
	Radiation	5×10^7 R	2×10^8 R	6	—			—
	Aging	—	40 YEARS	—	8, 10, 11	—	—	NO SPECIAL MAINTENANCE
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	NONE	—	—	—	NONE	NOTE B

References:

1. POST ACCIDENT TIME FOR REQUIRED INSTRUMENTATION AND CONTROLS
2. FSAR; FIG. 7.5-5 & Q5.82, Q5.85
3. NRC SER FOR SALEM (SUPP 4), NUREG 0517 4/80; PG. 3-10
4. FSAR; FIGS. 7.5-4, 14.3-25, PG. 14.3-56 & Q5.82, Q5.85
5. FSAR; PG. 6.4-10 & TABLE 6.2-11
6. PSE&G CALCULATIONS FOR RADIATION - ENVIRON. QUAL.
7. PSE&G DOCUMENTATION EVALUATION - EQ 21
8. IDAHO/DIE TEST REPORT DATED 6/78 (EQ 21.00)
9. STONE & WEBSTER THERMAL ANALYSIS 1/23/79 (EQ 21.01)
10. PSE&G AUDIT REVIEW EQ 21.02
11. ANYLE REPORT 17648-9

Notes:

A. CABLES QUALIFIED TO WORSE CASE CONTAINMENT CONDITIONS

B. SOME COMPONENTS MAY BECOME FLOODED AFTER PERFORMING SAFETY FUNCTION FOLLOWING IN-CONTAINMENT ACCIDENT. CABLES ASSOCIATED WITH SUCH COMPONENTS ARE NOT REQUIRED TO BE OPERABLE IN A SUBMERGED STATE.

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: ELECTRICAL CABLING Identification: REFERENCE SPECIFIC SYSTEM COMPONENT [illegible] MARK NUMBER Component: ELECTRICAL CABLES Manufacturer: BOSTON INSULATED WIRE Model: Service: Function: SPECIFIC SYSTEM COMPONENT REFERENCED ABOVE Accuracy: Spec. N/A Demon. Location: CONTAINMENT (NOTE A)	Operating Time	LOCA/MSLB 120 DAYS	100 DAYS EQUIVALENT 533 DAYS	1	7, 8	SEQUENTIAL TEST	NONE	—
	Temperature	271/350°F	340° F FIG. 23	2, 3	7, 8, 11	(PREAGED, RADIATION ACCIDENT)		TIME - TEMP. ANALYSIS PERFORMED
	Pressure	43.2/42.8 PSIG	105 PSIG	4	7, 8			—
	Relative Humidity	100%	100 %	—				—
	Chemical Spray	BORIC ACID & NaOH pH > 8.5 > 22.5 HRS	H_3BO_3 PH 10.5 24 HRS.	5				—
	Radiation	5×10^7 R	2×10^8 R	6				—
	Aging	—	20 YEARS ADDITIONAL ANALYSIS PENDING	—	8, 9, 10			NO SPECIAL MAINTENANCE
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	NONE	—	—	—	NONE	NOTE B

References:

1. POST ACCIDENT TIME FOR REQUIRED INSTRUMENTATION AND CONTROLS
2. FSAR; FIG. 7.5-5 & Q5.82, Q5.85
3. NRC SER FOR SALEM (SUPP. 4), NUREG 0517 4/80; PG. 3-10
4. FSAR; FIGS. 7.5-4, PG. 3-25, PG. 14.3-56 & Q5.82, Q5.85
5. FSAR; PG. 6.4-10 & TABLE 6.2-11
6. PSE&G CALCULATIONS FOR RADIATION - ENVIRON. QUAL.
7. PSE&G DOCUMENTATION EVALUATION - EQ05
8. BOSTON INSULATED WIRE REPORT # 8910 (EQ05.00)
9. PSE&G ACTIVE REVIEW EQ05.04
10. WYLE REPORT 17448-10
11. STONE & WEBSTER THERMAL ANALYSIS 1/25/74 (EQ 05.02)

Notes:

A. CABLES QUALIFIED TO WORSE CASE CONTAINMENT CONDITIONS

B. SOME COMPONENTS MAY BECOME FLOODED AFTER PERFORMING SAFETY FUNCTION FOLLOWING IN-CONTAINMENT ACCIDENT. CABLES ASSOCIATED WITH SUCH COMPONENTS ARE NOT REQUIRED TO BE OPERABLE IN A SUBMERGED STATE.

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: ELECTRICAL CABLING * Identification: REFERENCE SPECIFIC SYSTEM COMPONENT CABLE MARK NUMBER Component: ELECTRICAL CABLES Manufacturer: BOSTON INSULATED WIRE Model: COAXIAL-TEFZEL ETFE INSUL. Service: Function: SPECIFIC SYSTEM COMPONENT REFERENCED ABOVE * Accuracy: Spec. N/A Demon. Location: CONTAINMENT (NOTE A)	Operating Time	LOCA/MSLB 120 DAYS	159 DAYS	1	7,8	SEQUENTIAL TEST	NONE	—
	Temperature	271/350°F	340° F FIG. 23A	2,3	7,8,9	(PREAGED RADIATION ACCIDENT)		TIME-TEMP ANALYSIS PERFORMED
	Pressure	43.2/42.8 PSIA	105 PSIG FIG. 23A	4	7,8			—
	Relative Humidity	100%	100%	—				—
	Chemical Spray	BORIC ACID & NaOH pH > 8.5 > 22.5 HRS	NaOH PH 10.5 24 HRS.	5				—
	Radiation	5×10^7 R	2×10^8 R	6				—
	Aging	—	40 YEARS	—	8,10			NO SPECIAL MAINTENANCE
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	NONE	—	—	—	NONE	NOTE B

References:

1. POST ACCIDENT TIME FOR REQUIRED INSTRUMENTATION AND CONTROLS
2. FSAR; FIG. 7.5-5 & Q5.82, Q5.85
3. NRC SER FOR SALEM (SUPP #), NUREG 0517 4/80; PG. 3-10
4. FSAR; FIGS. 7.5-4, PG. 3-25, PG. 14.3-56 & Q5.82, Q5.85
5. FSAR; PG. 6.4-10 & TABLE 6.2-11
6. PSE&G CALCULATIONS FOR RADIATION - ENVIRON. QUAL.
7. PSE&G DOCUMENTATION EVALUATION - EQ24
8. B.I.W. REPORT #8913 (EQ24.00)
9. STONE & WEBSTER THERMAL ANALYSIS 1/24/79 (EQ24.01)
10. PSE&G ENGR. REVIEW EQ24.03

Notes:

A. CABLES QUALIFIED TO WORSE CASE CONTAINMENT CONDITIONS

B. SOME COMPONENTS MAY BECOME FLOODED AFTER PERFORMING SAFETY FUNCTION FOLLOWING IN-CONTAINMENT ACCIDENT. CABLES ASSOCIATED WITH SUCH COMPONENTS ARE NOT REQUIRED TO BE OPERABLE IN A SUBMERGED STATE.

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: ELECTRICAL CABLING * Identification: REFERENCE SPECIFIC SYSTEM COMPONENT CABLE MARK NUMBER COMPONENT: ELECTRICAL CABLES Manufacturer: BOSTON INSULATED WIRE Model: COAXIAL XLPE INSULATION Service: Function: SPECIFIC SYSTEM COMPONENT REFERENCED ABOVE * Accuracy: Spec. N/A Demon. Location: CONTAINMENT (NOTE A)	Operating Time	LOCA/MSLB 120 DAYS	164 DAYS	1	7,8	SEQUENTIAL/ SIMULTANEOUS TEST	NONE	—
	Temperature	271/350°F	340°F FIG. 23B	2,3	7,8,9	PREAGED, PREAGE/RADIATION, ACCIDENT/RAD.		TIME-TEMP ANALYSIS PERFORMED
	Pressure	43.2/42.8 PSIA	110 PSIG FIG. 23B	4	7,8			—
	Relative Humidity	100%	100%	—				—
	Chemical Spray	Boric Acid & NaOH pH > 8.5 > 22.5 HRS	3000 PPM Boron NaOH PH 10.5 24 HRS	5				—
	Radiation	5×10^7 R	2×10^8 R	6				—
	Aging	—	40 YEARS	—	8,10			NO SPECIAL MAINTENANCE
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	NONE	—	—	—	NONE	NOTE B

References:

1. POST ACCIDENT TIME FOR REQUIRED INSTRUMENTATION AND CONTROLS
2. FSAR; FIG. 7.5-5 & Q5.82, Q5.85
3. NRC SER FOR SALEM (SUPP 4), NUREG 0517 4/80; PG. 3-10
4. FSAR; FIGS. 7.5-4, 14.3-25, PG. 14.3-56 & Q5.82, Q5.85
5. FSAR; PG. 6.4-10 & TABLE 6.2-11
6. PSE&G CALCULATIONS FOR RADIATION - ENVIRON. QUAL.
7. PSE&G DOCUMENTATION EVALUATION - EQ 27
8. B.I.W. REPORT # 8912 (EQ27.00)
9. STONE & WEBSTER THERMAL ANALYSIS 1/24/79 (EQ27.02)
10. PSE&G AGING REVIEW EQ27.04

Notes:

A. CABLES QUALIFIED TO WORSE CASE CONTAINMENT CONDITIONS

B. SOME COMPONENTS MAY BECOME FLOODED AFTER PERFORMING SAFETY FUNCTION FOLLOWING IN-CONTAINMENT ACCIDENT. CABLES ASSOCIATED WITH SUCH COMPONENTS ARE NOT REQUIRED TO BE OPERABLE IN A SUBMERGED STATE.

