



Omaha Public Power District

1623 HARNEY • OMAHA, NEBRASKA 68102 • TELEPHONE 536-4000 AREA CODE 402

March 25, 1982
LIC-82-134

Mr. Robert A. Clark, Chief
U. S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Licensing
Operating Reactors Branch No. 3
Washington, D.C. 20555



Reference: Docket No. 50-285

Dear Mr. Clark:

Enclosure 13 to the Omaha Public Power District's letter dated August 26, 1981, concerning environmental qualification of safety-related electrical equipment, provided a list of outstanding items that the District had yet to complete to ensure Fort Calhoun Station electrical equipment and components are environmentally qualified. Items 11 and 12 of the subject enclosure involve the replacement of certain harsh environment limit switches and solenoid valves in containment and the auxiliary building, respectively. The District replaced these limit switches and solenoid valves with IEEE 323-1974 qualified components during the 1981 refueling outage. Accordingly, the District submits the attached revised system component evaluation worksheets (SCEWS) which incorporate the new qualification information and replace the corresponding SCEWS in Enclosure 6 of the District's August 26, 1981 letter. Please note that the attached SCEWS pages 6-1D, 6-44, and 6-59a provide new data not previously included in Enclosure 6. The solenoids identified on these pages were also replaced with IEEE 323-1974 qualified ASCO solenoids and are now included with the other SCEWS of Enclosure 6.

Enclosure 13 has been revised to reflect the completion of Items 11 and 12. Items 2, 4, and 15 of Enclosure 13 have also been updated to reflect current information. The revised Enclosure 13 is attached.

Sincerely,

W. C. Jones
Division Manager
Production Operations

Attachments

cc: LeBoeuf, Lamb, Leiby & MacRae
1333 New Hampshire Avenue, N.W.
Washington, D.C. 20036

Enclosure 13
Outstanding Items

1. The aging and qualified life maintenance program will be implemented by June 30, 1982.
- 2.* FT-236 was relocated from a harsh environment to a "normal room environment" (the corridor outside of Room 13) during the 1981 refueling outage.
3. The Conax penetration testing will be completed by June 30, 1982.
4. The District has completed a submergence evaluation and expects to move the following electrical equipment above the flood level in containment during the 1983 refueling outage:

Limit Switches
and Solenoids

Limit Switches Only

Flow Transmitters

HCV-467A
HCV-467C
HCV-438A
HCV-438C
HCV-1387A
HCV-1388A

HCV-238
HCV-239

FT-313
FT-316
FT-319
FT-322

5. The District plans to re-evaluate the radiation dose received by equipment just above the containment flood level. This will be completed by June 30, 1982.
6. In investigating the effects of chemical spray, the FSAR value of 1700 ppm boron was used. In discussions with the plant staff, the concentration for the Safety Injection and Refueling Water Storage Tank is maintained at up to 2500 ppm boron. The District feels that this will not effect the equipment; however, the question is being re-evaluated. This will be completed by June 30, 1982.
7. To ensure proper evaluation of the radiation effects in containment, the District requests the NRC's concurrence on its use of the DOR guidelines to establish containment radiation doses.
8. The District plans to do plant specific radiation calculations for Auxiliary Feedwater Valves HCV-1107A and HCV-1108A due to their proximity to the RCS.

The District plans to do plant specific calculations for VA-3A and VA-3B due to their proximity to the charcoal filters. This will be completed by June 30, 1982.
9. The District will complete evaluation of FT-416, 417, 418, and 419 by June 30, 1982.

Enclosure 13
Outstanding Items (Continued)

10. The District plans to complete testing of the Fisher 304 limit switch by June 30, 1982.
- 11.* The limit switches and Valcor solenoid valves in containment were replaced with environmentally qualified components during the 1981 refueling outage.
- 12.* The solenoid valves and limit switches in the auxiliary building were replaced with environmentally qualified components during the 1981 refueling outage.
13. TE 866 and TE 867 will be replaced during the first refueling outage after receipt of qualified parts.
14. Qualified Safety Related Equipment will be identified and marked with orange in the control room and operator training will be completed by June 30, 1982.
15. Conax Corporation has verified that the concentration of boron used in the chemical concentration qualification of their Conax seals was an acceptable 3000 parts per million. Conax Corporation has also confirmed in the same letter that their seals are qualified for a design life of 40 years (reference Conax letter from W. C. Frederick to R. F. Mehaffey (OPPD) dated February 5, 1982). The SCEWS have been revised to reflect this information and will be provided to the Commission by May 1, 1982.

*These items are complete.

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Charcoal Spray System Item No.: HCV-865, 864 Component: Solenoid Manufacturer: ASCO Model No.: NP-8321A185E Function: Remote Operation of Valves Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Containment	Time	Intermittent Note 1	Note 2	Note 2	2	Type Test	NONE
	Temperature °F	305°F	340°F	1	2	Type Test	NONE
	Pressure PSig	60 psig	110 psig	1	2	Type Test	NONE
	Relative Humidity %	100%	100%	1	2	Type Test	NONE
	Chemical Spray	1700 ppm Boron	3000 ppm Boron PH10	1	2	Type Test	NONE
	Radiation	3x10 ⁶ R	2.04x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	10 yrs	N/A	3	Type Test	NONE
Flood Level Elev: 1000.9' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	Type Test	NONE

Documentation References:

- 1) Enclosure #1
- 2) ASCO Test Report No. AQS 21678/TR
- 3) ASCO Letter Dated July 10, 1980

Present Qualification:

IEEE 323-1974

Notes:

- 1) Required to operate intermittently during an accident.
- 2) Radiation is limiting, qualification shown adjusting 1.92x10⁷R for 1000 HR using DOR Guideline NoMagrams qualification is adequate.

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Chemical & Volume Control Item No.: HCV-204 HCV-206 Component: Solenoid Valve Manufacturer: ASCO Model No.: NP 8320A185E Function: Valve Actuators for CVCC Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 13	Operating Time	1000 hrs	1000 hrs	Note 1	2	Type Test	NONE
	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSig	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	4x10 ⁶ R	2x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	10 yrs	N/A	3	Type Test	NONE
	Submergence	N/A	N/A	N/A	N/A	N/A	NONE
Flood Level Elev: N/A Above Flood Level:							

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 17, Figure 4.2-2 (December 1979)
- 2) ASCO Test Report Model AQS 21678/TR
- 3) ASCO letter dated July 10, 1980

Notes:

- 1) See Enclosure #14

Present Qualification

IEEE 323-1974

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Auxiliary Feedwater System Item No.: HCV-1107A, HCV-1108A Component: Solenoid Manufacturer: ASCO Model No.: NP-8320A175E Function: Remote Operation of Valves Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Containment	Time	1000 hrs	Note 1	Note 1	2	Type Test	NONE
	Temperature °F	305°F	340°F	1	2	Type Test	NONE
	Pressure PSIG	60 psig	110 psig	1	2	Type Test	NONE
	Relative Humidity %	100%	100%	1	2	Type Test	NONE
	Chemical Spray	1700 ppm Boron	3900 ppm Boron PH10	1	2	Type Test	NONE
	Radiation	3x10 ⁶ R	2.04x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	10 yrs	N/A	3	Type Test	NONE
Flood Level Elev: 1000.9' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) Enclosure #1
- 2) ASCO Test Report No. AQS 21678/TR
- 3) ASCO Letter Dated July 10, 1980

Notes:

- 1) Radiation is limiting, qualification shown adjusting 1.92x10⁷R for 1000 HR using DOR Guideline NoMagrams qualification is adequate.

