

ENVIRONMENTAL QUALIFICATION
DOCUMENT REPORT

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
DOCKET NO. 50-286
AUGUST 21, 1981

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SER Section 3.1 Completeness of Safety Related Equipment

Deficiency

Several items identified by FRC in the draft interim TER that may be subject to a harsh environment were not addressed by the Licensee (Re: Paragraph 4.1.1 of the TER)

Response

The items identified by the FRC in Section 4.1.1 of the TER are addressed in this SER response.

SER Section 3.2 Service Conditions

Deficiency

Section 3.2 of the SER requires that the licensee verify that the containment spray system is not subjected to a disabling single component failure.

Response

The licensee has verified that the containment spray system is not subjected to a disabling single component failure and therefore satisfies the DOR Guideline requirements of Section 4.2.1.

SER Section 3.3 Temperature, Pressure, and Humidity Conditions

Deficiency

In this section of the SER, the Staff indicated that the licensee's service condition of 258°F does not satisfy the requirements for the minimum temperature profile. Furthermore, the Staff indicated that the licensee's specified pressure is low compared to plants of similar design.

Response

The correct peak pressure is 40.6 psig (55.3 psia). The peak temperature reported is the saturation temperature at the steam partial pressure of 36.9 psia. The methodology, assumptions, input, and results of the analyses which yielded this peak pressure are reported in response to questions 14.5, 14.6, and 14.8 of the Indian Point 3 FSAR.

NUREG-0588 Appendix A states that topical report WCAP-8312A is an acceptable method for calculating the mass and energy releases to the containment assuming a LOCA. This WCAP was followed in the Indian Point 3 analysis that resulted in the peak pressure reported above. The model for heat transfer to the containment heat sinks used in the analysis is in agreement with Appendix B.1 of NUREG-0588.

The references and assumptions can be found in WCAP-8312A (non-proprietary) or WCAP 8264 (Proprietary) for the mass and energy release analysis, and in WCAP-7155 for the containment pressure transient analysis.

According to the SER, the peak temperature reported should be the saturation temperature corresponding to the total containment pressure to account for margin. The saturation temperature at 55.3 PSIA is 287°F. The equipment summary tables have been updated to reflect this change in specified qualification temperature. Individual equipment reviews have been conducted to ensure that equipment meets the new staff requirement for containment temperature. Justifications have been provided where necessary.

Section 3.4 Temperature, Pressure, and Humidity Condition
Outside Containment

Deficiency

The licensee has used ambient temperature conditions in some areas outside containment. The Staff considers saturation temperature at the peak pressure resulting from a HELB as the minimum level for acceptance. The licensee should update his summary tables to reflect this change.

Response

The HELB environments outside containment were addressed in Appendix B of the April 1980 submittal. The following additional information addressing saturation temperatures for peak pressures is provided as requested.

Aux. Feed Pump Room Accident Conditions

Maximum Pressure: 0 psig
Saturation Temperature: 135°F
Humidity: 100%
Radiation: Negligible
Chemical Spray: None
Submergence: None

Note: The licensee is in the process of evaluating the feasibility of isolating the steam line to the turbine driven auxiliary feedwater pump outside the Auxiliary Feed Pump Room. If this modification is made, this area would then become a mild environmental zone.

Main Feed and Steam Area

Maximum Pressure: 0.42 psig
Saturation Temperature: 213°F

Humidity: 100%
Radiation: Negligible
Chemical Spray: None
Submergence: None

Reference: Analysis of High Energy Lines in letter Trotsen to Giambusso dated May 14, 1973.

The equipment summary work sheets have been updated to reflect these changes. Justifications for interim operation are provided where necessary for the individual components in these areas.

Section 3.5 Submergence

Deficiency

The maximum submergence levels have not been established and addressed by the licensee.

Response

The licensee has established the maximum flood elevation to be 50 feet 1½ inches inside containment. The containment floor elevation is 46 feet. The flood level is therefore 4 feet 1½ inches above the containment floor.

The only safety related equipment subject to submergence are electrical power and control cables and accumulator isolation valve operator 894C. Justification for interim operation with regard to electrical cable is provided under addressment of the individual cable types in this document. Justification for operation with regard to the subject valve operator 894C is provided in the Authority's response to IE Bulletin 79-01 IP-JPB-5069 dated June 13, 1979.

For areas outside containment, a walkthrough was conducted by the Indian Point 3 staff with FRC and the NRC staff during a 1980 audit. At that time, concerns regarding submergence were satisfactorily addressed and no open items were identified by the auditors.

SER Section 3.7 Aging

The Indian Point 3 facility is in the process of gathering bills of materials from the manufacturers of the necessary components. Once these material lists are accumulated, a detailed comparison of the existing equipment to the materials identified in Appendix C of the DOR Guidelines and other sources will be conducted. Furthermore, in cases where the materials cannot be identified, operating experience and a literature search will be utilized to determine age related degradations. An ongoing program to review surveillance and maintenance records will be established to identify potential age related degradations. Component maintenance and replacement schedules which include consideration of aging characteristics of the installed components are being developed in conjunction with the material evaluations. Appropriate margins will be incorporated in the replacement schedules.

The specific results of these studies and the details of the evaluation/replacement programs will be provided to the Staff as required by June 30, 1982.

SER Section 3.8 Radiation Inside Containment

The integrated beta and gamma radiation doses calculated at the center of the Indian Point 3 containment building for periods of thirty days and 1 year following a design basis LOCA are summarized as follows:

	<u>Gamma Dose</u> <u>(Rad)</u>	<u>Beta Dose</u> <u>(Rad)</u>
30 days	1.8×10^7	1.4×10^8
1 year	3×10^7	2×10^8

This data is based on the dose information documented in NUREG-0588 Appendix D and the DOR Guidelines Appendix B. A conservative thirty day gamma dose was derived by use of the nomograms given in the DOR Guidelines. This method was utilized by assuming a containment volume of $2.6 \times 10^6 \text{ ft}^3$ and a reactor power rating of 3025 MW for Indian Point 3. The thirty day beta dose was obtained from the information given in Appendix D of NUREG 0588

The one year beta and gamma doses were predicted by extrapolating the 30 day doses to one year. In order to perform this extrapolation, the information tabulated in Table D-5 and Table D-6 of NUREG 0588 was plotted in order to establish the shape of the curves representing beta and gamma doses with respect to time. These curves were then conservatively extrapolated to one year. The shape of the individual curves were then used to extrapolate the plant specific 30 day doses for beta and gamma radiation to one year.