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: ELECTRICAL CABLING Identification: REFERENCE SPECIFIC SYSTEM COMPONENT CABLE MARK NUMBER Component: ELECTRICAL CABLES Manufacturer: TRIANGLE - PWC, INC. Model: Service: Function: SPECIFIC SYSTEM COMPONENT REFERENCED ABOVE # Accuracy: Spec. N/A Demon. Location: CONTAINMENT (NOTE A)	Operating Time	LOCA/MSLB 120 DAYS	30 DAYS EQUIVALENT 293 DAYS	1	7,8	SEQUENTIAL TEST	NONE	—
	Temperature	271/350°F	346° F FIG. 24	2,3	7,8,9	(PREAGED, RADIATION, ACCIDENT)		TIME - TEMP. ANALYSIS PERFORMED
	Pressure	43.2/42.8 PSIG	70/113 PSIG FIG. 24	4				—
	Relative Humidity	100%	100%	—				—
	Chemical Spray	BORIC ACID & NaOH pH > 8.5 >22.5 HRS	BORIC ACID + NaOH pH 9-11 30 DAYS	5				—
	Radiation	5×10^7 R	2×10^8 R	6				—
	Aging	—	40 YEARS	—	8,10,11			NO SPECIAL MAINTENANCE
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	NONE	—	—	—	NONE	NOTE B

References:

1. POST ACCIDENT TIME FOR REQUIRED INSTRUMENTATION AND CONTROLS
2. FSAR; FIG. 7.5-5 & QS.82, QS.85
3. NRC SER FOR SALEM (SUPP. 4), NUREG 0517 4/80; PG. 3-10
4. FSAR; FIGS. 7.5-4, 14.3-25, PG. 14.3-56 & QS.82, QS.85
5. FSAR; PG. 6.4-10 & TABLE 6.2-11
6. PSE&G CALCULATIONS FOR RADIATION - ENVIRON. QUAL.
7. PSE&G DOCUMENTATION EVALUATION - EQ06
8. ISOMEDIX TEST REPORT DATED 2/11 (EQ06.20)
9. STONE & WEBSTER THERMAL ANALYSIS 11/24/78 (EQ06.04)
10. KYLE REPORT 17888-A
11. PSE&G AGING REVIEW EQ06.05

Notes:

A. CABLES QUALIFIED TO WORSE CASE CONTAINMENT CONDITIONS

B. SOME COMPONENTS MAY BECOME FLOODED AFTER PERFORMING SAFETY FUNCTION FOLLOWING IN-CONTAINMENT ACCIDENT. CABLES ASSOCIATED WITH SUCH COMPONENTS ARE NOT REQUIRED TO BE OPERABLE IN A SUBMERGED STATE.

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: ELECTRICAL CABLING * Identification: REFERENCE SPECIFIC SYSTEM COMPONENT CABLE MARK NUMBER Component: ELECTRICAL CABLES Manufacturer: ANACONDA Model: Service: Function: SPECIFIC SYSTEM COMPONENT REFERENCED ABOVE * Accuracy: Spec. N/A Demon. Location: CONTAINMENT (NOTE A)	Operating Time	LOCA/MSLB 120 DAYS	130 DAYS	1	7,8,9	SEQUENTIAL TEST	NONE	—
	Temperature	271/350°F	346°F FIG. 25	2,3	7,8,10	(PREAGED, RADIATION, ACCIDENT)		TIME - TEMP. ANALYSIS PERFORMED
	Pressure	43.2/42.8 PSIG	113 PSIG FIG. 25	4	7,8			—
	Relative Humidity	100%	100%	—	7,9			—
	Chemical Spray	BORIC ACID & NaOH pH > 8.5 >22.5 HRS	BORIC ACID + NaOH PH 10.5 30 DAYS	5	7,8			—
	Radiation	5×10^7 R	2×10^8 R	6	7,8			—
	Aging	—	40 YEARS	—	8,11,12,13			NO SPECIAL MAINTENANCE
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	NONE	—	—	—	NONE	NOTE B

References:

1. POST ACCIDENT TIME FOR REQUIRED INSTRUMENTATION AND CONTROLS
2. FSAR; FIG. T.5-5 & Q5.82, Q5.85
3. NRC SER FOR SALEM (SUPP 4), NUREG 0517 4/80; PG. 3-10
4. FSAR; FIGS. T.5-4, 14.3-25, PG. 14.3-56 & Q5.82, Q5.85
5. FSAR; PG. 6.4-10 & TABLE 6.2-11
6. PSE&G CALCULATIONS FOR RADIATION - ENVIRON. QUAL.
7. PSE&G DOCUMENTATION EVALUATION - EQ03
8. F.I.R.L. FINAL REPORT FC4350-3 (EQ03.00)
9. PSE&G DOCUMENT EQ03.02
10. STONE & WEBSTER THERMAL ANALYSIS 11/24/80 (EQ03.04)
11. PSE&G AGING REVIEW EQ03.05
12. WYLE REPORT 17448-13
13. ATTACHMENT TO FAIL FC4350-3 (EQ03.03)

Notes:

A. CABLES QUALIFIED TO WORSE CASE CONTAINMENT CONDITIONS

B. SOME COMPONENTS MAY BECOME FLOODED AFTER PERFORMING SAFETY FUNCTION FOLLOWING IN-CONTAINMENT ACCIDENT. CABLES ASSOCIATED WITH SUCH COMPONENTS ARE NOT REQUIRED TO BE OPERABLE IN A SUBMERGED STATE.

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: ELECTRICAL CABLING * Identification: REFERENCE SPECIFIC SYSTEM COMPONENT CABLE MARK NUMBER Component: ELECTRICAL CABLES Manufacturer: ROCKBESTOS / CERRO Model: Service: Function: SPECIFIC SYSTEM COMPONENT REFERENCED ABOVE * Accuracy: Spec. N/A Design. Location: CONTAINMENT (NOTE A)	Operating Time	LOCA/MSLB 120 DAYS	130 DAYS EQUIVALENT 164 DAYS	1	7,8	SEQUENTIAL TEST	NONE	—
	Temperature	271/350°F	340° F FIG. 26	2,3	7,8,9	(PREAGED, RADIATION, ACCIDENT)		TIME-TEMP. ANALYSIS PERFORMED
	Pressure	43.2/42.8 PSIG	113 PSIG FIG. 26	4	7,8			—
	Relative Humidity	100%	100%	—				—
	Chemical Spray	BORIC ACID & NaOH pH > 8.5 > 22.5 GPM	3000 PPM BORIC ACID PH 9-11 30 DAYS	5				—
	Radiation	5×10^7 R	2×10^8 R	6				—
	Aging	—	40 YEARS	—	8,10			NO SPECIAL MAINTENANCE
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	NONE	—	—	—	NONE	NOTE B

References:

1. POST ACCIDENT TIME FOR REQUIRED INSTRUMENTATION AND CONTROLS
2. FSAR; FIG. 7.5-5 & QS.82, QS.85
3. NRC SER FOR SALEM (SUPP #), NUREG 0517 4/80; PG. 3-10
4. FSAR; FIGS. 7.5-4, 14.3-25, PG. 14.3-56 & QS.82, QS.85
5. FSAR; PG. 6.4-10 & TABLE 6.2-11
6. PSE&G CALCULATIONS FOR RADIATION - ENVIRON. QUAL.
7. PSE&G DOCUMENTATION EVALUATION - EQ03
8. F.I.R.L. FINAL REPORT F-C3798 EQ08.00
9. STONE & WEBSTER THERMAL ANALYSIS 1/26/79 (EQ 08.01)
10. PSE&G AGING REVIEW EQ 08.02

Notes:

A. CABLES QUALIFIED TO WORSE CASE CONTAINMENT CONDITIONS

B. SOME COMPONENTS MAY BECOME FLOODED AFTER PERFORMING SAFETY FUNCTION FOLLOWING IN-CONTAINMENT ACCIDENT. CABLES ASSOCIATED WITH SUCH COMPONENTS ARE NOT REQUIRED TO BE OPERABLE IN A SUBMERGED STATE.

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: ELECTRICAL CABLING * Identification: REFERENCE SPECIFIC SYSTEM COMPONENT CABLE MARK NUMBER Component: ELECTRICAL CABLES Manufacturer: ROCKBESTOS / SILICONE Model: Service: Function: SPECIFIC SYSTEM COMPONENT REFERENCED ABOVE * Accuracy: Spec. N/A Demon. Location: CONTAINMENT (NOTE A)	Operating Time	LOCA/MSLB 120 DAYS	30 DAYS EQUIVALENT 164 DAYS	1	7,8	SEQUENTIAL TEST (PREAGED, RADIATION, ACCIDENT)	NONE	—
	Temperature	271/350°F	340° F FIG. 26A	2,3	7,8,9			TIME - TEMP. ANALYSIS PERFORMED
	Pressure	43.2/42.8 PSIA	104 PSIG FIG. 26A	4	7,8			—
	Relative Humidity	100%	100%	—				—
	Chemical Spray	BORIC ACID & NaOH pH > 8.5 > 22.5 HRS	3000 PPM BORON PH 9-11 24 HRS	5				—
	Radiation	5×10^7 R	2×10^8 R	6				—
	Aging	—	40 YEARS	—	8,10,11			NO SPECIAL MAINTENANCE
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	NONE	—	—	—	NONE	NOTE B

References:

1. POST ACCIDENT TIME FOR REQUIRED INSTRUMENTATION AND CONTROLS
2. FSAR; FIG. 7.5-5 & QS.82, QS.85
3. NRC SER FOR SALEM (SUPP. 4), NUREG 0517 4/80; PG. 3-10
4. FSAR; FIGS. 7.5-4, 14.3-25, PG. 14.3-56 & QS.82, QS.85
5. FSAR; PG. 6.4-10 & TABLE 6.2-11
6. PSE&G CALCULATIONS FOR RADIATION - ENVIRON. QUAL.
7. PSE&G DOCUMENTATION EVALUATION - EQ07
8. ROCKBESTOS TEST REPORT DATED 3/2/78 (EQ07.00)
9. STONE & WEBSTER THERMAL ANALYSIS 4/24/79 (EQ07.01)
10. WYLE REPORT 17448-12
11. BE&G AGING REVIEW EQ07.02

Notes:

A. CABLES QUALIFIED TO WORSE CASE CONTAINMENT CONDITIONS

B. SOME COMPONENTS MAY BECOME FLOODED AFTER PERFORMING SAFETY FUNCTION FOLLOWING IN-CONTAINMENT ACCIDENT. CABLES ASSOCIATED WITH SUCH COMPONENTS ARE NOT REQUIRED TO BE OPERABLE IN A SUBMERGED STATE.