Present Qualification:

IEEE 323-1974

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFI- CATION METHOD	OUTSTAND- ING ITEMS
	Parameter	Specifi- cation	Qualif- cation	Specifi- cation	Qualifi- cation		
System: Component Cooling Item No.: HCV-2898A,B and HCV-2899A,B Component: Solenoid Valve Manufacturer: ASCO Model No.: NP 8320A185E Function: CCW inlet and disch valves Accuracy - Spec: N/A Demon: N/A Service: CCW inlet & disch vv for cont run HVAC units VA-46A, B Location: Room 81	Operating Time	Note 1	1000 hrs	N/A	2	Type Test	NONE
	Tempera- ture °F	216°F	346°F	1	2	Type Test	NONE
	Pressure PSI _g	1.2 psig	110 psig	1	2	Type Test	NONE
	Relative Humidity %	100%	100%	1	2	Type Test	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	N/A	N/A	N/A	N/A	N/A	NONE
	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
Flood Level Elev: 1037.4' Above Flood Level: Yes	Submer- gence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) See Enclosure #2
- 2) ASCO Test Report Model AQS 21678/TR

Present Qualification

IEEE 323-1974

Notes:

- 1) VV's are required to operate only if there is a failure of the Component Cooling System. They function to block CCW flow and are normally open and de-energized.

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Component Cooling	Operating Time	1000 hrs	1000 hrs	Note 1	1	Type Test	NONE
Item No.: HCV-2808A, 2808B, 2810A, 2810B, 2812A, 2812B, 2813A, 2813B	Temperature °F	109°F	346°F	2	1	Type Test	NONE
Component: Solenoid Valve	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
Manufacturer: ASCO	Relative Humidity %	100%	100%	2	1	Type Test	NONE
Model No.: NP 8320A185E	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
Function: Valve Actuators for inlet & outlet valves for SI & Spray pumps bearing coolers.	Radiation	7x10 ⁶ R	2x10 ⁸ R	3	1	Type Test	NONE
Accuracy - Spec: N/A Demon: N/A Service: See Function	Aging	N/A	10 yrs	N/A	1	Type Test	NONE
Location: Room 21 (SI pumps)	Submergence	N/A	N/A	N/A	N/A	N/A	NONE
Flood Level Elev: N/A Above Flood Level:							

Documentation References:

- 1) ASCO Test Report Model AQS 21678/TR
- 2) Combustion Engineering study "Evaluation of Fort Calhoun Safety Injection Pump Room Temperature following a Loss of Coolant Accident. (See OPPD letter to the NRC dated 9/6/79)
- 3) Implementation Methods and Schedules for NUREG-0578 Section 2.1.6B Page 16, Figure 4.2-1 (December 1979)

Notes:

- 1) Valves are locked open and do not operate during an event. (See Enclosure #14).

Present Qualification

IEEE 323-1974

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Component Cooling	Operating Time	Note 1 1000 hrs	1000 hrs	Note 2	3	Type Test	NONE
Item No.: HCV-2809A, 2809B, 2811A, 2811B, 2814A, 2814B, 2815A, 2815B	Temperature °F	109°F	346°F	1	3	Type Test	NONE
Component: Solenoid Valve	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
Manufacturer: ASCO	Relative Humidity %	100%	100%	1	3	Type Test	NONE
Model No.: NP 8320A185E	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
Function: Valve Actuators for inlet & outlet valves for SI & Spray pumps bearing coolers.	Radiation	7x10 ⁶ R	2x10 ⁸ R	2	3	Type Test	NONE
Accuracy - Spec: N/A Demon: N/A Service: See Function	Aging	N/A	10 yrs	N/A	3	Type Test	NONE
Location: Room 22 (SI pumps)	Submergence	N/A	N/A	N/A	N/A	N/A	NONE
Flood Level Elev: N/A Above Flood Level:							

Documentation References:

- 1) Combustion Engineering study "Evaluation of Fort Calhoun Safety Injection Pump Room Temperature following a Loss of Coolant Accident. (See OPPD letter to the NRC dated 9/6/79)
- 2) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 16, Figure 4.2-1 (December 1979)
- 3) ASCO Test Report Model AQS 21678/TR

Notes:

- 1) See Enclosure #18.
- 2) Values are locked open and do not operate during an event. See Enclosure #14.

Present Qualification

IEEE 323-1974

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFI- CATION METHOD	OUTSTAND- ING ITEMS
	Parameter	Specifi- cation	Qualif- cation	Specifi- cation	Qualifi- cation		
System: Component Cooling Item No.: HCV-467B,D HCV-438B,D Component: Solenoid Valve Manufacturer: ASCO Model No.: NP 8320A185E Function: Valve Actuators for Component Cooling Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 13	Operating Time	1000 hrs	1000 hrs	Note 1	2	Type Test	NONE
	Tempera- ture °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSI _g	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	4x10 ⁶ R	2x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
	Submer- gence	N/A	N/A	N/A	N/A	N/A	NONE
Flood Level Elev: N/A Above Flood Level:							

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578"
Section 2.1.6B Page 17, Figure 4.2-2 (December 1979)
- 2) ASCO Test Report Model AQS 21678/TR

Notes:

- 1) See Enclosure #14

Present Qualification

IEEE 323-1974

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Component Cooling Item No.: HCV-425B HCV-425D Component: Solenoid Valve Manufacturer: ASCO Model No.: NP 8314C29E Function: Valve Actuators for Component Cooling Leakage Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 59	Operating Time	1000 hrs	1000 hrs	Note 1	2	Type Test	NONE
	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	8x10 ⁵ R	2x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578"
Section 2.1.6B Page 18, Figure 4.2-3 (December 1979)
- 2) ASCO Test Report Model AQS 21678/TR

Notes:

- 1) See Enclosure #14

Present Qualification

IEEE 323-1974

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Component Cooling Item No.: HCV-400A,B,C,D HCV-401A,B,C,D - HCV-402A,B,C,D HCV-403A,B,C,D Component: Solenoid Valve Manufacturer: ASCO Model No.: NP 8314C29E Function: Valve Actuators for Component Cooling water to cont. air cooling units Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 69	Operating Time	1000 hrs	1000 hrs	Note 1	2	Type Test	NONE
	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSig	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	2.5x10 ⁵ R	2x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578"
Section 2.1.6b Page 19, Figure 4.2-4 (December 1979)
- 2) ASCO Test Report Model AQS 21678/TR

Notes:

- 1) See Enclosure #14

Present Qualification

IEEE 323-1974

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Component Cooling	Operating Time	1000 hrs	Continuous	Note 2	1	Type Test	NONE
Item No.: HCV-400A,B,C,D HCV-401A,B,C,D - HCV-402A,B,C,D HCV-403A,B,C,D	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
Component: Limit Switch	Pressure PSig	N/A	N/A	N/A	N/A	N/A	NONE
Manufacturer: NAMCO	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
Model No.: EA-180	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
Function: Valve Actuators for Component Cooling water to cont. air cooling units	Radiation	2.5x10 ⁵ R	2.04x10 ⁸ R	2	1	Type Test	NONE
Accuracy - Spec: N/A Demon: N/A Service: See Function	Aging	N/A	Note 1	N/A	Note 1	N/A	NONE
Location: Room 69	Submergence	N/A	N/A	N/A	N/A	N/A	NONE
Flood Level Elev: N/A Above Flood Level:							

Documentation References:

- 1) NAMCO Test Report Model EA 180
September 5, 1978
- 2) "Implementation Methods and Schedules for NUREG-0578"
Section 2.1.6B, Page 19 Figure 4.2-4 (December 1979)

Notes:

- 1) Switches qualified for 40 years using NAMCO recommended maintenance. NAMCO letter dated 7/16/30.
- 2) See Enclosure #14.