Beta dose to cables is reduced by a factor of 50% to account for shielding as discussed in NUREG 0588. The post accident operability times assumed for cables are 30 days for instruments and one year for power cables total integrated doses for cables are shown below.

Instrument cables - 30 days

$$\begin{array}{r} 0.7 \times 10^8 \beta \\ 0.18 \times 10^8 \gamma \\ \hline 0.88 \times 10^8 \text{ total} \end{array}$$

Power cables - one year

$$\begin{array}{r} 1 \times 10^8 \beta \\ 0.3 \times 10^8 \gamma \\ \hline 1.3 \times 10^8 \text{ total} \end{array}$$

Instruments and motors are either sufficiently shielded or have such a short post accident requirement that beta radiation exposure is negligible.

Based on the shielding afforded by the crane wall, a factor of 2.7 reduction in total gamma dose is utilized for equipment outside the crane wall.

With regard to the integrated dose applicable to a contained accident, transport calculations were performed by Westinghouse for a reactor coolant pipe geometry which yield the following post LOCA dose.

	Gamma Dose <u>(R)</u>
1 Year	1.7×10^8

In this case, beta doses are considered to be insignificant due to shielding afforded by pressure boundary structures.

APPENDIX A

Equipment Requiring Immediate
Corrective Action

No equipment in this category.

APPENDIX B

Equipment Requiring Additional
Information and/or Corrective Action

Component:

TER Item #: 6

Device: Limitorque MOV

Model: SMB-00 with Class B Motor Insulation

Function: Actuates RHR Loop Flow Control Valves (HVC-638, 640)

Location: Inside Containment

Deficiency:

QM, A, QT

Interim Justification:

N/A

Final Resolution:

These operators were replaced with qualified SMB-00 (Reliance Motors-Class RH insulation) units in February, 1981. These units are qualified for the appropriate environments as discussed in Limitorque test report B-0058.

The equipment worksheets have been updated to reflect this change in equipment.

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Residual Heat Removal I.D. NO.: ICV 638 COMPONENT: Valve Actuator MANUFACTURER: Limotorque/ Reliance Motor MODEL NO.: SMB-00 FUNCTION: RH-Insulation RHR Flow Control ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: RHR Flow Control Valve Actuator LOCATION: In Containment	OPERATING TIME	8 Hrs.	30 days	—	3	Type Test Simultaneous	N/A
	TEMPERATURE (°F)	287	300	1	3	Type Test Simultaneous	N/A
	PRESSURE (PSIG)	40.6	70	1	3	Type Test Simultaneous	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Type Test Simultaneous	N/A
	CHEMICAL SPRAY	Note 1	Note 2	1	3	Type Test Simultaneous	N/A
	RADIATION (rads)	1.6×10^8	2×10^8	2	3	Type Test Seperate	N/A
	AGING (yrs)	40	Note 3	N/A	3	Type Test Seperate	N/A
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

1. 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.

2. 3000 ppm boric acid with NaOH to result in 10.5 ph at 77°F.

3. Thermally aged at 180°C for 100 hours for an equivalent of 40 years.

REFERENCES:

1. FSAR Section 14.3
2. IE Bulletin 79-01B, Attachment 4, Section 4.1.2
3. Limotorque Test Report B0058 & 600456

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Residual Heat Removal I.D. NO.: HCV 640 COMPONENT: Valve Actuator MANUFACTURER: Limotorque/ Reliance Motor MODEL NO.: SMB-00 RH-Insulation FUNCTION: RHR Flow Control ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: RHR Flow Control Valve Actuator LOCATION: In Containment	OPERATING TIME	8 Hrs.	30 days	—	3	Type Test Simultaneous	N/A
	TEMPERATURE (°F)	287	300	1	3	Type Test Simultaneous	N/A
	PRESSURE (PSIG)	40.6	70	1	3	Type Test Simultaneous	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Type Test Simultaneous	N/A
	CHEMICAL SPRAY	Note 1	Note 2	1	3	Type Test Simultaneous	N/A
	RADIATION (rads)	1.6×10^8	2×10^8	2	3	Type Test Seperate	N/A
	AGING (yrs)	40	Note 3	N/A	3	Type Test Seperate	N/A
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- 3000 ppm boric acid with NaOH to result in 10.5 ph at 77°F.
- Thermally aged at 180°C for 100 hours for an equivalent of 40 years.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Limitorque Test Report B0058 & 600456

Component:

TER Item #: J1A

Device: Foxboro Transmitter

Model: E13DM (MCA)

Function: Pressurizer Level (LT-459, 460, 461) and Steam Generator
Level (LT-417A-D, 427A-D, 437A-D, 447A-D)

Location: Inside Containment, Outside Cranewall

Deficiency:

QM, R, A

Interim Justification:

These units have been identified as E-Series Style A transmitters. Westinghouse Electric Corporation topical report WCAP-8541 documents a steam-high temperature test and references seismic testing performed on a Style B transmitter. A radiation test was performed on Style A transmitter amplifiers and updated in Foxboro report T2-1075. This test reached a level of 1×10^7 rads gamma which exceeds the expected radiation level for these transmitters. The relationship between Style A & B transmitters is documented in WCAP-8541.

It has been decided to replace these units. However, the tests that have been performed provide sufficient justification for interim operation.