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: ELECTRICAL CABLING * Identification: REFERENCE SPECIFIC SYSTEM COMPONENT CABLE MARK NUMBER Component: ELECTRICAL CABLES Manufacturer: OKONITE Model: Service: Function: SPECIFIC SYSTEM COMPONENT REFERENCED ABOVE * Accuracy: Spec. N/A Demon. Location: CONTAINMENT (NOTE A)	Operating Time	LOCA/MSLB 120 DAYS	130 DAYS	1	7,8	SEQUENTIAL TEST	NONE	—
	Temperature	271/350°F	345° F FIG. 27A&B	2,3	7,8,9,10	(PREAGED, RADIATION, ACCIDENT)		TIME-TEMP. ANALYSIS PERFORMED
	Pressure	43.2/42.8 PSIA	112 PSIG FIG. 27A&B	4	7,8			—
	Relative Humidity	100%	100%	—				—
	Chemical Spray	BORIC ACID & NaOH pH > 8.5 >22.5 HRS	2000 PPM BORON NaOH PH 10.5 24 HRS	5				—
	Radiation	5×10^7 R	2×10^8 R	6				—
	Aging	—	40 YEARS	—	8,11,2	—	—	NO SPECIAL MAINTENANCE
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	NONE	—	—	—	NONE	NOTE B

References:

1. POST ACCIDENT TIME FOR REQUIRED INSTRUMENTATION AND CONTROLS
2. FSAR; FIG. 7.5-5 & Q5.82, Q5.85
3. NRC SER FOR SALEM (SUPR #), NUREG 0517 4/80; PG. 3-10
4. FSAR; FIGS. 7.5-4, PG. 3-25, PG. 14.3-56 & Q5.82, Q5.85
5. FSAR; PG. 6.4-10 & TABLE 6.2-11
6. PSE&G CALCULATIONS FOR RADIATION - ENVIRON. QUAL.
7. PSE&G DOCUMENTATION EVALUATION - EQ09
8. OKONITE TEST REPORT 11/74 (EQ09.00)
9. OKONITE ENGINEERING REPORT # 141 (EQ 09.01)
10. SYBRON & WEBSTER THERMAL ANALYSIS 1/24/78 (EQ09.03)
11. BOYLE REPORT 17488-8
12. PSE&G AGING REVIEW EQ 09.04

Notes:

A. CABLES QUALIFIED TO WORSE CASE CONTAINMENT CONDITIONS

B. SOME COMPONENTS MAY BECOME FLOODED AFTER PERFORMING SAFETY FUNCTION FOLLOWING IN-CONTAINMENT ACCIDENT. CABLES ASSOCIATED WITH SUCH COMPONENTS ARE NOT REQUIRED TO BE OPERABLE IN A SUBMERGED STATE.

Revision 2

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: ENGINEERED SAFEGUARDS Identification: FAN COOLER MOTOR Component: FAN MOTOR Manufacturer: WESTINGHOUSE Model: SPEC # PSE-RCADCF (UNIT1) SPEC # PNT-RCADCF (UNIT2) Service: MOTIVE POWER TO FAN Function: CONTAINMENT VENTILATION Accuracy: Spec. N/A Demon. Location: CONTAINMENT EL. 130'	Operating Time	LOCA/MSLB 1 YEAR	1 YEAR POST LOCA	8	6,9,10, 11,12	TEST	NONE	—
	Temperature	271°/350°F	[ ] A,B,C	1,2 NOTE A	6,7,9	TEST/ ANALYSIS NOTE B		—
	Pressure	43.2/42.8 PSIG	[ ] A,B,C	3 NOTE A	6,9	TEST		—
	Relative Humidity	100%	[ ] A,B,C	—				—
	Chemical Spray	0.2 WT% NAOH 1.2 WT% BORIC ACID	0.46 WT% NAOH 1.4 WT% BORIC ACID	4				—
	Radiation	5×10^7 R	[ ] A,B,C	5	6,9,13			—
	Aging	—	MOTOR INSULATION & LEADS >40 YRS.	—	6,9,14, 15	TEST/ANALYSIS	—	REFER TO NOTE C FOR MAINTENANCE
Flood Level El: 83'-1" Above Flood Level: YES	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	—

References:

1. FSAR; FIGURE 7.5-5 AND RESPONSE TO Q5.82 AND Q5.85
2. NRC SER FOR SALEM (SUPP. 4), NUREG 0517, 4/80; PAGE 3-10
3. FSAR; FIGURE 14.3-25, PAGE 14.3-52 AND RESPONSE TO Q5.82 AND Q5.85
4. FSAR; PAGE 6.4-10
5. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS
6. WESTINGHOUSE WCAP-7829 (EQ15.00)
7. WESTINGHOUSE LETTER SE-SA II-868 (EQ15.01)
8. SALEM EMERGENCY OPERATING PROCEDURES; I 4.0, I 4.4, I 4.6
9. PSE&G DOCUMENTATION REVIEW EQ 15
10. WCAP-9003 (EQ15.02)
11. WCAP-7498-L (EQ15.03)
12. WCAP-7722 (EQ15.04)
13. WCAP-7343-L (EQ15.05)
14. WCAP-8754 (EQ15.06)
15. PSE&G SALEM LUBRICATION MANUAL

Notes:

A. TEST REQUIREMENTS WERE TO WORST CASE ENVIRONMENTAL CONDITIONS AT SALEM WHICH IS LOCA/MSLB IN CONTAINMENT

B. MOTOR WINDING TEMP CALCULATION TO BE 237°F (300 HP) & 219°F (100 HP) TEST MOTOR QUALIFIED TO HOT SPOT WINDING TEMP OF 251°F (REF #7)

C. PREVENTITIVE MAINTENANCE REQUIRES MOTOR BEARING GREASE TO BE REPLACED EACH REFUELING. FURTHER ANALYSIS OF GASKETS PENDING.

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: ELECTRICAL CABLING Identification: REFERENCE SPECIFIC SYSTEM Component: ELECTRICAL TERMINAL LUG CONNECTORS Manufacturer: BURNDY CORP. Model: HYLUG Service: Function: CONNECTION OF ELECTRICAL CABLES AT EQUIPMENT TERMINAL BLOCKS Accuracy: Spec. N/A Demon. Location: REFERENCE SPECIFIC SYSTEM	Operating Time	LOCA/MSLB 720 DAYS	10 DAYS IN ADVERSE ENVIR. EQUIVALENT TO >320 DAYS	—	6,7	NOTE C	NONE	—
	Temperature	271°/350°F	290°/351°F	1, 2 NOTE A				—
	Pressure	43.2/42.8 PSIG	50/131 PSIG	3 NOTE A				—
	Relative Humidity	100%	100%	—				—
	Chemical Spray	.2WT% NaOH 1.2WT% BORIC ACID	BORIC ACID/NaOH	4				—
	Radiation	5×10^7 R	NOTE B	5	—	—	—	—
	Aging	—	—	—	—	—	—	—
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	

References:

1. FSAR; FIGURE 9.5-5 AND RESPONSE TO Q5.82 & Q5.85
2. NRC SER FOR SALEM (SUPP. 4), NUREG 0517, 4/80; PAGE 3-10
3. FSAR FIGURE 14.3-25, PAGE 14.3-56 & RESPONSE TO Q 5.82 & Q5.85
4. FSAR; PAGE 6.4-10
5. PSE&G EQDATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS
6. CONAX TEST REPORT ITS-400 (EQ19.00)
7. BE&G DOCUMENTATION REVIEW EQ19

NOTES:

A. TEST REQUIREMENTS WERE TO WORST CASE ENVIRONMENT CONDITIONS AT SALEM WHICH IS LOCA/MSLB IN CONTAINMENT
B. TERM. LUGS WERE NOT SUBJECTED TO IRRADIATION PRIOR TO TEST. LUGS ARE METAL & WOULD NOT BE ADVERSELY AFFECTED BY RADIATION.
C. TERM. LUGS WERE USED IN CONJUNCTION WITH TERM. BLOCK TEST (REF. PAGE 64)