Present Qualification

IEEE 323-1974

4574/a-8/g

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Component Cooling System Item No.: HCV-438A, HCV-438C, HCV-467A, HCV-467C Component: Limit Switch Manufacturer: NAMCO Model No.: EA-180-11302 Function: Position Indication for Valves Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Containment	Time	Continuous	Continuous	1	2	Type Test	NONE
	Temperature °F	305°F	340°F	1	2	Type Test	NONE
	Pressure PSIG	60 psig	70 psig	1	2	Type Test	NONE
	Relative Humidity %	100%	100%	1	2	Type Test	NONE
	Chemical Spray	1700 ppm Boron	PH 10-11 Boron	1	2	Type Test	NONE
	Radiation	Note 3	2.04x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	Note 2	Note 2	10 yrs Note 2	Type Test	NONE
Flood Level Elev: 1000.9' Above Flood Level: Yes	Submergence	Note 1	Note 1	N/A	N/A	Type Test Note 1	NONE

Documentation References:

- 1) Enclosure #1
- 2) NAMCO Test Report Model EA 180
September 5, 1978

Present Qualification:

IEEE 323-1974

Notes:

- 1) The switches were sealed & tested to 70 PSIG. The District considers them capable of withstanding submergence.
- 2) Switches qualified for 40 years using NAMCO recommended maintenance. NAMCO letter dated 7/16/80.
- 3) 9/72x10⁶R for HCV-467C, Sector A + A'; 1.722x10⁷R for HCV-467A, Sector A + A' + B; 5.34x10⁶R for HCV-438A, Sector A; 4.38x10⁶R for HCV-438C, Sector A'.
- 4) HCV-438C, HCV-467A, & HCV-467C may be subject to submergence.

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Component Cooling System Item No.: HCV-438A, HCV-438C, Component: Solenoid Manufacturer: ASCO Model No.: NP-8320A185E Function: Remote Operation of Valves Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Containment	Time	1000 hrs	Note 2	Note 2	2	Type Test	NONE
	Temperature °F	305°F	340°F	1	2	Type Test	NONE
	Pressure PSIG	60 psig	110 psig	1	2	Type Test	NONE
	Relative Humidity %	100%	100%	1	2	Type Test	NONE
	Chemical Spray	1700 ppm Boron	3000 ppm Boron PH10	1	2	Type Test	NONE
	Radiation	3x10 ⁶ R/hr Submerged	2x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
Flood Level Elev: 1000.9' Above Flood Level: No	Submergence	Note 1	Note 1	Note 1	Note 1	Type Test	NONE

Documentation References:

- 1) Enclosure #1
- 2) ASCO Test Report No. AQS 21678/TR

Present Qualification:

IEEE 323-1974

Notes:

- 1) The solenoids may be subject to submergence. An evaluation has been conducted to determine radiation exposure and suitability for the subsequent environment. The District feels there is some question to the submergence qualification so an EEAR (FC-81-123) was issued to have the solenoids moved above flood level.
- 2) Radiation is limiting qualification shown adjusting 1.92x10⁷R for 1000 HR using DOR Guidelines, Nomagrans qualification is adequate.

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFI- CATION METHOD	OUTSTAND- ING ITEMS
	Parameter	Specifi- cation	Qualif- cation	Specifi- cation	Qualifi- cation		
System: Containment HVAC Item No.: PCV-742A, 742C Component: Limit Switch Manufacturer: NAMCO Model No.: EA-180 Function: Position Indication Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Containment	Time	Continuous	Continuous	Note 1	2	Type Test	NONE
	Temperature °F	305°F	340°F	1	2	Type Test	NONE
	Pressure PSig	60 psig	110 psig	1	2	Type Test	NONE
	Relative Humidity %	100%	100%	1	2	Type Test	NONE
	Chemical Spray	1700 ppm Boron	PH 10-11 Boron	1	2	Type Test	NONE
	Radiation	Note 1	2.04x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	Note 2	N/A	2	Type Test	NONE
Flood Level Elev: 1000.9' Above Flood Level: Yes	Submer- gence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) Enclosure #1
- 2) NAMCO Test Report Moedl EA 180
September 5, 1978

Notes:

- 1) 1.09×10^7 for PCV-742 A Sector G & H
 1.12×10^7 for PCV-742C Sector F & G
- 2) Switches qualified for 40 years using NAMCO recommended maintenance. Namco letter dated 7/16/80.

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Component HVAC Item No.: A/HCV-742 - C/HCV-742 B/HCV-742 - D/HCV-742 Component: Solenoid Valve Manufacturer: ASCO Model No.: NP 8314C29E Function: Valve Actuators for Component HVAC Isolation Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 59	Operating Time	1000 hrs	1000 hrs	Note 1	2	Type Test	NONE
	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	8x10 ⁵ R	2x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
	Submergence	N/A	N/A	N/A	N/A	N/A	NONE
Flood Level Elev: N/A Above Flood Level:							

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 18, Figure 4.2-3 (December 1979)
- 2) ASCO Test Report Model AQS 21678/TR

Notes:

- 1) See Enclosure #14

Present Qualification

IEEE 323-1974

Facility: Fort Calhoun 1
Docket No.: 50-285

R4-5

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFI- CATION METHOD	OUTSTAND- ING ITEMS
	Parameter	Specifi- cation	Qualif- cation	Specifi- cation	Qualifi- cation		
System: Component HVAC Item No.: PCV-742B PCV-742D Component: Solenoid Valve Manufacturer: ASCO Model No.: NP 831655E Function: Valve Actuators for Component HVAC Isolation Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 69	Operating Time	1000 hrs	1000 hrs	Note 1	2	Type Test	NONE
	Tempera- ture °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSI _g	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	2.5x10 ⁵ R	2x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
	Submer- gence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578"
Section 2.1.6B Page 19, Figure 4.2-4 (December 1979)
- 2) ASCO Test Report Model AQS 21678/TR

Notes:

- 1) See Enclosure #14

Present Qualification

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Facility: Fort Calhoun 1
Docket No.: 50-285

R4-6

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Containment HVAC Item No.: PCV-742B, 742 Component: Limit Switch Manufacturer: NAMCO Model No.: EA-180 Function: Position Indicator for Containment Purge Isolation Valve Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 69	Operating Time	1000 hrs	Continuous	Note 2	2	Type Test	NONE
	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSig	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	2.5x10 ⁵ R	2.04x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	Note 1	N/A	Note 1	N/A	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 19, Figure 4.2-4 (December 1979)
- 2) NAMCO Test Report Model EA 180 September 5, 1978.

Notes:

- 1) Switches qualified for 40 years using NAMCO recommended maintenance. NAMCO letter dated 7/16/80.
- 2) See Enclosure #14.