The documentation review for aging is ongoing. Interim operation is justified based on the fact that aging is a long term parameter and should not adversely affect equipment operability until the transmitters are replaced.

Final Resolution:

These units will be replaced with qualified transmitters. Replacement transmitters were ordered in 1978. However, these transmitters do not meet the 1974 qualification standards. The qualification of these transmitters to 1974 standards is presently under investigation. Furthermore, the Authority is a member of the utility transmitter qualification group that has been organized to fund and coordinate the environmental qualification testing of Foxboro and Rosemount transmitters to 1974 standards. In order to insure timely replacement of the above transmitters, the Authority is pursuing both methods. The completion of the transmitter replacement program will depend on the availability of qualified transmitters as well as on lead time. A more complete implementation schedule will be submitted to the NRC as soon as availability and delivery schedules are better defined.

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DOCKET:

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WORK SHEET

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Pressurizer Level & Steam Generator Level I.D. NO.: LT 459 COMPONENT: Level Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: Level Indication ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressurizer and Steam Generator Level LOCATION: In Containment	OPERATING TIME	30 Days	1 hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0x10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph .
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP-8541
- Foxboro Report T2-1075

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Pressurizer Level & Steam Generator Level I.D. NO.: LT 460 COMPONENT: Level Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: Level Indication ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressurizer and Steam Generator Level LOCATION: In Containment ABOVE FLOOD LEVEL: YES X NO	OPERATING TIME	30 Days	1 hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0x10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph .
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP-8541
- Foxboro Report T2-1075

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Pressurizer Level & Steam Generator Level I.D. NO.: LT461 COMPONENT: Level Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: Level Indication ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressurizer and Steam Generator Level LOCATION: In Containment	OPERATING TIME	30 Days	1 hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0x10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report W-8541
- Foxboro Report T2-1075

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Pressurizer Level & Steam Generator Level I.D. NO.: LT417A COMPONENT: Level Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: Level Indication ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressurizer and Steam Generator Level LOCATION: In Containment	OPERATING TIME	30 Days	1 hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0x10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph .
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP-8541
- Foxboro Report T2-1075

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Pressurizer Level & Steam Generator Level I.D. NO.: LT417B COMPONENT: Level Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: Level Indication ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressurizer and Steam Generator Level LOCATION: In Containment ABOVE FLOOD LEVEL: YES X NO	OPERATING TIME	30 Days	1 hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0x10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph .
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP-8541
- Foxboro Report T2-1075

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Pressurizer Level & Steam Generator Level I.D. NO.: LT417C COMPONENT: Level Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: Level Indication ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressurizer and Steam Generator Level LOCATION: In Containment ABOVE FLOOD LEVEL: YES X NO	OPERATING TIME	30 Days	1 hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0x10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
	ABOVE FLOOD LEVEL: YES X NO						

REFERENCES:

- NOTES:
- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph .
 - Equipment committed for replacement.
 - Radiation dose based on transmitter located outside crane wall.

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report W-8541
- Foxboro Report T2-1075

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Pressurizer Level & Steam Generator Level I.D. NO.: LT417D COMPONENT: Level Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: Level Indication ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressurizer and Steam Generator Level LOCATION: In Containment ABOVE FLOOD LEVEL: YES X NO	OPERATING TIME	30 Days	1 hr. 12 hr.	—	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0x10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report W^o P-8541
- Foxboro Report T2-1075

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Pressurizer Level & Steam Generator Level I.O. NO.: LT427A COMPONENT: Level Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: Level Indication ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressurizer and Steam Generator Level LOCATION: In Containment ABOVE FLOOD LEVEL: YES X NO	OPERATING TIME	30 Days	1 hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0x10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph .
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP-8541
- Foxboro Report T2-1075

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Pressurizer Level & Steam Generator Level I.D. NO.: LT427B COMPONENT: Level Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: Level Indication ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressurizer and Steam Generator Level LOCATION: In Containment ABOVE FLOOD LEVEL: YES X NO	OPERATING TIME	30 Days	1 hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0x10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
	YES X NO						

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph .
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP-8541
- Foxboro Report T2-1675

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Pressurizer Level & Steam Generator Level I.D. NO.: LT427C COMPONENT: Level Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: Level Indication ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressurizer and Steam Generator Level LOCATION: In Containment	OPERATING TIME	30 Days	1 hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0x10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph .
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP-8541
- Foxboro Report T2-1075

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Pressurizer Level & Steam Generator Level I.D. NO.: LT427D COMPONENT: Level Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: Level Indication ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressurizer and Steam Generator Level LOCATION: In Containment ABOVE FLOOD LEVEL: YES X NO	OPERATING TIME	30 Days	1 hr. 12 hr.	—	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0x10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.

2. Equipment committed for replacement.

3. Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP-8541
- Foxboro Report T2-1015

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Pressurizer Level & Steam Generator Level I.D. NO.: LT437A COMPONENT: Level Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: Level Indication ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressurizer and Steam Generator Level LOCATION: In Containment ABOVE FLOOD LEVEL: YES X	OPERATING TIME	30 Days	1 hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0x10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.	
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS	
SYSTEM: Pressurizer Level & Steam Generator Level I.D. NO.: LT437C COMPONENT: Level Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: Level Indication ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressurizer and Steam Generator Level LOCATION: In Containment	OPERATING TIME	30 Days	1 hr. 12 hr.	—	3	Separate Test	Note 2	
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A	
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A	
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A	
	CHEMICAL SPRAY	Note 1	--	1	--	--	--	
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0x10 ⁷	2	4	Separate Test	N/A	
	AGING (yrs)	40	Note 2	N/A	--	--	--	
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph .
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP-8541
- Foxboro Report T2-1105

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Pressurizer Level & Steam Generator Level I.D. NO.: LT437D COMPONENT: Level Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: Level Indication ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressurizer and Steam Generator Level LOCATION: In Containment ABOVE FLOOD LEVEL: YES X NO	OPERATING TIME	30 Days	1 hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0x10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph .
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP-8541
- Foxboro Report T2-1005