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: CONTAINMENT SPRAY Identification: SPIN "PSESIAPCS (UNIT 1) SPW "PNTSIAPCS (UNIT 2) Component: CONTAINMENT SPRAY PUMP MOTOR Manufacturer: WESTINGHOUSE (BUFFALO) Model: Service: CONTAINMENT COOLING Function: DRIVING POWER TO CONTAINMENT SPRAY PUMP Accuracy: Spec. N/A Demon. Location: AUX. BLDG. -84	Operating Time	RECIRC.	>120 DAYS	1, 2	4, 5	TEST	NONE	—
	Temperature	N/A	N/A	N/A	N/A	N/A	N/A	—
	Pressure							—
	Relative Humidity							—
	Chemical Spray							—
	Radiation	<10 3R	1.4X10 8R	3	4,5,6	TEST	NONE	—
	Aging	—	MOTOR INSULATION >40 YEARS	—	4,5,7,8	COMPONENT TEST ANALYSIS		REFER TO NOTE A FOR MAINTENANCE
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	NONE	N/A	NONE	N/A		—

References:

1. SALEM OPERATING PROCEDURES; I-4.0, 4.4, 4.6
2. FSAR; CHP. 6
3. RESULTS OF PSE&G CALCULATIONS IN RESPONSE TO TMI EVALUATIONS (SHIELDING)
4. WESTINGHOUSE REPORT WCAP-8754 (EQ 16.00)
5. PSE&G DOCUMENTATION EVALUATION EQ 16
6. WCAP 7410-L VOL II (EQ 16.01)
7. WCAP-8754 REV. 1 (EQ 16.02)
8. PSE&G SALEM LUBRICATION MANUAL

Notes:

A. PREVENTITIVE MAINTENANCE REQUIRES MOTOR BEARING OIL REPLACEMENT

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: CONTAINMENT PARAMETERS Identification: VARIOUS (REFER TO MASTER LIST) Component: INCORE THERMOCOUPLES Manufacturer: WESTINGHOUSE Model: SPIN ^ RCRIUI (5B3F014) Service: INCORE TEMPERATURE Function: Accuracy: Spec. N/A Demon. Location: CONTAINMENT	Operating Time	LOCA/MSLB		1			NONE	NOTE A
	Temperature	271°/350°F		3,4				
	Pressure	432/42.8 PSIG		5				
	Relative Humidity	100%		—				
	Chemical Spray	.2 wt % NaOH 1.2 wt % BORIC ACID		6				
	Radiation	5×10^7 R		2				
	Aging							
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	

References:

1. SALEM EMERGENCY OPERATING PROCEDURES; I-4.0, 4.4, 4.6
2. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS.
3. FSAR; FIGURE 7.5-5 AND RESPONSE TO Q5.82 & Q5.85
4. NRC SER FOR SALEM (SUPP. 4), NUREG 0517, 4/80; PAGE 3-10
5. FSAR; FIGURE 14.3-25, PAGE 14.3-56 AND RESPONSE TO Q5.82 & Q5.85
6. FSAR; PAGE 6.4-10

Notes:

A. REFER TO BASIS # 33

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: CONTAINMENT PARAMETERS Identification: TA6356 TO 6360Z Component: CONTAINMENT HUMIDITY DETECTORS Manufacturer: FOXBORO Model: 2711AG Service: CONTAINMENT HUMIDITY DETECTOR Function: Accuracy: Spec. N/A Demon. Location: CONTAINMENT	Operating Time	LOCA/MSLB		1.			NONE	NOTE A
	Temperature	271°/350°F		3, 4				
	Pressure	43.2/42.8 PSIG		5				
	Relative Humidity	100%		—				
	Chemical Spray	.2 WT % NAOH 1.2 WT % BORIC ACID		6				
	Radiation	5×10^7 R		2				
	Aging						—	—
Flood Level El: 83'-1" Above Flood Level: YES	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	

References:

1. SALEM EMERGENCY OPERATING PROCEDURES; E-0, E-0, 4, 4 & 6
2. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS.
3. FSAR; FIGURE 7.5-5 AND RESPONSE TO Q5.82 & Q5.85
4. NRC SER FOR SALEM (SUPR 4), NUREG 0517, 4/80; PAGE 3-10
5. FSAR; FIGURE 14.3-25, PAGE 14.3-56 AND RESPONSE TO Q5.82 & Q5.85
6. FSAR; PAGE 6.4-10

Notes:

A. REFER TO BASIS #37

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: CONTAINMENT PARAMETERS (UNIT #1) Identification: RA-4314 (UNIT #1) Component: RADIATION MONITOR Manufacturer: TRAPELO Model: TA-63A Service: CONTAINMENT RADIATION DETECTOR HIGH RANGE Function: Accuracy: Spec. Demon. N/A Location: CONTAINMENT	Operating Time	LOCA/MSLB		1			BASIS #35	N/O DOCUMENTATION AVAILABLE
	Temperature	271°/350°F		3, 4				
	Pressure	43.2/42.8 PSIG		5				
	Relative Humidity	100%		—				
	Chemical Spray	.2 WT % NAOH 1.2 WT % BORIC ACID		6				
	Radiation	5×10^7 R		2				—
	Aging							
Flood Level El. 83'-1" Above Flood Level: YES	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	

References:

1. SALEM EMERGENCY OPERATING PROCEDURES I 4.0, 4.4, 4.6
2. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS.
3. FSAR; FIGURE 7.5-3 AND RESPONSE TO Q5.82 & Q5.85
4. NRC SER FOR SALEM (SUPP. 4), NUREG 0517; 4/80; PAGE 3-10
5. FSAR; FIGURE 14.3-25, PAGE 14.3-56 AND RESPONSE TO Q5.82 & Q5.85
6. FSAR; PAGE 6.4-10

Notes:

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: CONTAINMENT PARAMETERS (UNIT-2) Identification: Component: RADIATION MONITOR Manufacturer: VICTOREEN Model: 877 Service: CONTAINMENT RADIATION, MONITOR HIGH RANGE Function: Accuracy: Spec. N/A Demon. Location: CONTAINMENT	Operating Time	LOCA/MSLB		1	7		BASIS #34	INSUFFICIENT DOCUMENTATION
	Temperature	271°/350°F	357°F FIG. 14	3, 4				
	Pressure	43.2/42.8 PSIG	133 PSIG	5				
	Relative Humidity	100%	100%	—				
	Chemical Spray	.2wt% NaOH 1.2wt% BORIC ACID	YES	6				
	Radiation	5×10^7 R	2×10^8 R	2	—			—
	Aging							
Flood Level El: 83'-1" Above Flood Level: YES	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	

References:

1. SALEM EMERGENCY OPERATING PROCEDURES 1-40.4.4 4.6
2. PSE&G RADIATION CALCULATIONS PER ENVIRONMENT QUALIFICATION REVIEW REQUIREMENTS
3. FSAR, FIGURE 7.5-5 AND RESPONSE TO Q5.82 & Q5.85
4. NRC SER FROM SALEM (SUPP 4) NUREG 0517, 4/80; PAGE 3-10
5. FSAR; FIGURE 14.3-25, PAGE 14.3-56 & RESPONSE TO Q5.82 & Q5.85
6. FSAR; PAGE 6.4-10
7. WYLE REPORT 44152A REV. A

Notes:

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: MISCELLANEOUS (UNIT #2) Identification: 2-R21 Component: Manufacturer: VICTOREEN Model: M865T, M866I M862S, FU, CD M868B Service: CONT. RADIATION MONITOR HIGH RANGE Function: Accuracy: Spec. Demon. N/A Location: ELEC. PEN-78	Operating Time	RECIRC.		1			BASIS #34	INSUFFICIENT DOCUMENTATION
	Temperature	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Pressure	↓	↓	↓	↓	↓	↓	↓
	Relative Humidity	↓	↓	↓	↓	↓	↓	↓
	Chemical Spray	↓	↓	↓	↓	↓	↓	↓
	Radiation	<10⁵R		2			BASIS 34	INSUFFICIENT DOCUMENTATION
	Aging						↓	↓
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	

References:

1. SALEM EMERGENCY OPERATING PROCEDURES; I-4.0, 4.4, 4.5
2. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS.

Notes:

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: MISCELLANEOUS Identification: VARIOUS (REFER TO MASTER LIST) Component: ROD POSITION DETECTOR Manufacturer: WESTINGHOUSE Model: KD-8805-12 Service: ROD POSITION INDICATION Function: Accuracy: Spec. N/A Demon. Location: CONT.	Operating Time	LOCA/MSLB		1			NONE	NOTE A
	Temperature	271°/350°F		3, 4				
	Pressure	43.2/42.8 PSIG		5				
	Relative Humidity	100%		—				
	Chemical Spray	0.2 WT% NaOH 1.2 WT% BORIC ACID		6				
	Radiation	5×10^7R		2				
	Aging							
Flood Level El: 83'-1" Above Flood Level: YES	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	

References:

1. SALEM EMERGENCY OPERATING PROCEDURES; I-4.0, 4.4, 4.6
2. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS.
3. FSAR; FIGURE 7.5-5 AND RESPONSE TO Q 5.82 & Q 5.85
4. NRC SER FOR SALEM (SUPP. 4), NUREG 0517, 4/80; PAGE 3-10
5. FSAR; FIGURE 14.3-23, PAGE 14.3-36 & RESPONSE TO Q 5.82 & Q 5.85
6. FSAR; PAGE 6.4-10

Notes:

A REFER TO BASIS #35

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: MISCELLANEOUS Identification: VARIOUS (REFER TO MASTER LIST) Component: EXCORE NEUTRON DETECTORS Manufacturer: WESTINGHOUSE Model: SR# WL 23706 IR# WL 23707 PR# WL 23708 Service: NEUTRON DETECTION Function: Accuracy: Spec. N/A Demon. Location: CONT.	Operating Time	LOCA/MSLB		1			NONE	NOTE A
	Temperature	271/350°F		3, 4				
	Pressure	432/42.8 PSIG		5				
	Relative Humidity	100 %		—				
	Chemical Spray	0.2 WT % NaOH 1.2 WT % BORIC ACID		6				
	Radiation	5×10^7 RADS		2				
	Aging							
Flood Level El: 83'-1" Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	

References:

1. SALEM EMERGENCY OPERATING PROCEDURES; I-4.0, 4.4, 4.6
2. PSE&G RADIATION CALCULATIONS PER ENVIRONMENT QUALIFICATION REVIEW REQUIREMENTS
3. FSAR; FIGURE 7.5-5 AND RESPONSE TO Q 5.82 & Q 5.85
4. NRC SER FOR SALEM (SUPP. 4), NUREG 0517, 4/80; PAGE 3-10
5. FSAR; FIGURE 14.3-25, PAGE 14.3-36 AND RESPONSE TO Q 5.82 & Q 5.85
6. FSAR; PAGE 6.4-10

Notes:

A REFER TO BASIS #3 FOR PR ONLY. QUALIFICATION NOT REQUIRED FOR SR & IR

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: MISCELLANEOUS Identification: Component: EXCORE NEUTRON DETECTOR PRE-AMP Manufacturer: WESTINGHOUSE Model: 940F231 Service: Function: SOURCE RANGE PRE-AMPLIFIER Accuracy: Spec. Demon. N/A Location: ELEC PEN-78	Operating Time	RECIRC		1			NONE	NOTE A
	Temperature			—				
	Pressure			—				
	Relative Humidity			—				
	Chemical Spray			—				
	Radiation	<10^5R		2				
	Aging							
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	

References:

1. SALEM EMERGENCY OPERATING PROCEDURE; I-4.0 4.4, 4.6
2. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS.

Notes:

A. REFER TO BASIS 13

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: MISCELLANEOUS Identification: NOZZLE SUPPORT FANS Component: MOTORS Manufacturer: WESTINGHOUSE Model: TBFC Service: NOZZLE SUPPORT COOLING Function: MOTIVE POWER TO FAN Accuracy: Spec. N/A Demon. Location: CONT.	Operating Time	MSLB		1			NONE	NOTE A
	Temperature	350°F		3, 4				
	Pressure	42.8 PSIG		5				
	Relative Humidity	100 %		—				
	Chemical Spray	0.2 WT% NaOH 1.2 WT% BORIC ACID		6				
	Radiation	$<10^6$ R		2				—
	Aging						—	—
Flood Level El: 83'-1" Above Flood Level: No	Submergence	—	—	—	—	—	NONE	NOTE A

References:

1. SALEM EMERGENCY OPERATING PROCEDURES; I-4.6
2. PSE&G RADIATION CALCULATIONS PER ENVIRONMENT QUALIFICATION REVIEW REQUIREMENTS
3. FSAR; RESPONSE TO QS82 & QS85
4. NRC SER FOR SALEM (SUPP. 4), NUREG 0517, 4/80; PAGE 3-10
5. FSAR; PAGE 6.4-10

Notes:

A REFER TO BASIS #36

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: MISCELLANEOUS Identification: REACTOR SHIELD VENT FANS Component: MOTORS Manufacturer: WESTINGHOUSE Model: TBAM Service: MOTIVE POWER FOR FAN Function: PROVIDE COOLING TO REACTOR SHIELD + AREA BETWEEN SHIELD AND VESSEL Accuracy: Spec. N/A Demon. Location: CONTAINMENT	Operating Time	MSLB		1			NONE	NOTE A
	Temperature	350°F		2, 3				
	Pressure	42.8 PSIG		2				
	Relative Humidity	100%		——				
	Chemical Spray	0.2 WT% NaOH 1.2 WT% Boric Acid		4				
	Radiation	$< 10^5$ R		5				
	Aging							
Flood Level El: 83'-1" Above Flood Level: YES	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	——

References:

1. SALEM EMERGENCY OPERATING PROCEDURE; I-4.6
2. FSAR; RESPONSE TO QS.82 #0585
3. NRC SER FOR SALEM (SUPP. NO. 4) NUREG 0517, 4/80, PAGES 3-10
4. FSAR; PAGE 6, 4-10
5. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS

Notes:

A REFER TO BASIS #36

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: MISCELLANEOUS Identification: CONTROL ROD DRIVE VENT FANS Component: MOTORS Manufacturer: WESTINGHOUSE Model: 77C27257 Service: COOLING TO ROD DRIVE MECHANISMS Function: MOTIVE POWER FOR FAN Accuracy: Spec. N/A Demon. Location: CONTAINMENT	Operating Time	MSLB		1			NONE	NOTE A
	Temperature	350°F		2,3				
	Pressure	42.8 PSIG		2				
	Relative Humidity	100%		—				
	Chemical Spray	.2 wt% NaOH 1.2 wt% BORIC ACID		4				
	Radiation	$< 10^5$ R		5				
	Aging							
Flood Level El: 83'-1" Above Flood Level: YES	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	—

References:

1. SALEM EMERGENCY OPERATING PROCEDURE; I-4.6
2. FSAR; RESPONSE TO Q5.32
3. NRC SER FOR SALEM (SUPP. 4), NUREG 0517, 4/80 PAGE 2-10
4. FSAR; PAGE 6.4-10
5. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS.

Notes:

A. REFER TO BASIS 36

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: CHARGING / LETDOWN Identification: LIMIT SWITCHES FOR 25378, 25379 & 25310B Component: LIMIT SWITCH Manufacturer: NAMCO Model: EA-170-11302 Service: VALVE POSITION INDICATION Function: OPERATOR INDICATION AND VALVE POSITION Accuracy: Spec. N/A Demon. Location: MECH. PEN. 78	Operating Time	NEBA		2,3			BASIS #26	—
	Temperature	212°F		4				—
	Pressure	1PSIG		4				—
	Relative Humidity	100%		—				—
	Chemical Spray	N/A		—				—
	Radiation	$<5\times10^7$ R		1				—
	Aging	—		—			—	—
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	—

References:

1. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS.
2. FSAR CHAPTER 6
3. SALEM EMERGENCY OPERATING PROCEDURE I-4.0, 4.4, 4.6
4. PSE&G CALCULATIONS PER NEBA, INFORMATION IN FSAR SECTION 14.5

Notes:

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: CONTAINMENT ISOLATION Identification: LIMIT SWITCH FOR IPRIT Component: LIMIT SWITCH Manufacturer: MICROSWITCH Model: LSQ051 Service: POSITION INDICATION Function: Accuracy: Spec. N/A Demon. Location: CONTAINMENT	Operating Time	LOCA/MSLB		1			NONE	NOTE A
	Temperature	271°/350°F		2, 3				
	Pressure	43.2/42.8 PSIG		4				
	Relative Humidity	100%		—				
	Chemical Spray	BORIC ACID NAOH PH>8.5		5				
	Radiation	$<5\times10^7$ R		6				
	Aging	—					—	—
Flood Level El: 83'-1" Above Flood Level: NO	Submergence	—	—	—	—	—	NONE	NOTE A

References:

1. SALEM EMERGENCY OPERATING PROCEDURE; I4.0
2. FSAR Fig. 7.5-5 & RESPONSE TO Q5.85 AND Q5.82
3. NRC SER FOR SALEM (SUPP 4) NUREG 0517 4/80; PAGE 3-10
4. FSAR: FIGURE 14.3-25 & RESPONSE TO Q5.85 AND Q5.82
5. FSAR; PAGE 6.4-10 & TABLE 6.2-11
6. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS

Notes:

A. REFER TO BASIS 18B

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec. *	Qualif.	Spec.	Qualif.			
System: CONTAINMENT ISOLATION Identification: LIMIT SWITCH FOR 1PR18 Component: LIMIT SWITCH Manufacturer: MICROSWITCH Model: LSQ051 Service: POSITION INDICATION Function: Accuracy: Spec. N/A Demon. Location: MECH. PEN. 78	Operating Time	HEBA		1			BASIS #18A	NO DOCUMENTATION AVAILABLE
	Temperature	212°F		2				
	Pressure	1 PSIG		2				
	Relative Humidity	100 %		—				
	Chemical Spray	N/A		—				
	Radiation	$< 5 \times 10^7$ R		3				
	Aging	—					—	—
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	—

References:

1. SALEM EMERGENCY OPERATING PROCEDURE; 14.0
2. PSE&G CALCULATIONS PER HEBA; INFORMATION IN FSAR SECTION 14.5
3. PSE&G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS.