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFI- CATION METHOD	OUTSTAND- ING ITEMS
	Parameter	Specifi- cation	Qualif- cation	Specifi- cation	Qualifi- cation		
System: Containment HVAC	Time	Continuous	Continuous	Note 1	2	Type Test	NONE
Item No.: PCV-742A, 742B HCV725A, 725B	Temperature °F	305°F	340°F	1	2	Type Test	NONE
Component: Limit Switch	Pressure PSI _g	60 psig	110 psig	1	2	Type Test	NONE
Manufacturer: NAMCO	Relative Humidity %	100%	100%	1	2	Type Test	NONE
Model No.: EA-180	Chemical Spray	1700 ppm Boron	PH 10-11 Boron	1	2	Type Test	NONE
Function: Position Indication	Radiation	1.92 x 10 ⁷ R Sector 0	2.04x10 ⁸ R	1	2	Type Test	NONE
Accuracy - Spec: N/A Demon: N/A Service: See Function	Aging	N/A	Note 1	N/A	2	Type Test	NONE
Location: Containment	Submer- gence	N/A	N/A	N/A	N/A	N/A	NONE
Flood Level Elev: 1000.9' Above Flood Level: Yes							

Documentation References:

- 1) Enclosure #1
- 2) NAMCO Test Report Moedl EA 180
September 5, 1978

Notes:

- 1) Switches qualified for 40 years using NAMCO recommended maintenance. NAMCO letter dated 7/16/80.

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Containment HVAC Item No.: PCV-742F, 742H, PCV-746B Component: Solenoid Valve Manufacturer: ASCO Model No.: Note 1 Function: Valve Actuators for Component HVAC Isolation Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 60	Operating Time	1000 hrs	1000 hrs	Note 2	2	Type Test	NONE
	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	6x10 ⁵ R	2x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 18, Figure 4.2-3 (December 1979)
- 2) ASCO Test Report Model AQS 21678/TR

Notes:

- 1) HCV-746B is a NP 8314C29E
PCV-742F & 742H are NP 8320A185E
- 2) See Enclosure #14

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Containment Spray Item No.: HCV-2957 & 2958 Component: Limit Switch Manufacturer: NAMCO Model No.: EA 180 Function: Position Indication for HCV-2957 & 2958 Accuracy - Spec: N/A Demon: N/A Service: Cont. Spray PP SI-3A Isolation valve Pos. Ind. Location: Room 22 (SI Pumps)	Operating Time	1000 hrs Note 1	Continuous	Note 3	3	Type Test	NONE
	Temperature °F	109°F	340°F	2	3	Type Test	NONE
	Pressure PSig	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	100%	100%	2	3	Type Test	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	7x10 ⁶ R	2.04x10 ⁸ R	1	3	Type Test	NONE
	Aging	N/A	Note 2	N/A	Note 2	N/A	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 19, Figure 4.2-4 (December 1979)
- 2) Combustion Eng. Study "Evaluation of Fort Calhoun Safety Injection Pump Room Temperature following a Loss of Coolant Accident," see OPPD letter to the NRC dated 9/6/79.
- 3) NAMCO Test Report Model EA-180 September 5, 1978

Notes:

- 1) See Enclosure #18
- 2) Switches qualified for 40 years using NAMCO recommended maintenance. NAMCO letter dated 7/16/80.
- 3) See Enclosure #14.

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Containment Spray Item No.: HCV-2967, 2968, 2977 and 2978 Component: Limit Switch Manufacturer: NAMCO Model No.: EA 180 Function: Position Indication Accuracy - Spec: N/A Demon: N/A Service: Cont. Spray PP SI-3B, 3C, Isolation valve Pos. Ind. Location: Room 22 (SI Pumps)	Operating Time	1000 hrs Note 1	Continuous	Note 3	3	Type Test	NONE
	Temperature °F	109°F	340°F	2	3	Type Test	NONE
	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	100%	100%	2	3	Type Test	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	7x10 ⁶ R	2.04x10 ⁸ R	1	3	Type Test	NONE
	Aging	N/A	Note 2	N/A	Note 2	N/A	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 18, Figure 4.2-3 (December 1979)
- 2) Combustion Eng. Study "Evaluation of Fort Calhoun Safety Injection Pump Room Temperature following a Loss of Coolant Accident," see OPPD letter to the NRC dated 9/6/79.
- 3) NAMCO Test Report Model EA-180 September 5, 1978

Notes:

- 1) See Enclosure #18
- 2) Switches qualified for 40 years using NAMCO recommended maintenance. NAMCO letter dated 7/16/80.
- 3) See Enclosure #14.

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Containment Spray Item No.: HCV-344, 345 Component: Solenoid Valve Manufacturer: ASCO Model No.: NP 8314C29E Function: Valve Actuators for Containment Spray Header Isolation Values Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 59	Operating Time	1000 hrs	1000 hrs	Note 1	2	Type Test	NONE
	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSlg	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	8x10 ⁵ R	2x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578"
Section 2.1.6B Page 18, Figure 4.2-3 (December 1979)
- 2) ASCO Test Report Model AQS 21678/TR

Notes:

- 1) See Enclosure #14

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Demineralized Water Item No.: HCV-1559A, 1559B HCV-1560A, 1560B Component: Solenoid Valve Manufacturer: ASCO Model No.: NP 8314C29E Function: Valve Actuators for Demineralized Water Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 69	Operating Time	1000 hrs	1000 hrs	Note 1	2	Type Test	NONE
	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	2.5x10 ⁵ R	2x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578"
Section 2.1.6B Page 19, Figure 4.2-4 (December 1979)
- 2) ASCO Test Report Model AQS 21678/TR

Notes:

- 1) See Enclosure #14

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Hydrogen Purge System Item No.: HCV-883A, 884A Component: Solenoid Manufacturer: ASCO Model No.: Function: Remote Operation of Valves Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Containment	Time	1000 hrs	Note 1	Note 1	2	Type Test	NONE
	Temperature °F	305°F	340°F	1	2	Type Test	NONE
	Pressure PSig	60 psig	110 psig	1	2	Type Test	NONE
	Relative Humidity %	100%	100%	1	2	Type Test	NONE
	Chemical Spray	1700 ppm Boron	3000 ppm Boron PH10	1	2	Type Test	NONE
	Radiation	3x10 ⁶ R	2.04x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	10 yrs	N/A	3	Type Test	NONE
Flood Level Elev: 1000.9' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	Type Test	NONE

Documentation References:

- 1) Enclosure #1
- 2) ASCO Test Report No. AQS 21678/TR
- 3) ASCO Letter Dated July 10, 1980

Notes:

- 1) Radiation is limiting, qualification shown adjusting 1.92x10⁷R for 1000 HR using DOR Guideline NoMagrams qualification is adequate.

Present Qualification:

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFI- CATION METHOD	OUTSTAND- ING ITEMS
	Parameter	Specifi- cation	Qualif- cation	Specifi- cation	Qualifi- cation		
System: High Pressure Safety Injection Item No.: HCV-304 and 305 Component: Solenoid Valve Manufacturer: ASCO Model No.: NP 8314C29E Function: Valve Actuators for High Pressure Safety Injection Header Isolation Valves Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 21 (SI Pumps)	Operating Time	1000 hrs	1000 hrs	Note 1	3	Type Test	NONE
	Temperature °F	109°F	346°F	2	3	Type Test	NONE
	Pressure PSig	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	100%	100%	2	3	Type Test	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	7x10 ⁶ R	2x10 ⁸ R	1	3	Type Test	NONE
	Aging	N/A	10 yrs	N/A	3	Type Test	NONE
Flood Level Elev: N/A Above Flood Level:	Submer- gence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 16, Figure 4.2-1 (December 1979)
- 2) Combustion Engineering study "Evaluation of Fort Calhoun Safety Injection Pump Room Temperature following a Loss of Coolant Accident", see OPPD letter to the NRC dated 9/6/79.
- 3) ASCO Test Report Model AQS 21678/TR

Notes:

- 1) Values are locked open and do not operate during an event. The value is expected to function adequately for long term core cooling. See Enclosure #14.