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Pressurizer Level & Steam Generator Level I.D. NO.: LT447A COMPONENT: Level Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: Level Indication ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressurizer and Steam Generator Level LOCATION: In Containment	OPERATING TIME	30 Days	1 hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0x10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph .
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report W 79-8541
- Foxboro Report T2-1

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
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ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Pressurizer Level & Steam Generator Level I.D. NO.: LT447B COMPONENT: Level Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: Level Indication ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressurizer and Steam Generator Level LOCATION: In Containment	OPERATING TIME	30 Days	1 hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0x10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph .
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report W-8541
- Foxboro Report T2-1075

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Pressurizer Level & Steam Generator Level I.D. NO.: LT447C COMPONENT: Level Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: Level Indication ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressurizer and Steam Generator Level LOCATION: In Containment	OPERATING TIME	30 Days	1 hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0x10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

1. 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.

2. Equipment committed for replacement.

3. Radiation dose based on transmitter located outside crane wall.

REFERENCES:

1. FSAR Section 14.3
2. IE Bulletin 79-01B, Attachment 4, Section 1.2
3. Westinghouse Report WCAP-8541
4. Foxboro Report T2-103

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Pressurizer Level & Steam Generator Level I.D. NO.: LT447D COMPONENT: Level Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: Level Indication ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressurizer and Steam Generator Level LOCATION: In Containment	OPERATING TIME	30 Days	1 hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0x10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph .
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report W-8541
- Foxboro Report T2-1

Component:

TER Item #: 12

Device: Foxboro Transmitter

Model: E11GH

Function: RCS Pressure (PT-402, 403)

Location: Inside Containment, Outside Cranewall

Deficiency:

QM, A, R

Interim Justification:

Justification for interim operation is based on the installation of a 0-3000 psig pressure gauge to monitor Reactor Coolant System pressure. This gauge will be installed during the February 1981 outage. The modification package has been completed by Indian Point 3.

This gauge will be accessible during and after a design basis accident.

Final Resolution:

These units will be replaced with qualified transmitters. Replacement transmitters were ordered in 1978. However, these transmitters do not meet the 1974 qualification standards. The qualification of these transmitters to 1974 standards is presently under investigation. Furthermore, the Authority is a member of the utility transmitter qualification group that has been organized to fund and coordinate the environmental qualification testing of Foxboro and Rosemount transmitters to 1974 standards. In order to insure timely replacement of the above transmitters, the Authority is pursuing both methods. The completion of the transmitter replacement program will depend on the availability of qualified transmitters as well as on lead time. A more complete implementation schedule will be submitted to the NRC as soon as availability and delivery schedules are better defined.

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Reactor Coolant I.D. NO.: PT-402 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E11GH FUNCTION: Reactor Coolant System Pressure ACCURACY: (% OF SPAN) SPEC: DEMON: SERVICE: Pressure Transmitter LOCATION: In Containment	OPERATING TIME	30 days	Note 4	—	--	--	Note 2
	TEMPERATURE (°F)	287	Note 4	1	--	--	--
	PRESSURE (PSIG)	40.6	Note 4	1	--	--	--
	RELATIVE HUMIDITY (%)	100	Note 4	1	--	--	--
	CHEMICAL SPRAY	Note 1	Note 4	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0 x 10 ⁷	2	3	Separate Test	N/A
	AGING (yrs)	40 yr.	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 pH.
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.
- Equipment qualification to latest standards has not been performed.

REFERENCES:

- FSAR Section 14.3
- 1E Bulletin 79-01B, Attachment 4, Section 4.1.2
- Foxboro Report T2-1075

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Reactor Coolant I.D. NO.: PT-403 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E11GH FUNCTION: Reactor Coolant System Pressure ACCURACY: (% OF SPAN) SPEC: DEMON: SERVICE: Pressure Transmitter LOCATION: In Containment ABOVE FLOOD LEVEL: YES X NO	OPERATING TIME	30 days	Note 4	—	--	--	Note 2
	TEMPERATURE (°F)	287	Note 4	1	--	--	--
	PRESSURE (PSIG)	40.6	Note 4	1	--	--	--
	RELATIVE HUMIDITY (%)	100	Note 4	1	--	--	--
	CHEMICAL SPRAY	Note 1	Note 4	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0 x 10 ⁷	2	3	Separate Test	N/A
	AGING (yrs)	40 yr.	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 rh.
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.
- Equipment qualification to latest standards has not been performed.

REFERENCES:

- FSAR Section 14.3
- 1E Bulletin 79-01B, Attachment 4, Section 4.1.2
- Foxboro Report T2-1075

Component:

TER Item #: 11B and 16B

Device: Foxboro Transmitter

Model: E13DM (MCA)

Function: High Head SI Flow (FT-924A, 925, 926, 926A, 927, 980, 981, 982) and Recirculation Spray Flow (FT-945A,B)

Location: Inside Containment, Outside Cranewall

Model: E11GM (MCA)

Function: Pressurizer Pressure (PT-445, 456, 457, 474)

Location: Inside Containment, Outside Cranewall

Deficiency:

11B: QM, A, R

16B: QI, QM, A, R

Interim Justification:

These units have been identified as E-Series Style A transmitters. WCAP-8541 documents a steam/temperature test and references seismic testing performed by Westinghouse. A radiation test was performed on Style A transmitters and updated in Foxboro report T2-1075. This test reached a level of 1×10^7 rads gamma. It has been decided to replace these units. However, these tests provide sufficient information to warrant interim operation. The trip function performed by the pressurizer pressure function will be performed within a few minutes of the event and high head safety injection flow and recirc spray flow is required for up to thirty minutes following the event. At this point in time, the radiation level will be below 1×10^6 rads.