Notes:

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION - ENVIRONMENTAL

QUALIFICATION DATA EVALUATION FORM

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION		QUALIFICATION METHOD	OUTSTANDING ITEMS	REMARKS
	Parameter	Spec.	Qualif.	Spec.	Qualif.			
System: CONTAINMENT ISOLATION Identification: SV0SC8 (UNIT #2)	Operating Time	HEBA <10 SEC.		4			BASIS #17	INSUFFICIENT DOCUMENTATION
Component: SOLENOID VALVE	Temperature	212°F		1				
Manufacturer: ASCO	Pressure	1 PSIG		1				
Model: LB8314B6 Service: PILOT VALVE FOR CONTAINMENT ISOL. VALVE.	Relative Humidity	—		—				
Function: VALVE OPERATION	Chemical Spray	—		—				
Accuracy: Spec. N/A Demon.	Radiation	$<5\times10^7$ R		2	3	ENGINEERING ANALYSIS		
Location: MECH. PENET-78'	Aging	—		—			—	—
Flood Level El: 83'-1" Above Flood Level: N/A	Submergence	N/A	N/A	N/A	N/A	N/A	NONE	—

References:

1. P.S.E/G CALCULATIONS PER NEBA, INFORMATION IN FSAR SECTION 14.5
2. P.S.E/G RADIATION CALCULATIONS PER ENVIRONMENTAL QUALIFICATION REVIEW REQUIREMENTS.
3. RADIATION VALUE IS RECIRC. AND WOULD BE MINIMAL FOR SHORT TERM OPERATION.
4. FSAR: TABLE 3.4-1

Notes:

SALEM NUCLEAR GENERATING STATION
UNITS 1 AND 2
TABLE OF ENVIRONMENTAL QUALIFICATION FOR
SAFETY-RELATED ELECTRICAL/CONTROLS EQUIPMENT
REFERENCE FIGURES

FIGURE 28

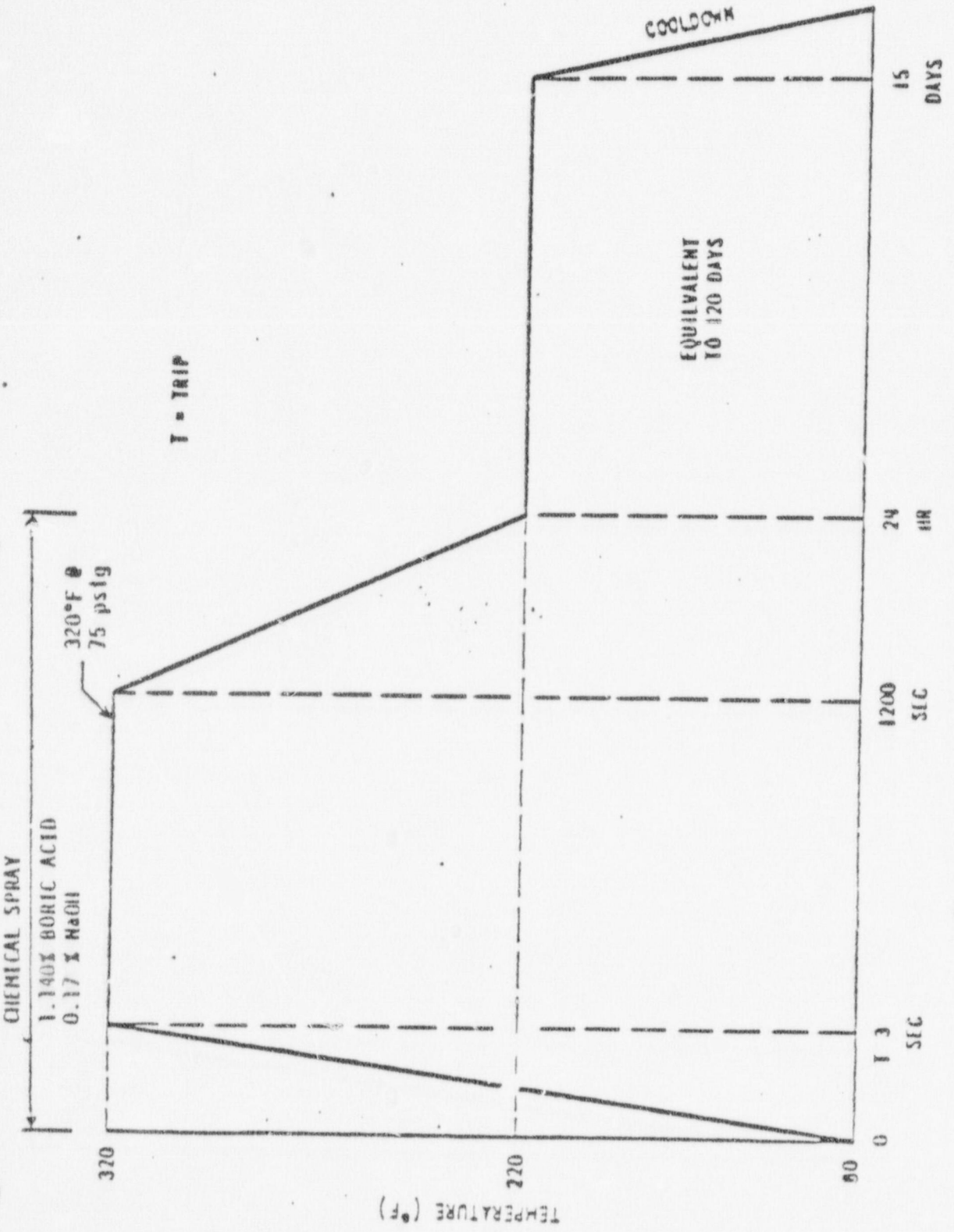

Figure 1-1 Sensor Environmental Qualification Program
Temperature Profile – Transmitters

BARTON 763 AND 764 TRANSMITTERS (LOT 1)
TEST PROFILE
(EXCERPT FROM (W) LETTER NS-TMA-2120)

1,B,C

FIGURE 6C

BARTON [ ]$_{A,C}$ TRANSMITTERS (LOT 2)
TEST RESULTS FOR ACCIDENT SIMULATION
(EXCERPT FROM (L) LETTER NS-THA-2184)

Each piece of equipment has its own service requirements which serve as the baseline for acceptance. Anomalies noted during the test are evaluated to determine that the test results used are not invalidated by the test anomalies.

Failure Criteria: Equipment which fails to perform the required functions because of exposure to harsh environments is considered to be unsuitable for use. Evaluation of all failures or anomalies is made to determine whether the failed condition is a direct result of the harsh environment or due to test method, installation or other phenomenon not associated with the harsh environments specified for Salem. The fact that a failure was encountered, or an anomaly noted, does not necessarily invalidate the test results unless it is attributable to the harsh accident environment. 2 2

The evaluation report addresses failures and anomalies in the test to determine equipment acceptance on this basis. 2

Margins: The comparison of the test parameters with respect to the required performance criteria considered margins to judge the acceptability of the test results. The margins specified in IEEE323-1974 served only as a guide. Many tests were conducted prior to or separate from the requirements of IEEE323-1974. The evaluation process addressed this factor to assure that the test results are conservative with respect to the required conditions. The required operating parameters should be enveloped by the test results. Tests conducted to more severe conditions based on temperature, times, pressures, radiation and installation as compared to Salem were considered to be conservative based on the fact that the Salem environmental profiles are also conservative. Deviations from specified requirements are addressed in the evaluation report as appropriate. Acceptability of the equipment is based on the functions to be performed and its complexity. Justifications are provided for devices performing short term safety functions for which a one hour operating duration is not met. Consideration was given to maximum time for safety function, equipment failure afterwards and post accident operations.

SALEM GENERATING STATION
UNITS 1 AND 2
AGING EVALUATION PROGRAM

In accordance with the requirements of NUREG-0588 (ategory II, item 4) and Bulletin 79-01B (item 7), PSE&G has established an aging evaluation program for electrical and controls equipment which are necessary for the mitigation of the effects of accidents and are located in a harsh environment. Wyle Laboratories, Inc. of Huntsville, Alabama has been retained to assist in this evaluation for Salem.

The aging evaluation program was limited to equipment for which adequate qualification documentation exists to demonstrate equipment operability in an accident environment. Those items which have inadequate documentation and/or are being replaced with qualified equipment by June 30, 1982 were not evaluated. The justification bases of section VII of the report provide adequate information on the interim measures taken to assure plant safety is maintained. The replacement equipment will include aging considerations as part of the qualification documentation.

The aging evaluation program attempted to determine an operating life of the equipment including any special maintenance requirements which would assure that the device would operate properly when exposed to a harsh accident environment. The operating life determination considers the normal conditions for the device such as, ambient temperatures, radiation exposure, cyclical operation, device operating temperatures, etc. In the course of this aging evaluation two concepts are considered, "qualified life" and "expected life".

"Qualified life" is determined directly from the qualification testing when the device has been preaged by an accelerated aging simulation prior to undergoing an accident environment simulation test. The normal equivalent operating life is determined from the accelerated aging using Arrhenius methods. This time span is considered the "qualified life".

Many qualification tests performed in accordance with IEEE 323-1971 requirements did not test preaged devices. For these cases, the aging evaluation resulted in an "expected life" based on an evaluation of material susceptibility to degradation. Such materials may require periodic replacement to assure that the device operates properly when exposed to a harsh accident environment. "Expected life is determined from existing data on known component/material degradation from a variety of sources. It is the time a device can operate under normal conditions without suffering degradation which would prevent it from performing its function. This analysis also uses Arrhenius methods based on an acceptable level of degradation. Since "expected life" is not directly correlated to the accident environment test, it is used to demonstrate that a device will not degrade during normal conditions such that it could not operate in an accident environment. A bench mark "expected life" of 120 years is used to assure that a 40 year service life is reasonable. The "expected life" of a device is based on the least "expected life" of the components/materials used in the device.

The aging evaluation program was performed for Salem using the methods described. The results of the evaluations completed thus far are included in the revised Qualification Data Evaluation Forms of section V of the report.

As a result of the program, some special maintenance practices were identified concerning replacement of gaskets in limit switches and coils/elastomers in solenoid valves at specified intervals. This information is also included in the evaluation forms and will be factored into the Salem maintenance program.