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFI- CATION METHOD	OUTSTAND- ING ITEMS
	Parameter	Specifi- cation	Qualif- cation	Specifi- cation	Qualifi- cation		
System: High Pressure Safety Injection Item No.: HCV-304 and 305 Component: Limit Switch Manufacturer: NAMCO Model No.: EA 180 Function: Position Indication for HCV-304 & 305 Accuracy - Spec: N/A Demon: N/A Service: HPSI pump Disch. Header Isol valve Pos. Ind. Location: Room 21 (SI Pumps)	Operating Time	Note 1 1000 hrs	Continuous	Note 3	3	Type Test	NONE
	Temperature °F	109°F	340°F	2	3	Type Test	NONE
	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	100%	100%	2	3	Type Test	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	7x10 ⁶ R	2.04x10 ⁸ R	1	3	Type Test	NONE
	Aging	N/A	Note 2	N/A	Note 2	N/A	NONE
Flood Level Elev: N/A Above Flood Level:	Submer- gence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 16, Figure 4.2-1 (December 1979)
- 2) Combustion Engineering study "Evaluation of Fort Calhoun Safety Injection Pump Room Temperature following a Loss of Coolant Accident", see OPPD letter to the NRC dated 9/6/79.
- 3) NAMCO Test Report Model EA 180
September 5, 1978

Notes:

- 1) See Enclosure #18
- 2) Switches qualified for 40 years using NAMCO recommended maintenance. NAMCO Letter dated 7/16/80.
- 3) See Enclosure #14.

Present Qualification
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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: High Pressure Safety Injection System Item No.: HCV-383-1 and 383-2 Component: Solenoid Manufacturer: ASCO Model No.: NP 8314C29E Function: Valve Actuators for High Pressure Safety Injection Header Isolation Valves Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 21 (SI Pumps)	Operating Time	1000 hrs	1000 hrs	Note 1	3	Type Test	NONE
	Temperature °F	109°F	346°F	1	3	Type Test	NONE
	Pressure PSig	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	100%	100%	1	3	Type Test	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	7x10 ⁶ R	2x10 ⁸ R	2	3	Type Test	NONE
	Aging	N/A	10 yrs	N/A	3	Type Test	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) Combustion Engineering study "Evaluation of Fort Calhoun Safety Injection Pump Room Temperature following a Loss of Coolant Accident", see OPPD letter to the NRC dated 9/6/79.
- 2) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 16, Figure 4.2-1 (December 1979)
- 3) ASCO Test Report Model AQ 521678/TR

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Notes:

- 1) LCV-383-1 & 2 are required to close on receipt of a RAS signal. This occurs 20 minutes into the event. Valves close in 10 seconds. In addition check valves are provided to ensure proper operation. These solenoids are expected to remain functional during the long term core cooling. See Enclosure #14.

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: High Pressure Safety Injection System Item No.: HCV-383-1 and 383-2 Component: Limit Switch Manufacturer: NAMCO Model No.: EA-180 Function: Pos Ind. for SIRWT Discharge valves Accuracy - Spec: N/A Demon: N/A Service: LCV-383-1 & 2 Pos Ind. Location: Room 21 (HPSI)	Operating Time	1000 hrs	Note 1 Continuous	Note 3	3	Type Test	NONE
	Temperature °F	109°F	340°F	2	3	Type Test	NONE
	Pressure PSig	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	100%	100%	2	3	Type Test	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	7x10 ⁶ R	2.04x10 ⁸ R	1	3	3	NONE
	Aging	N/A	Note 2	N/A	Note 2	N/A	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References.

- 1) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 16, Figure 4.2-1 (December 1979)
- 2) Combustion Engineering study "Evaluation of Fort Calhoun Safety Injection Pump Room Temperature following a Loss of Coolant Accident", see OPPD letter to the NRC dated 9/6/79.
- 3) NAMCO Test Report Model EA-180
September 5, 1978

Notes:

- 1) See Enclosure #18.
- 2) Switches qualified for 40 years using NAMCO recommended maintenance. Letter dated 7/16/80.
- 3) See Enclosure #14.

Present Qualification
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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFI- CATION METHOD	OUTSTAND- ING ITEMS
	Parameter	Specifi- cation	Qualif- cation	Specifi- cation	Qualifi- cation		
System: High Pressure Safety Injection System Item No.: HCV-2918 & 2928 Component: Limit Switch Manufacturer: NAMCO Model No.: EA-180 Function: Pos Ind. for HCV-2918 and 2928 Accuracy - Spec: N/A Demon: N/A Service: ST-2A & 2C Disch Line Location: Room 21 (SI Pumps)	Operating Time	Note 1 1000 hrs	Continuous	Note 3	3	Type Test	NONE
	Tempera- ture °F	109°F	340°F	2	3	Type Test	NONE
	Pressure PSI _g	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	100%	100%	2	3	Type Test	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	7x10 ⁶ R	2.04x10 ⁸ R	1	3	Type Test	NONE
	Aging	N/A	Note 2	N/A	Note 2	N/A	NCNE
Flood Level Elev: N/A Above Flood Level:	Submer- gence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578"
Section 2.1.6B Page 16, Figure 4.2-1 (December 1979)
- 2) Combustion Engineering study "Evaluation of Fort
Calhoun Safety Injection Pump Room Temperature
following a Loss of Coolant Accident", see OPPD
letter to the NRC dated 9/6/79.
- 3) NAMCO Test Report Model EA-180
September 5, 1978

Notes:

- 1) See Enclosure #18.
- 2) Switches qualified for 40 years using NAMCO recommended
maintenance. Letter dated 7/16/80.
- 3) See Enclosure #14.

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: High Pressure Safety Injection System Item No.: HCV-2907 & 2908 Component: Limit Switch Manufacturer: NAMCO Model No.: EA-180 Function: Pos Ind. for HCV-2907 and 2908 Accuracy - Spec: N/A Demon: N/A Service: Pos. Ind. for SI PP 2B Isolation valves Location: Room 21 (SI Pumps)	Operating Time	Note 1 1000 hrs	Continuous	Note 3	3	Type Test	NONE
	Temperature °F	109°F	340°F	2	3	Type Test	NONE
	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	100%	100%	2	3	Type Test	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	7x10 ⁶ R	2.04x10 ⁸ R	1	3	Type Test	NONE
	Aging	N/A	Note 2	N/A	Note 2	N/A	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 16, Figure 4.2-1 (December 1979)
- 2) Combustion Engineering study "Evaluation of Fort Calhoun Safety Injection Pump Room Temperature following a Loss of Coolant Accident", see OPPD letter to the NRC dated 9/6/79.
- 3) NAMCO Test Report Model EA-180
September 5, 1978

Notes:

- 1) See Enclosure #18.
- 2) Switches qualified for 40 years using NAMCO recommended maintenance. Letter dated 7/16/80.
- 3) See Enclosure #14. Valves are locked open and do not operate during an event.

Present Qualification
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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: High Pressure Safety Injection System Item No.: HCV-2917 & 2927 Component: Limit Switch Manufacturer: NAMCO Model No.: EA-180 Function: Pos Ind. for HCV-2917 and 2927 Accuracy - Spec: N/A Demon: N/A Service: Pos. Ind. for SI PP 2A & 2C Isolation valves Location: Room 21 (SI Pumps)	Operating Time	Note 1 1000 hrs	Continuous	Note 3	3	Type Test	NONE
	Temperature °F	109°F	340°F	2	3	Type Test	NONE
	Pressure PSig	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	100%	100%	2	3	Type Test	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	7x10 ⁶ R	2.04x10 ⁸ R	1	3	Type Test	NONE
	Aging	N/A	Note 2	N/A	Note 2	N/A	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 16, Figure 4.2-1 (December 1979)
- 2) Combustion Engineering study "Evaluation of Fort Calhoun Safety Injection Pump Room Temperature following a Loss of Coolant Accident", see OPPD letter to the NRC dated 9/6/79.
- 3) NAMCO Test Report Model EA-180
September 5, 1978

Notes:

- 1) See Enclosure #18.
- 2) Switches qualified for 40 years using NAMCO recommended maintenance. Letter dated 7/16/80.
- 3) See Enclosure #14. Valves are locked open and do not operate during an event.