The documentation review for aging is ongoing. Interim operation is justified based on the fact that aging is a long term parameter and should not adversely affect equipment operability until the transmitters are replaced.

Flow will be established and adjusted following changeover to recirculation. Afterwards, there is no need to monitor this flow.

Indian Point 3 has identified that transmitters FT-981 and 982 are subject to the problem discussed in Foxboro letter of March 12, 1981, included in the SER. When shutdown in September 1981, the Authority will inspect these amplifiers as discussed in the Foxboro letter and replace the amplifiers as necessary.

Final Resolution:

These units will be replaced with qualified transmitters. Replacement transmitters were ordered in 1978. However, these transmitters do not meet the 1974 qualification standards. The qualification of these transmitters to 1974 standards is presently under investigation. Furthermore, the Authority is a member of the utility transmitter qualification group that has been organized to fund and coordinate the environmental qualification testing of Foxboro and Rosemount transmitters to 1974 standards. In order to insure timely replacement of the above transmitters, the Authority is pursuing both methods. The completion of the transmitter replacement program will depend on the availability of qualified transmitters as well as on lead time. A more complete implementation schedule will be submitted to the NRC as soon as availability and delivery schedules are better defined.

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Safety Injection I.D. NO.: FT924A COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: High Head Safety Injection & Recirculation Spray Flow ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Flow Transmitter LOCATION: In Containment	OPERATING TIME	30 min.	1 Hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 X 10 ⁷	1.0 x 10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP 9541
- Foxboro Report T-2-107^c

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Safety Injection I.D. NO.: FT925 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: High Head Safety Injection & Recirculation Spray Flow ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Flow Transmitter LOCATION: In Containment	OPERATING TIME	30 min.	1 Hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0 x 10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES <input checked="" type="checkbox"/> NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP 2541
- Foxboro Report T-2-1075

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
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ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Safety Injection I.D. NO.: FT926 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: High Head Safety Injection & Recirculation Spray Flow ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Flow Transmitter LOCATION: In Containment	OPERATING TIME	30 min.	1 Hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 X 10 ⁷	1.0 x 10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES <input checked="" type="checkbox"/> NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP 8541
- Foxboro Report T-2-107

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Safety Injection I.D. NO.: FT926A COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: High Head Safety Injection & Recirculation Spray Flow ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Flow Transmitter LOCATION: In Containment	OPERATING TIME	30 min.	1 Hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0 x 10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES <input checked="" type="checkbox"/> NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP 2541
- Foxboro Report T-2-1075

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Safety Injection I.D. NO.: FT927 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: High Head Safety Injection & Recirculation Spray Flow ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Flow Transmitter LOCATION: In Containment	OPERATING TIME	30 min.	1 Hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0 x 10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES <input checked="" type="checkbox"/> NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP 8541
- Foxboro Report T-2-1075

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Safety Injection I.D. NO.: FT980 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: High Head Safety Injection & Recirculation Spray Flow ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Flow Transmitter LOCATION: In Containment	OPERATING TIME	30 min.	1 Hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0 x 10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES <input checked="" type="checkbox"/> NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP #541
- Foxboro Report T-2-107

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Safety Injection I.D. NO.: FT981 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: High Head Safety Injection & Recirculation Spray Flow ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Flow Transmitter LOCATION: In Containment	OPERATING TIME	30 min.	1 Hr. 12 hr.	—	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0 x 10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES <input checked="" type="checkbox"/> NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP 9541
- Foxboro Report T-2-1075

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Safety Injection I.D. NO.: FT982 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: High Head Safety Injection & Recirculation Spray Flow ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Flow Transmitter LOCATION: In Containment ABOVE FLOOD LEVEL: YES <input checked="" type="checkbox"/> NO	OPERATING TIME	30 min.	1 Hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 X 10 ⁷	1.0 x 10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP 3541
- Foxboro Report T-2-107^c

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Safety Injection I.D. NO.: FT945A COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: High Head Safety Injection & Recirculation Spray Flow ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Flow Transmitter LOCATION: In Containment	OPERATING TIME	30 min.	1 Hr. 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0 x 10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES <input checked="" type="checkbox"/> NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP 8541
- Foxboro Report T-2-1075

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	
SYSTEM: Safety Injection I.D. NO.: FT945B COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM (MCA) FUNCTION: High Head Safety Injection & Recirculation Spray Flow ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Flow Transmitter LOCATION: In Containment ABOVE FLOOD LEVEL: YES <input checked="" type="checkbox"/> NO	OPERATING TIME	30 min.	1 Hr. / 12 hr.	---	3	Separate Test	Note 2
	TEMPERATURE (°F)	287	318 / 288	1	3	Separate Test	N/A
	PRESSURE (PSIG)	40.6	90 / 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 X 10 ⁷	1.0 x 10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement.
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP 2541
- Foxboro Report T-2-107^r

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Pressurizer Pressure I.D. NO.: PT45 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM (MCA) FUNCTION: Pressurizer Pressure Transmitter ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressure Transmitter LOCATION: In Containment ABOVE FLOOD LEVEL: YES X NO	OPERATING TIME	5 min.	1 hour 12 hrs.	—	3	Separate Test	Note 2
	TEMPERATURE (°F) note 2	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG) note 2	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	3	N/A	N/A
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0 x 10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP 8541
- Foxboro Report D-1075

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Pressurizer Pressure I.D. NO.: PT456 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM (MCA) FUNCTION: Pressurizer Pressure Transmitter ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressure Transmitter LOCATION: In Containment ABOVE FLOOD LEVEL: YES X NO	OPERATING TIME	5 min.	1 hour 12 hrs.	—	3	Separate Test	Note 2
	TEMPERATURE (°F) note 2	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG) note 2	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	3	N/A	N/A
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0 x 10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP 8541
- Foxboro Report ~~TR~~^Z-1075