In addition to the special maintenance items identified through the aging evaluation program, many devices presently have a preventative maintenance schedule for the replacement of lubricants which is also noted in the evaluation forms. Periodic testing of the equipment in accordance with Tech Spec surveillance requirements is also part of the maintenance effort to assure the proper working order of said devices.

Although the aging evaluation program was established specifically for the environmental qualification review effort, PSE&G will remain aware of continuing efforts in the industry by the Westinghouse PWR Owners Group, BWR Owners Group and EPRI activities in the area of equipment qualification. In addition as further information is received from manufacturer's, NRC Bulletins and Circulars, licensee event reports and new equipment qualification tests, it will be examined to determine effects on existing conclusions regarding installed equipment at Salem.

PSE&G considers this matter to be an on-going effort and not strictly for the NUREG-0588 and Bulletin 79-01B reviews.

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS SHEET 32 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
REF. JCT. BOX #12	ELECTRICAL CONNECTIONS 1CT3-EQ 1CT34-EQ 1CT1-EQ 1CT36-EQ 1CT5-EQ 1CT40-EQ / 1CT74P-EQ 1CT63-EQ 1CT32-EQ 1CT61-EQ 1CT57-EQ 1CT26-EQ 1CT58-EQ 1CT27-EQ / 1CT75P-EQ	JUNCTION BOX WITH INTEGRAL TERMINAL BLOCK(S) PSE&G DESIGN WITH BUCHANAN BLOCK(S) 2B/12N	CONTAINMENT	LOCA/MSLB 271°/350°F 43.2/42.8 PSIG <5X10⁷R	PAGE 64	NONE	

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS SHEET 33 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
REF. JCT. BOX #12 (CONTD.)	ELECTRICAL CONNECTIONS 1CT59-EQ 1CT28-EQ 1CT24-EQ 1CT54-EQ 1CT19-EQ 1CT53-EQ 1CT22-EQ /1CT71P-EQ 1CT18-EQ 1CT51-EQ 1CT17-EQ 1CT20-EQ 1CT12-EQ 1CT50-EQ /1CT72P-EQ	JUNCTION BOX WITH INTEGRAL TERMINAL BLOCK(S) PSE&G DESIGN WITH BUCHANAN BLOCK(S) 2B112N	CONTAINMENT	LOCA/MSLB 271°/350°F 43.2/42.8PSIG $<5\times10^7$ R	PAGE 64	NONE	

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS SHEET 34 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
REF. JCT. BOX #12 (CONTD.)	ELECTRICAL CONNECTIONS 1CT13-EQ 1CT44-EQ 1CT10-EQ 1CT9-EQ 1CT43-EQ 1CT37-EQ 1CT4-EQ 1CT73P-EQ	JUNCTION BOX WITH INTEGRAL TERMINAL BLOCK(S) PSE&G DESIGN WITH BUCHANAN BLOCK(S) 2B112N	CONTAINMENT	LOCA/MSLB 271°/350°F 43.2/42.8 PSIG <5X10⁷R	PAGE 64	NONE	

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
REF. JCT. BOX #11	ELECTRICAL CONNECTIONS 1CT 2-HQ 1CT 38-HQ 1CT 39-HQ 1CT 35-HQ 1CT 46-HQ 1CT 8-HQ / 1CT69P-HQ 1CT 64-HQ 1CT 31-HQ 1CT 33-HQ 1CT 62-HQ 1CT 65-HQ 1CT 29-HQ / 1CT70P-HQ	JUNCTION BOX WITH INTEGRAL TERMINAL BLOCK(S) PSE&G DESIGN WITH BUCHANAN BLOCK(S) 2B112N	CONTAINMENT	LOCA / MSLB 271°/350°F 43.2/42.8 PSIG $< 5 \times 10^7$ R	PAGE 64	NONE	

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS

SHEET 36 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
REF. JCT. BOX #11 (CONT'D)	ELECTRICAL CONNECTIONS 1CT 16-HQ 1CT 25-HQ 1CT 30-HQ 1CT 60-HQ 1CT 56-HQ 1CT 21-HQ 1CT 23-HQ / 1CT66P-HQ 1CT 55-HQ 1CT 14-HQ 1CT 11-HQ 1CT 15-HQ 1CT 49-HQ 1CT 52-HQ / 1CT67P-HQ	JUNCTION BOX WITH INTEGRAL TERMINAL BLOCK(S) PSE&G DESIGN WITH BUCHANAN BLOCK(S) 2B112N	CONTAINMENT	LOCA / MSLB 271°/350°F 43.2 / 42.8 PSIG $<5 \times 10^7$ R	PAGE 64	NONE	

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS

SHEET 37 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
REF. JCT. BOX. #11 (CONT'D.)	ELECTRICAL CONNECTIONS 1CT41-HQ 1CT47-HQ 1CT 6-HQ 1CT 7-HQ 1CT 42-HQ 1CT 45-HQ 1CT 48-HQ 1CT 68P-HQ	JUNCTION BOX WITH INTEGAL TERMINAL BLOCK(S) PSE&G DESIGN WITH BUCHANAN BLOCK(S) 2B112N	CONTAINMENT	LOCA/MSLB 271°/350°F 43.2/42.8 PSIG $< 5 \times 10^7$ R	PAGE 64	NONE	

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS SHEET 38 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
	SIGNAL WIRES FOR THERMOCOUPLES	CABLES FROM GENERIC GROUPINGS	CONTAINMENT & OTHERS	LOCA / MSLB 271°/350°F 43.2/42.8 PSIG <5X10⁷R (CONTAINMENT ONLY)	PAGES 67 THROUGH 73	BASIS #1	CABLING QUALIFIED TO WORST CASE ENVIRONMENT
1CT3-EQ	TA 4329						
1CT34-EQ	TA 4434						
1CT1-EQ	TA 4112						
1CT36-EQ	TA 4436						
1CT5-EQ	TA 4331						
1CT40-EQ	TA 4500						

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS SHEET 39 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
	SIGNAL WIRES FOR THERMOCOUPLES	CABLES FROM GENERIC GROUPINGS	CONTAINMENT & OTHERS	LOCA/MSLB 271°/350°F 43.2/42.8 PSIG $<5\times10^{7}$R (CONTAINMENT ONLY)	PAGES 67 THROUGH 73	BASIS #1	CABLING QUALIFIED TO WORST CASE ENVIRONMENT
1CT74P-EQ AND 1CT74-EQ	TA 4329						
	TA 4494						
	TA 4112						
	TA 4496						
	TA 4331						
	TA 4500						

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS SHEET 40 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
	SIGNAL WIRES FOR THERMOCOUPLES	CABLES FROM GENERIC GROUPINGS	CONTAINMENT & OTHERS	LOCA/MSLB 271°/350°F 43.2/42.8 PSIG $<5\times10^7$ R (CONTAINMENT ONLY)	PAGES 67 THROUGH 73	BASIS #1	CABLING QUALIFIED TO WORST CASE ENVIRONMENT
ICT 63-EQ	TA 4547						
ICT 32-EQ	TA 4492						
ICT 61-EQ	TA 4545						
ICT 57-EQ	TA 4541						
ICT 26-EQ	TA 4418						
ICT 58-EQ	TA 4542						
ICT 27-EQ	TA 4419						

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
	SIGNAL WIRES FOR THERMOCOUPLES	CABLES FROM GENERIC GROUPINGS	CONTAINMENT & OTHERS	LOCA/MSLB 271°/350°F 43.2/42.8 PSIG <5x10⁷R (CONTAINMENT ONLY)	PAGES 67 THROUGH 73	BASIS #1.	CABLING QUALIFIED TO WORST CASE ENVIRONMENT
ICT 75P-EQ AND ICT 75-EQ	TA 4547						
	TA 4492						
	TA 4545						
	TA 4541						
	TA 4418						
	TA 4542						
	TA 4419						

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS SHEET 42 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
	SIGNAL WIRES FOR THERMOCOUPLES	CABLES FROM GENERIC GROUPINGS	CONTAINMENT & OTHERS	LOCA/MSLB 271°/350°F 43.2/42.8 PSIG $<5\times10^7$R (CONTAINMENT ONLY)	PAGES 67 THROUGH 73	BASIS #1	CABLING QUALIFIED TO WORST CASE ENVIRONMENT
ICT 2-NQ	TA 4328						
ICT 38-NQ	TA 4438						
ICT 39-NQ	TA 4439						
ICT 35-NQ	TA 4495						
ICT 46-NQ	TA 4506						
ICT 8-NQ	TA 4334						

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS

SHEET 43 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
	SIGNAL WIRES FOR THERMOCOUPLES	CABLES FROM GENERIC GROUPINGS	CONTAINMENT & OTHERS	LOCA/MSLB 271°/350°F 43.2/42.8 PSIG $<5\times10^{7}$R (CONTAINMENT ONLY)	PAGES 67 THROUGH 73	BASIS #1	CABLING QUALIFIED TO WORST CASE ENVIRONMENT
ICT 69P-NQ AND ICT 69-NQ	TA 4328						
	TA 4498						
	TA 4499						
	TA 4495						
	TA 4506						
	TA 4334						

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS SHEET 44 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
	SIGNAL WIRES FOR THERMOCOUPLES	CABLES FROM GENERIC GROUPINGS	CONTAINMENT & OTHERS	LOCA/MSLB 271°/350°F 43.2/42.8 PSIG $<5\times10^7$R (CONTAINMENT ONLY)	PAGES 67 THROUGH 73	B.9.5.1 #1	CABLING QUALIFIED TO WORST CASE ENVIRONMENT
ICTC4-NQ	TA 4548						
ICT31-NQ	TA 4491						
ICT33-NQ	TA 4493						
ICTC2-NQ	TA 4546						
ICTC5-NQ	TA 4549						
ICT29-NQ	TA 4489						