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: High Pressure Safety Injection Item No.: HCV-306 and HCV-307 Component: Solenoid Valve Manufacturer: ASCO Model No.: NP 8314C29E Function: Valve Actuators for Safety Injection Isolation Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 13	Operating Time	1000 hrs	1000 hrs	Note 1	2	Type Test	NONE
	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	4x10 ⁶ R	2x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 17, Figure 4.2-2 (December 1979)
- 3) ASCO Test Report Model AQ 521678/TR

Notes:

- 1) See Enclosure #14

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: High Pressure Safety Injection Item No.: HCV-306 and HCV-307 Component: Limit Switch Manufacturer: NAMCO Model No.: EA-180 Function: Valve Actuators for Safety Injection Isolation Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 13	Operating Time	1000 hrs	Continuous	Note 1	2	Type Test	NONE
	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	4x10 ⁶ R	2.04x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	Note 2	N/A	Note 2	Type Test	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 17, Figure 4.2-2 (December 1979)
- 2) NAMCO Test Report Model EA 180 September 5, 1978

Notes:

- 1) See Enclosure #14
- 2) Switches qualified for 40 years using NAMCO recommended maintenance letter dated 7/16/80.

Present Qualification
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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Hydrogen Sampling Item No.: HCV-883B HCV-884B Component: Solenoid Valve Manufacturer: ASCO Model No.: NP 8320A185E Function: H ₂ Containment Sampling Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 59	Operating Time	1000 hrs	1000 hrs	Note 1	2	Type Test	NONE
	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	8x10 ⁵ R	2x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B
- 2) ASCO Test Report Model AQS 21678/TR

Notes:

- 1) See Enclosure #14

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Hydrogen Sampling Item No.: HCV-883A HCV-884A Component: Limit Switch Manufacturer: NAMCO Model No.: EA-180 Function: H ₂ Containment Sampling Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 59	Operating Time	1000 hrs	Continuous	Note 1	3	Type Test	NONE
	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSig	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	8x10 ⁵ R	2.04x10 ⁸ R	1&2	3	Type Test	NONE
	Aging	N/A	Note 2	N/A	Note 2	N/A	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B
- 2) NAMCO Controls Letter Dated March 11, 1980
- 3) NAMCO Test Report Model EA-180, September 5, 1978

Notes:

- 1) See Enclosure #14
- 2) Switches qualified for 40 years using NAMCO recommended maintenance letter dated 7/16/80.

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Instrument Air Item No.: PCV-1849 Component: Solenoid Valve Manufacturer: ASCO Model No.: NP 8314C29E Function: Valve Actuators for Instrument Air Isolation Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 69	Operating Time	1000 hrs	1000 hrs	Note 1	2	Type Test	NONE
	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	2.5x10 ⁵ R	2x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 19, Figure 4.2-4 (December 1979)
- 2) ASCO Test Report Model AQS 21678/TR

Notes:

- 1) See Enclosure #14

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Low Pressure Safety Injection Item No.: HCV-2947 and 2948 Component: Limit Switch Manufacturer: NAMCO Model No.: EA-180 Function: Position Indication for HCV-2947 * 2948 Accuracy - Spec: N/A Demon: N/A Service: SI-IA Isol valves Pos. Ind. Location: Room 21 (SI Pumps)	Operating Time	Note 1 1000 hrs	Continuous	Note 2	3	Type Test	NONE
	Temperature °F	109°F	340°F	1	3	Type Test	NONE
	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	100%	100%	1	3	Type Test	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	7x10 ⁶ R	2.04x10 ⁸ R	2	3	Type Test	NONE
	Aging	N/A	Note 3	N/A	Note 3	Type Test	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) Combustion Engineering Study "Evaluation of Fort Calhoun Safety Injection Pump Room Temperature following a Loss of Coolant Accident. See OPPD letter to the NRC dated 9/6/79.
- 2) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 16, Figure 4.2-1 (December 1979)
- 3) NAMCO Test Report Model EA-180. September 5, 1978

Present Qualification
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Notes:

- 1) See Enclosure #18.
- 2) Valves are locked open and do not operate during an event. See Enclosure #14.
- 3) Switches qualified for 40 years using NAMCO recommended maintenance letter date 7/16/80.

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Low Pressure Safety Injection Item No.: HCV-2937 and 2938 Component: Limit Switch Manufacturer: NAMCO Model No.: EA-180 Function: Position Indication for Chemical HCV-2937 & 2938 Accuracy - Spec: N/A Demon: N/A Service: LPSI PP 1B Isol valves Pos. Ind. Location: Room 22 (SI Pumps)	Operating Time	Note 1 1000 hrs	Continuous	Note 2	3	Type Test	NONE
	Temperature °F	109°F	340°F	1	3	Type Test	NONE
	Pressure PSig	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	100%	100%	1	3	Type Test	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	7x10 ⁶ R	2.04x10 ⁸ R	2	3	Type Test	NONE
	Aging	N/A	Note 3	N/A	Note 3	N/A	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) Combustion Engineering Study "Evaluation of Fort Calhoun Safety Injection Pump Room Temperature following a Loss of Coolant Accident. See OPPD letter to the NRC dated 9/6/79.
- 2) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 16, Figure 4.2-1 (December 1979)
- 3) NAMCO Test Report Model EA-180. September 5, 1978

Notes:

- 1) See Enclosure #18.
- 2) Valves are locked open and do not operate during an event. See Enclosure #14.
- 3) Switches qualified for 40 years using NAMCO recommended maintenance letter date 7/16/80.

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF		QUALIFI- CATION METHOD	OUTSTAND- ING ITEMS
	Parameter	Specifi- cation	Qualif- cation	Specifi- cation	Qualifi- cation		
System: Low Pressure Safety Injection Item No.: FCV-326 and HCV-341 Component: Solenoid Valve Manufacturer: ASCO Model No.: NP 8314C29E Function: Valve Actuators for Low Pressure Safety Injection Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 13	Operating Time	1000 hrs	1000 hrs	Note 1	2	Type Test	NONE
	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	4x10 ⁶ R	2x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
Flood Level Elev: N/A Above Flood Level:	Submer- gence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578"
Section 2.1.6B, Page 17, Figure 4.2-2
(December 1979)
- 2) ASCO Test Report Model AQS 21678/TR

Notes:

- 1) See Enclosure #14.

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Main Steam Item No.: MS 291, 292 Component: Solenoid Manufacturer: ASCO Model No.: NP-8320A185E Function: Main Steam Safety Relief Valve Operator Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 81	Time	Note 1 Intermittent	1000 hrs	1	2	Type Test	NONE
	Temperature °F	216°F	346°F	1	2	Type Test	NONE
	Pressure PSig	1.2 psig	110 psig	1	2	Type Test	NONE
	Relative Humidity %	100%	100%	1	2	Type Test	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	Type Test	NONE
	Radiation	N/A	N/A	N/A	N/A	Type Test	NONE
	Aging	N/A	N/A	N/A	N/A	Type Test	NONE
Flood Level Elev: 1037'-4" Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) Enclosure #2
- 2) ASCO Test Report No. AQS 21678/TR

Present Qualification:

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Notes:

- 1) The Main Steam Safeties can be used as an alternate path of decay heat removal using the Aux Feedwater System and the Steam Generators. See Enclosure #18.