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Pressurizer Pressure I.D. NO.: PT457 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM (MCA) FUNCTION: Pressurizer Pressure Transmitter ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressure Transmitter LOCATION: In Containment	OPERATING TIME	5 min.	1 hour 12 hrs.	—	3	Separate Test	Note 2
	TEMPERATURE (°F) note 2	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG) note 2	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	3	N/A	N/A
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0x 10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP 8541
- Foxboro Report TW-1075

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Pressurizer Pressure I.D. NO.: PT474 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM (MCA) FUNCTION: Pressurizer Pressure Transmitter ACCURACY: (% OF SPAN) SPEC: +10 DEMON: -15 SERVICE: Pressure Transmitter LOCATION: In Containment ABOVE FLOOD LEVEL: YES X NO	OPERATING TIME	5 min.	1 hour 12 hrs.	—	3	Separate Test	Note 2
	TEMPERATURE (°F) note 2	287	318 288	1	3	Separate Test	N/A
	PRESSURE (PSIG) note 2	40.6	90 56	1	3	Separate Test	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Separate Test	N/A
	CHEMICAL SPRAY	Note 1	--	1	3	N/A	N/A
	RADIATION (rads)	Note 3 .67 x 10 ⁷	1.0 x 10 ⁷	2	4	Separate Test	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP 8541
- Foxboro Report TW-1075

Component:

TER Item #: 13, 16A

Device: Foxboro Transmitter

Model: E11GM

Function: Containment Pressure (PT-948A,B,C and 949A,B,C) and SI Pump
Suction and Discharge Pressure (PT-922, 923, and 947)

Location: Pipe Penetration Area and Safety Injection Room (respec-
tively)

Deficiency:

QM, A, R

Interim Justification:

Radiation is the only environment that changes during a DBE for these transmitter locations. The amplifiers have been satisfactorily tested per Foxboro report T2-1075 to 1×10^7 Rads gamma which exceeds the service condition requirement of 3.6×10^6 rads. Indian Point 3 has established that the same model amplifiers tested are installed in the plant.

The documentation review for aging is ongoing. Interim operation is justified based on the fact that aging is a long term parameter and should not adversely affect equipment operability until the question is more fully resolved. In addition to the material evaluation being conducted, Indian Point 3 will establish an ongoing program to review the surveillance and maintenance records of the plant in order to identify equipment degradation which may be age related. A maintenance program will be established which, in conjunction with the surveillance program and materials study results, will lead to the establishment of a replacement schedule for equipment that is qualified for less than the life of the plant. This replacement schedule will be developed and provided to the staff as it becomes available.

Final Resolution:

The additional information concerning the aging evaluation program will be forwarded to the Staff as soon it becomes available.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	
SYSTEM: Containment Pressure I.D. NO.: PT-948A COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E11GM FUNCTION: Containment Pressure Indication ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Transmitter LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	5 min	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6×10^6	1.0×10^7	1	2	Separate Test	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B, Attachment 4, Section 4.3
2. Foxboro Report T2-1075

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Containment Pressure I.D. NO.: PT-948B COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: F11GM FUNCTION: Containment Pressure Indication ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Transmitter LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	5 min	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6×10^6	1.0×10^7	1	2	Separate Test	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B, Attachment 4, Section 4.3
2. Foxboro Report T2-1075

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Containment Pressure I.D. NO.: PT-948C COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E11GM FUNCTION: Containment Pressure Indication ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Transmitter LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	5 min	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6×10^6	1.0×10^7	1	2	Separate Test	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B, Attachment 4, Section 4.3
2. Foxboro Report T2-1075

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Containment Pressure I.D. NO.: PT-949A COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E11GM FUNCTION: Containment Pressure Indication ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Transmitter LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	5 min	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6×10^6	1.0×10^7	1	2	Separate Test	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B, Attachment 4, Section 4.3
2. Foxoboro Report T2-1075

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Containment Pressure I.D. NO.: PT-949B COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E11GM FUNCTION: Containment Pressure Indication ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Transmitter LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	5 min	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6×10^6	1.0×10^7	1	2	Separate Test	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B, Attachment 4, Section 4.3
2. Foxboro Report T2-1075

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Containment Pressure I.D. NO.: PT-949C COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E11GM FUNCTION: Containment Pressure Indication ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Transmitter LOCATION: Pipe Penetration Area	OPERATING TIME	5 min	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6 x 10 ⁶	1.0 x 10 ⁷	1	2	Separate Test	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	ABOVE FLOOD LEVEL: N/A YES NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B, Attachment 4, Section 4.3
2. Foxboro Report T2-1075

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Safety Injection I.D. NO.: PT-922 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM FUNCTION: Safety Injection Pump Discharge Pressure ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Transmitter LOCATION: Safety Injection Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	--	N/A	N/A
	RADIATION (rads)	3.6×10^6	1.0×10^7	1	2	Separate Test	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

- 1E Bulletin 79-01B, Attachment 4, Section 4.3
- Foxboro Report T2-1075

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Safety Injection I.D. NO.: PT-923 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM FUNCTION: Safety Injection Pump Discharge Pressure ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Transmitter LOCATION: Safety Injection Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	--	N/A	N/A
	RADIATION (rads)	3.6×10^6	1.0×10^7	1	2	Separate Test	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

- 1E Bulletin 79-01B, Attachment 4, Section 4.3
- Foxboro Report T2-1075

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Safety Injection I.D. NO.: PT-947 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM FUNCTION: Safety Injection Pump Discharge Pressure ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Transmitter LOCATION: Safety Injection Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	--	N/A	N/A
	RADIATION (rads)	3.6×10^6	1.0×10^7	1	2	Separate Test	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

- 1E Bulletin 79-01B, Attachment 4, Section 4.3
2. Foxboro Report T2-1075

Component:

TER Item #: 14A and 15

Device: Foxboro Transmitter

Model: E11GM

Function: Steam Pressure to AFP (PT-1126)
City Water To AFP (PT-1205)
AFP Discharge Pressure (PT-406A&B)
AFP Suction Pressure (PT-1263, 1264, 1265)
AFP Discharge Pressure (PT-1260, 1261, 1262)

Location: Auxiliary Pump Room

Model: E13DM

Function: Auxiliary Feedwater Flow (FT-1200, 1201, 1202, 1203)

Location: Auxiliary Pump Room

Deficiency:

QM, A, R

Interim Justification:

The Auxiliary Pump Room is protected by redundant temperature switches which actuate at 135°F to isolate the steam to the auxiliary feed pump. Once these switches actuate, the conditions in the room should quickly return to normal in case of an accident. The calculations performed showing 0.9 psig and a saturation temperature of 215°F assume that the temperature switches fail to operate and that the leak remains unisolated.