Revision 2

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM Containment Parameters SHEET 45 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFI-CATION	OUTSTANDING ITEMS	REMARKS
	SIGNAL WIRES FOR THERMOCOUPLES	CABLES FROM GENERIC GROUPINGS	CONTAINMENT & OTHERS	LOCA/MSLB 271°/350°F 43.2/42.8 PSIG $<5\times10^{7}$R (CONTAINMENT ONLY)	PAGES 67 THROUGH 73	BASIS #1	CABLING QUALIFIED TO WORST CASE ENVIRONMENT
1CT70P-HQ AND 1CT70-HQ	TA 4548						
	TA 4491						
	TA 4493						
	TA 4546						
	TA 4549						
	TA 4489						

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS SHEET 46 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
	SIGNAL WIRES FOR THERMOCOUPLES	CABLES FROM GENERIC GROUPINGS	CONTAINMENT & OTHERS	LOCA/MSLB 271°/350°F 43.2/42.8 PSIG $<5\times10^7$R (CONTAINMENT ONLY)	PAGES 67 THROUGH 73	BASIS #1	CABLING QUALIFIED TO WORST CASE ENVIRONMENT
ICT 16-HQ	TA 4342						
ICT 25-HQ	TA 4417						
ICT 30-HQ	TA 4490						
ICT 60-HQ	TA 4544						
ICT 56-HQ	TA 4540						
ICT 21-HQ	TA 4347						
ICT 23-HQ	TA 4415						

Revision 2

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS SHEET 47 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
	SIGNAL WIRES FOR THERMOCOUPLES	CABLES FROM GENERIC GROUPINGS	CONTAINMENT & OTHERS	LOCA/MSLB 271°/330°F 43.2/42.8 PSIG $< 5 \times 10^7$ R (CONTAINMENT ONLY)	PAGES 67 THROUGH 73	BASIS # 1	CABLING QUALIFIED TO WORST CASE ENVIRONMENT
ICT 66P-HQ AND ICT 66-HQ	TA 4342						
	TA 4417						
	TA 4490						
	TA 4544						
	TA 4540						
	TA 4347						
	TA 4415						

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS SHEET 48 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
	SIGNAL WIRES FOR THERMOCOUPLES	CABLES FROM GENERIC GROUPINGS	CONTAINMENT & OTHERS	LOCA/MSLB 271°/350°F 43.2/42.8 PSIG $<5\times10^{7}$R (CONTAINMENT ONLY)	PAGES 67 THROUGH 73	BASIS #1	CABLING QUALIFIED TO WORST CASE ENVIRONMENT
1CT55-HQ	TA 4539						
1CT14-HQ	TA 4340						
1CT11-HQ	TA 4337						
1CT15-HQ	TA 4341						
1CT49-HQ	TA 4509						
1CT52-HQ	TA 4536						

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS SHEET 43 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
	SIGNAL WIRES FOR THERMOCOUPLES	CABLES FROM GENERIC GROUPINGS	CONTAINMENT & OTHERS	LOCA/MSLB 271°/350°F 43.2/42.8 PSIG $<5\times10^7$R (CONTAINMENT ONLY)	PAGE 67 THROUGH 73	BASIS #1	CABLING QUALIFIED TO WORST CASE ENVIRONMENT
1CT67P-HQ AND 1CT67-HQ	TA 4539						
	TA 4340						
	TA 4337						
	TA 4341						
	TA 4509						
	TA 4536						

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS SHEET 50 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
	SIGNAL WIRES FOR THERMOCOUPLES	CABLES FROM GENERIC GROUPINGS	CONTAINMENT & OTHERS	LOCA / MSLB 271°/350°F 43.2/42.8 PSIG $< 5 \times 10^7$ R (CONTAINMENT ONLY)	PAGES 67 THROUGH 73	BASIS #1	CABLING QUALIFIED TO WORST CASE ENVIRONMENT
1CT41-NQ	TA4501						
1CT47-NQ	TA4507						
1CT6-NQ	TA4432						
1CT7-NQ	TA4433						
1CT42-NQ	TA4502						
1CT45-NQ	TA4505						
1CT48-NQ	TA4508						

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS

SHEET 51 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
1CT68P-HQ AND 1CT68-HQ	SIGNAL WIRES FOR THERMOCOUPLES TA4501, TA4507, TA4432, TA4433, TA4502, TA4505, TA4508	CABLES FROM GENERIC GROUPINGS	CONTAINMENT & OTHERS	LOCA/MSLB 271°/350°F 43.2/42 PSIG <5X10⁷R (CONTAINMENT ONLY)	PAGES 67 THROUGH 73	BASIS #1	CABLING QUALIFIED TO WORST CASE ENVIRONMENT

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS

SHEET 52 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
	SIGNAL WIRES FOR THERMOCOUPLES	CABLES FROM GENERIC GROUPINGS	CONTAINMENT & OTHERS	LOCA/MSLB 271°/350°F 43.2/42.8 PSIG <5X10⁷R (CONTAINMENT ONLY)	PAGES 67 THROUGH 73	BASIS #1	CABLING QUALIFIED TO WORST CASE ENVIRONMENT
1CT59-EQ	TA4543						
1CT28-EQ	TA4488						
1CT24-EQ	TA4416						
1CT54-EQ	TA4538						
1CT29-EQ	TA4345						
1CT53-EQ	TA4537						
1CT22-EQ	TA4111						

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS

SHEET 53 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
1CT71P-EQ AND 1CT71-EQ	SIGNAL WIRES FOR THERMOCOUPLES TA4543 TA4488 TA4416 TA4538 TA4345 TA4537 TA4116	CABLES FROM GENERIC GROUPINGS	CONTAINMENT & OTHERS	LOCA/MSLB 271°/350°F 43.2/42.8 PSIG <5X10⁷R (CONTAINMENT ONLY)	1 73	BASIS #1	CABLING QUALIFIED TO WORST CASE ENVIRONMENT

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS

SHEET 54 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
	SIGNAL WIRES FOR THERMOCOUPLES	CABLES FROM GENERIC GROUPINGS	CONTAINMENT & OTHERS	LOCA/MSLB 271°/350°F 43.2/42.8 PSIG (5X10⁷R (CONTAINMENT ONLY)	PAGES 67 THROUGH 73	BASIS #1	CABLING QUALIFIED TO WORST CASE ENVIRONMENT
1CT18-EQ	TA4344						
1CT51-EQ	TA4511						
1CT17-EQ	TA4343						
1CT20-EQ	TA4346						
1CT12-EQ	TA4338						
1CT50-EQ	TA4510						

SALEM GENERA ING STATION
UNITS 1 AN
EQUIPMENT Q. LIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS

SHEET 55 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFI-CATION	OUTSTANDING ITEMS	REMARKS
	SIGNAL WIRES FOR THERMCOUPLES	CABLES FROM GENERIC GROUPINGS	CONTAINMENT & OTHERS	LOCA/MSLB 271°/350° F 43.2/44.8 PSIG $<5\times10^7$ R (CONTAINMENT ONLY)	PAGES 67 THROUGH 73	BASIS #1	CABLING QUALIFIED TO WORST CASE ENVIRONMENT
1CT72P-EQ AND 1CT72-EQ	TA4344	↓	↓	↓	↓	↓	↓
↓	TA4511						
	TA4343						
	TA4346						
	TA4338						
	TA4510						

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS SHEET 56 OF 66

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
	SIGNAL WIRES FOR THERMOCOUPLES	CABLES FROM GENERIC GROUPINGS	CONTAINMENT & OTHERS	LOCA/MSLB 271°/350°F 43.2/42.8 PSIG $<5\times10^7$ R (CONTAINMENT ONLY)	PAGES 67 THROUGH 73	BASIS #1	CABLING QUALIFIED TO WORST CASE ENVIRONMENT
1CT13-EQ	TA4339						
1CT44-EQ	TA4054						
1CT10-EQ	TA4336						
1CT9-EQ	TA4335						
1CT43-EQ	TA4503						
1CT37-EQ	TA4497						
1CT4-EQ	TA4330						

SALEM GENERATING STATION
UNITS 1 AND 2
EQUIPMENT QUALIFICATION -
ENVIRONMENTAL

MASTER LIST
ELECTRICAL/CONTROLS EQUIPMENT LOCATED IN AN
ADVERSE ENVIRONMENT AND SPECIFIED TO FUNCTION
UNDER POSTULATED ACCIDENT CONDITIONS

SYSTEM CONTAINMENT PARAMETERS

IDENTIFICATION	SERVICE	TYPE, MANUFACTURER MODEL	LOCATION	ENVIRONMENT	QUALIFICATION	OUTSTANDING ITEMS	REMARKS
1CT73P-EQ AND 1CT73-EQ	SIGNAL WIRES FOR THERMOCOUPLES TA4339, TA4504, TA4336, TA4335, TA4503, TA4497, TA4330	CABLES FROM GENERIC GROUPINGS	CONTAINMENT & OTHERS	LOCA/MSLB 271°/350°F 43.2/42.8 PSIG $<5 \times 10^7$ R (CONTAINMENT ONLY)	PAGES 67 THROUGH 73	BASIS #1	CABLING QUALIFIED TO WORST CASE ENVIRONMENT