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFI- CATION METHOD	OUTSTAND- ING ITEMS
	Parameter	Specifi- cation	Qualif- cation	Specifi- cation	Qualifi- cation		
System: Main Steam Item No.: HCV-1041A and 1042A Component: Solenoid Valves 1&2 Manufacturer: ASCO Model No.: NP 8316E37E NP 8316A77E Function: Pilot & Test Solenoids for main steam isolation valves Accuracy - Spec: N/A Demon: N/A Service: Main Steam Isolation valves Location: Room 81	Operating Time	Note 1	1000 hrs	Note 1	2	Type Test	NONE
	Tempera- ture °F	216°F	346°F	1	2	Type Test	NONE
	Pressure PSI _g	1.2 psig	110 psig	1	2	Type Test	NONE
	Relative Humidity %	100%	100%	1	2	Type Test	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	N/A	N/A	N/A	N/A	N/A	NONE
	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
Flood Level Elev: 1037.4' Above Flood Level: Yes	Submer- gence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) See Enclosure #2
- 2) ASCO Test Report Model AQS 21678/TR

Present Qualification

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Notes:

- 1) Valve solenoid de-energizes to close the valve. There is no requirement to operate after initial closure. In the District's engineering judgment, the isolation valve will maintain the closed position. In order for the isolation valve to re-open, steam pressure must be balanced on both sides of the valve seat. Under the postulated accident condition this situation is highly unlikely. In addition, the pilot valve material is capable of withstanding the postulated temp. without failure of internal components.

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Nitrogen System Item No.: HCV-2603A and 2604A Component: Solenoid Valve Manufacturer: ASCO Model No.: NP 8314C29E Function: Valve Actuators for Nitrogen System Isolation Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 59	Operating Time	1000 hrs	1000 hrs	Note 1	2	Type Test	NONE
	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	4x10 ⁶ R	8x10 ⁵ R	1	2	Type Test	NONE
	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 18, Figure 4.2-3 (December 1979)
- 2) ASCO Test Report Model AQS 21678/TR

Notes:

- 1) See Enclosure #14.

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFI- CATION METHOD	OUTSTAND- ING ITEMS
	Parameter	Specifi- cation	Qualif- cation	Specifi- cation	Qualifi- cation		
System: Plant Air Item No.: HCV-1749 Component: Solenoid Valve Manufacturer: ASCO Model No.: NP 8314C29E Function: Valve Actuators for Plant Air Isolation Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 69	Operating Time	1000 hrs	1000 hrs	Note 1	2	Type Test	NONE
	Tempera- ture °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSI _g	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	2.5x10 ⁵ R	2x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
Flood Level Elev: N/A Above Flood Level:	Submer- gence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578"
Section 2.1.6B Page 19, Figure 4.2-4 (December 1979)
- 2) ASCO Test Report Model AQS 21678/TR

Notes:

- 1) See Enclosure #14.

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Raw Water Item No.: HCV-2898C, 2898D HCV-2899C, 2899D Component: Solenoid Manufacturer: ASCO Model No.: NP 8320A185E Function: Valve Actuators for Inlet & Outlet valves for control room air cond. units Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 81	Operating Time	Note 1	1000 hrs	Note 1	1	Type Test	NONE
	Temperature °F	216°F	346°F	2	1	Type Test	NONE
	Pressure PSIG	1.2 psig	110 psig	2	1	Type Test	NONE
	Relative Humidity %	100%	100%	2	1	Type Test	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	N/A	N/A	N/A	N/A	N/A	NONE
	Aging	N/A	10 yrs	N/A	1	Type Test	NONE
Flood Level Elev: 1037.4' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) ASCO Test Report Model AQS 21678/TR
- 2) See Enclosure #2.

Notes:

- 1) Valves are required to operate only if there is a failure of the Component Cooling System.

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Raw Water	Operating Time	Note 2 1000 hrs	1000 hrs	Note 1	3	Type Test	NONE
Item No.: HCV-2809C, 2809D, 2811C, 2811D, 2814C, 2814D, 2815C, 2815D	Temperature °F	102°F	346°F	1	3	Type Test	NONE
Component: Solenoid Valve	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
Manufacturer: ASCO	Relative Humidity %	100%	100%	1	3	Type Test	NONE
Model No.: NP 8320A185E	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
Function: Valve Actuators for inlet & outlet valves for SI & Spray pumps bearing coolers.	Radiation	7x10 ⁶ R	2x10 ⁸ R	2	3	Type Test	NONE
Accuracy - Spec: N/A Demon: N/A Service: See Function	Aging	N/A	10 yrs	N/A	3	Type Test	NONE
Location: Room 22 (SI pumps)	Submergence	N/A	N/A	N/A	N/A	N/A	NONE
Flood Level Elev: N/A Above Flood Level:							

Documentation References:

- 1) Combustion Engineering study "Evaluation of Fort Calhoun Safety Injection Pump Room Temperature following a Loss of Coolant Accident. (See OPPD letter to the NRC dated 9/6/79)
- 2) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 16, Figure 4.2-1 (December 1979)
- 3) ASCO Test Report Model AQS 21678/TR

Notes:

- 1) Valves are locked open and do not operate during an event. See Enclosure #14.
- 2) See Enclosure #18.

Present Qualification
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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Raw Water	Operating Time	Note 1 1000 hrs	1000 hrs	Note 2	3	Type Test	NONE
Item No.: HCV-2808C, 2808D, 2810C, 2810D, 2812C, 2812D, 2813C, 2813D	Temperature °F	109°F	346°F	1	3	Type Test	NONE
Component: Solenoid Valve	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
Manufacturer: ASCO	Relative Humidity %	100%	100%	1	3	Type Test	NONE
Model No.: NP 8320A185E	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
Function: Valve Actuators for inlet & outlet valves for SI & Spray pumps bearing coolers.	Radiation	7x10 ⁶ R	2x10 ⁸ R	2	3	Type Test	NONE
Accuracy - Spec: N/A Demon: N/A Service: See Function	Aging	N/A	10 yrs	N/A	3	Type Test	NONE
Location: Room 22 (SI pumps)	Submergence	N/A	N/A	N/A	N/A	N/A	NONE
Flood Level Elev: N/A Above Flood Level:							

Documentation References:

- 1) Combustion Engineering study "Evaluation of Fort Calhoun Safety Injection Pump Room Temperature following a Loss of Coolant Accident. (See OPPD letter to the NRC dated 9/6/79)
- 2) "Implementation Methods and Schedules for NUREG-0578 Section 2.1.6B Page 16, Figure 4.2-1 (December 1979)
- 3) ASCO Test Report Model AQS 21678/TR

Notes:

- 1) See Enclosure #18.
- 2) Valves are locked open and do not operate during an event. See Enclosure #14.

Present Qualification
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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Raw Water Item No.: HCV-400E, 400F, 401E, 401F, 402E, 402F, 403E, 403F Component: Solenoid Valve Manufacturer: ASCO Model No.: NP 8314C29E Function: Valve Actuators for inlet & outlet valves for SI & Spray pumps bearing coolers. Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 69	Operating Time	1000 hrs	1000 hrs	Note 1	2	Type Test	NONE
	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	2.5x10 ⁵ R	2x10 ⁸ R	1	2	Type Test	NONE
	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
	Submergence	N/A	N/A	N/A	N/A	N/A	NONE
Flood Level Elev: N/A Above Flood Level:							

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 19, Figure 4.2-4 (December 1979)
- 2) ASCO Test Report Model AQS 21678/TR

Notes:

- 1) See Enclosure #14.