Even though these temperature switches are presently unqualified, it is felt that in the interim, their operation can be relied upon due to their low actuation temperature setpoint of 135°F. Assuming that these switches do operate in the event of a steam leak, the room conditions should not greatly exceed the 135°F setpoint.

In addition, redundant channels of transmitters are separated by a steel sheet which reduces the possibility for simultaneous loss of redundant channels due to direct impingement of steam during the short time required to isolate the break in this area. Radiation levels in this area are not expected to change as the result of an accident, therefore, radiation is not considered to be a deficiency for these transmitters.

Final Resolution:

The temperature switches relied upon in this accident will be qualified, replaced, or modified to ensure their operation.

The licensee is also evaluating the effect on safety related equipment of the temperature excursion expected in this area as a result of a steam line break. Additional action will be taken by the licensee based on the results of this study. It is anticipated that the results will confirm the belief that the rupture will be isolated by the temperature switches before the critical components of the safety related devices become elevated to temperatures that will affect their operability.

Additionally, the licensee is in the process of evaluating the feasibility of isolating the steam line to the turbine driven auxiliary feedwater pump outside the Auxiliary Pump Room. If this modification is made, this area would then become a mild environmental zone. Indian Point 3 has determined that transmitter PT-1126 is not required for accident mitigation and should therefore be deleted from the list of safety related devices.

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Auxiliary Feedwater I.D. NO.: PT-1205 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM FUNCTION: City Water Pressure to Auxiliary Feedwater Pump ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Transmitter LOCATION: Auxiliary Pump Room	OPERATING TIME	N/A	N/A	---	---	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	---	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	---	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	---	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	----	N/A	---	---	---
	ABOVE FLOOD LEVEL: N/A YES NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Trosten to Giambusso of 5/14/73

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	
SYSTEM: Auxiliary Feedwater I.D. NO.: PT-406A COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM FUNCTION: Auxiliary Feed-water Pump Suction Pressure ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Transmitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Troston to Giambusso of 5/14/73

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	
SYSTEM: Auxiliary Feedwater I.D. NO.: PT-406B COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM FUNCTION: Auxiliary Feed- water Pump Suction Pressure ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Transmitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Troston to Giambusso of 5/14/73

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Auxiliary Feedwater I.D. NO.: PT-1263 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM FUNCTION: Auxiliary Feed- water Pump Discharge Press. ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Trans- mitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Trosten to Giambusso of 5/14/73

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Auxiliary Feedwater I.D. NO.: PT-1264 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM FUNCTION: Auxiliary Feed- water Pump Discharge Press. ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Trans- mitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Trosten to Giambusso of 5/14/73.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Auxiliary Feedwater I.D. NO.: PT-1265 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM FUNCTION: Auxiliary Feed- water Pump Discharge Press. ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Trans- mitter LOCATION: Auxiliary Pump Room	OPERATING TIME	N/A	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	ABOVE FLOOD LEVEL: N/A YES NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES: 1. Analysis of High Energy Lines in letter
Trosten to Giambusso of 5/14/73

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Auxiliary Feedwater I.D. NO.: PT-1260 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM FUNCTION: Auxiliary Feed- water Pump Suction Pressure ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Transmitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Troston to Giambusso of 5/14/73

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Auxiliary Feedwater I.D. NO.: PT-1261 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM FUNCTION: Auxiliary Feed- water Pump Suction Pressure ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Transmitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Troston to Giambusso of 5/14/73

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Auxiliary Feedwater I.D. NO.: PT-1262 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM FUNCTION: Auxiliary Feed- water Pump Suction Pressure ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Transmitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Troston to Giambusso of 5/14/73

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Steam Generator Feedwater I.D. NO.: FT 1200 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM FUNCTION: Steam Generator Feedwater Pressure ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Trans- mitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A	—	—	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	—	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	—	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	—	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	—	N/A	—	—	—
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Trosten to Giambusso of 5/14/73

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Steam Generator Feedwater I.D. NO.: FT 1201 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM FUNCTION: Steam Generator Feedwater Pressure ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Transmitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A	—	—	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	—	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	—	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	—	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	—	N/A	—	—	—
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Trosten to Giambusso of 5/14/73

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Steam Generator Feedwater I.D. NO.: FT 1202 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM FUNCTION: Steam Generator Feedwater Pressure ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Trans- mitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A	—	—	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	—	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	—	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	—	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	—	N/A	—	—	—
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Trosten to Giambusso of 5/14/73

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Steam Generator Feedwater I.D. NO.: FT 1203 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM FUNCTION: Steam Generator Feedwater Pressure ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Trans- mitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A	—	—	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	—	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	—	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	—	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	—	N/A	—	—	—
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Trosten to Giambusso of 5/14/73

Component:

TER Item #: 14B and 14C

Device: Foxboro Transmitter

Model: E11GM

Function: Main Steam Pressure (PT-419A,B,C; PT-429A,B,C;
439A,B,C; 449A,B,C)

Steam Generator Feedwater Pressure (PT-1163, 1164, 1165, 1166)

Location: Auxiliary Pump Room

Model: E13DM

Function: Main Feedwater Flow (FT-418A,B; 428A,B; 438A,B; 448A,B)

Location: Auxiliary Pump Room

Deficiency:

QM, A, R

Interim Justification:

The Auxiliary Pump Room is protected by redundant temperature switches which actuate at 135°F to isolate the steam to the auxiliary feed pump. Once these switches actuate, the conditions in the room should quickly return to normal in case of an accident. The calculations performed showing 0.9 psig and a saturation temperature of 215°F assume that the temperature switches fail to operate and that the leak remains unisolated.