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Raw Water Item No.: HCV-400E, 400F, 401E, 401F, 402E, 402F, 403E, 403F Component: Limit Switch Manufacturer: NAMCO Model No.: EA-180 Function: Position Indication for Chemical Raw Water inlet valves to Containment air coolers. Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 69	Operating Time	1000 hrs	Continuous	Note 2	1	Type Test	NONE
	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	2.5x10 ⁵ R	2.04x10 ⁸ R	2	1	Type Test	NONE
	Aging	N/A	Note 1	N/A	Note 1	N/A	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) NAMCO Test Report Model EA-180 - September 5, 1978
- 1) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 19, Figure 4.2-4 (December 1979)

Notes:

- 1) Switches qualified for 40 years using NAMCO recommended maintenance. NAMCO letter dated 7/16/80.
- 2) See Enclosure #14.

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Sampling System Item No.: HCV-2504B, 2506B, 2507B Component: Solenoid Valve Manufacturer: ASCO Model No.: NP 8320A189E Function: Valve Actuators for Sampling System Isolation Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 60	Operating Time	1000 hrs	1000 hrs	Note 1	1	Type Test	NONE
	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	6x10 ⁵ R	2.04x10 ⁸ R	2	1	Type Test	NONE
	Aging	N/A	10 yrs	N/A	1	Type Test	NONE
	Submergence	N/A	N/A	N/A	N/A	N/A	NONE
Flood Level Elev: N/A Above Flood Level:							

Documentation References:

- 1) ASCO Test Report Model AQS 21678/TR
- 2) "Implementation Methods and Schedules for NUREG-0578"
Section 2.1.6B Page 18, Figure 4.2-3 (December 1979)

Notes:

- 1) See Enclosure #14.

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Sampling System Item No.: HCV-2504B, 2506B, 2507B	Operating Time	1000 hrs	Continuous	Note 2	1	Type Test	NONE
Component: Limit Switch Manufacturer: NAMCO	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
Model No.: EA-180	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
Function: Position Indication for Sampling System Isolation valves	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
Accuracy - Spec: N/A Demon: N/A	Spray	N/A	N/A	N/A	N/A	N/A	NONE
Service: See Function	Radiation	6x10 ⁵ R	2.04x10 ⁸ R	2	1	Type Test	NONE
Location: Room 60	Aging	N/A	Note 1	N/A	Note 1	N/A	NONE
Flood Level Elev: N/A Above Flood Level:	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) NAMCO Test Report Model EA-180 (September 5, 1978)
- 2) "Implementation Methods and Schedules for NUREG-0578" Section 2.1.6B Page 19, Figure 4.2-4 (December 1979)

Notes:

- 1) Switches qualified for 40 years using NAMCO recommended maintenance letter dated 7/16/80.
- 2) See Enclosure #14.

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Steam Generator Feedwater and Blowdown Item No.: HCV-1107B & 1108B Component: Solenoid Valve #1 Manufacturer: ASCO Model No.: NP 8320A175E Function: Valve Actuators for St/Gen RC-2A & RC-2B Aux FW inlet valves Accuracy - Spec: N/A Demon: N/A Service: Isolation of Aux. FW Lines Location: Room 81	Operating Time	Note 1	1000 hrs	Note 1	2	Type Test	NONE
	Temperature °F	216°F	346°F	1	2	Type Test	NONE
	Pressure PSig	1.2 psig	110 psig	1	2	Type Test	NONE
	Relative Humidity %	100%	1000%	1	2	Type Test	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	N/A	N/A	N/A	N/A	N/A	NONE
	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
Flood Level Elev: 1037.4 Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) See Enclosure #2.
- 2) ASCO Test Report Model AQS 21678/TR.

Notes:

- 1) Valves are locked open and do not operate during an event.

Present Qualification

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Steam Generator Feedwater and Blowdown Item No.: HCV-1107B & 1108B Component: Solenoid Valve #2 Manufacturer: ASCO Model No.: NP 8314C29E Function: Valve Actuators for St/Gen RC-2A & RC-2B Aux FW inlet valves Accuracy - Spec: N/A Demon: N/A Service: Isolation of Aux FW Lines Location: Room 81	Operating Time	Note 1	1000 hrs	Note 1	2	Type Test	NONE
	Temperature °F	216°F	346°F	1	2	Type Test	NONE
	Pressure PSIG	1.2 psig	110 psig	1	2	Type Test	NONE
	Relative Humidity %	100%	100%	1	2	Type Test	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	N/A	N/A	N/A	N/A	N/A	NONE
	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
Flood Level Elev: 1037.4' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) See Enclosure #2.
- 2) ASCO Test Report Model AQS 21678/TR.

Present Qualification

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Notes:

- 1) Valves are locked open and do not operate during an event.

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFI- CATION METHOD	OUTSTAND- ING ITEMS
	Parameter	Specifi- cation	Qualif- cation	Specifi- cation	Qualifi- cation		
System: Steam Generator Feedwater and Blowdown Item No.: HCV-1387B & 1388B Component: Solenoid Valve Manufacturer: ASCO Model No.: NP 8314C29E Function: Valve Actuators for St/Gen FW and blowdown Accuracy - Spec: N/A Demon: N/A Service: See Function Location: Room 13	Time	1000 hrs	1000 hrs	Note 1	1	Type Test	NONE
	Tempera- ture °F	N/A	N/A	N/A	N/A	N/A	NONE
	Pressure PSIg	N/A	N/A	N/A	N/A	N/A	NONE
	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
	Radiation	4x10 ⁶ R	2x10 ⁸ R	2	1	Type Test	NONE
	Aging	N/A	10 yrs	N/A	1	Type Test	NONE
Flood Level Elev: N/A Above Flood Level:	Submer- gence	N/A	N/A	N/A	N/A	N/A	NONE

Documentation References:

- 1) ASCO Test Report Model AQS 21678/TR.
- 2) "Implementation Methods and Schedules for NUREG-0578"
Section 2.1.6B Page 17, Figure 4.2-2 (December 1979)

Notes:

- 1) See Enclosure #14.

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SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Waste Disposal	Time	1000 hrs	1000 hrs	Note 1	2	Type Test	NONE
Item No.: HCV-500A,B - 506A,B - HCV-507A,B - 508A,B - 509A,B	Temperature °F	N/A	N/A	N/A	N/A	N/A	NONE
Component: Solenoid Valve	Pressure PSIG	N/A	N/A	N/A	N/A	N/A	NONE
Manufacturer: ASCO	Relative Humidity %	N/A	N/A	N/A	N/A	N/A	NONE
Model No.: NP 8314C29E	Chemical Spray	N/A	N/A	N/A	N/A	N/A	NONE
Function: Valve Actuators for Waste Disposal	Radiation	4x10 ⁶ R	2x10 ⁸ R	1	2	Type Test	NONE
Accuracy - Spec: N/A Demon: N/A Service: See Function	Aging	N/A	10 yrs	N/A	2	Type Test	NONE
Location: Room 13	Submergence	N/A	N/A	N/A	N/A	N/A	NONE
Flood Level Elev: N/A Above Flood Level:							

Documentation References:

- 1) "Implementation Methods and Schedules for NUREG-0578"
Section 2.1.6B Page 17 Figure 4.2-2 (Dec. 1979)
- 2) ASCO Test Report Model AQS 21678/TR

Notes.

- 1) See Enclosure #14

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