Even though these temperature switches are presently unqualified, it is felt that in the interim, their operation can be relied upon due to their low actuation temperature setpoint of 135°F. Assuming that these switches do operate in the event of a steam leak, the room conditions should not greatly exceed the 135°F setpoint.

In addition, redundant channels of transmitters are separated by a steel sheet which reduces the possibility for simultaneous loss of redundant channels due to direct impingement of steam during the short time required to isolate the break in this area. Radiation levels in this area are not expected to change as the result of an accident, therefore, radiation is not considered to be a deficiency for these transmitters.

Final Resolution:

The temperature switches relied upon in this accident will be qualified, replaced, or modified to ensure their operation.

The licensee is also evaluating the effect on safety related equipment of the temperature excursion expected in this area as a result of a steam line break. Additional action will be taken by the licensee based on the results of this study. It is anticipated that the results will confirm the belief that the rupture will be isolated by the temperature switches before the critical components of the safety related devices become elevated to temperatures that will affect their operability.

Additionally, the licensee is in the process of evaluating the feasibility of isolating the steam line to the turbine driven auxiliary feedwater pump outside the Auxiliary Pump Room. If this modification is made, this area would then become a mild environmental zone.

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Main Steam I.D. NO.: PT 419 A, B, C COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM FUNCTION: Main Steam Pressure ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Transmitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A	---	---	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	---	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	---	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	---	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	---	N/A	---	---	---
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Trosten to Giambusso of 5/14/73

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Main Steam	OPERATING TIME	N/A	N/A	—	—	N/A	N/A
I.D. NO.: PT 429 A, B, C COMPONENT: Transmitter	TEMPERATURE (°F)	135	N/A	1	—	N/A	N/A
MANUFACTURER: Foxboro	PRESSURE (PSIG)	0	N/A	1	—	N/A	N/A
MODEL NO.: E-11GM	RELATIVE HUMIDITY (%)	100	N/A	1	—	N/A	N/A
FUNCTION: Main Steam Pressure	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15%	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
SERVICE: Pressure Transmitter	AGING (yrs)	40	N/A	N/A	—	—	—
LOCATION: Auxiliary Pump Room	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
ABOVE FLOOD LEVEL: N/A YES NO							

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Trosten to Giambusso of 5/14/73

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Main Steam I.D. NO.: PT 439 A, B, C COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM FUNCTION: Main Steam Pressure ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Transmitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A	—	—	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	—	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	—	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	—	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	N/A	N/A	—	—	—
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Trosten to Giambusso of 5/14/73

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Main Steam I.D. NO.: PT 449 A, B, C COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-11GM FUNCTION: Main Steam Pressure ACCURACY: (% OF SPAN) SPEC: +10% DEMON: -15% SERVICE: Pressure Transmitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A	—	—	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	—	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	—	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	—	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	N/A	N/A	—	—	—
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Trosten to Giambusso of 5/14/73

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Auxiliary Feedwater I.D. NO.: PT-1163 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM FUNCTION: Auxiliary Feedwater ACCURACY: (% OF SPAN) SPEC: +10% DEMON:-15% SERVICE: Transmitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A	---	---	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A		N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Trosten to Giambusso of 5/14/73

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Auxiliary Feedwater I.D. NO.: PT-1164 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM FUNCTION: Auxiliary Feedwater ACCURACY: (% OF SPAN) SPEC: +10% DEMON:-15% SERVICE: Transmitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A	---	---	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A		N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Trosten to Giambusso of 5/14/73

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Auxiliary Feedwater I.D. NO.: PT-1165 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM FUNCTION: Auxiliary Feedwater ACCURACY: (% OF SPAN) SPEC: +10% DEMON:-15% SERVICE: Transmitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A	---	---	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A		N/A	N/A	N/A	N/A

NOTES:

REFERENCES:
1. Analysis of High Energy Lines in letter Trosten to Giambusso of 5/14/73

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Auxiliary Feedwater I.D. NO.: PT-1166 COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM FUNCTION: Auxiliary Feedwater ACCURACY: (% OF SPAN) SPEC: +10% DEMON:-15% SERVICE: Transmitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A	---	---	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A		N/A	N/A	N/A	N/A

NOTES:

REFERENCES:
1. Analysis of High Energy Lines in letter
Trosten to Giambusso of 5/14/73

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Steam Generator Feedwater I.D. NO.: FT 418 A, B COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM FUNCTION: Main Feedwater Flow ACCURACY: (% OF SPAN) SPEC: +10% DEMON: SERVICE: Flow Transmitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A		--	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Trosten to Giambusso of 5/14/73

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	
SYSTEM: Steam Generator Feedwater I.D. NO.: FT 428 A, B COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM FUNCTION: Main Feedwater Flow ACCURACY: (% OF SPAN) SPEC: +10% DEMON: SERVICE: Flow Transmitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A		--	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Trosten to Giambusso of 5/14/73

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Steam Generator Feedwater I.D. NO.: FT 438 A, B COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM FUNCTION: Main Feedwater Flow ACCURACY: (% OF SPAN) SPEC: +10% DEMON: SERVICE: Flow Transmitter LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	N/A	N/A		--	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Trosten to Giambusso of 5/14/73

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Steam Generator Feedwater I.D. NO.: FT 448 A, B COMPONENT: Transmitter MANUFACTURER: Foxboro MODEL NO.: E-13DM FUNCTION: Main Feedwater Flow ACCURACY: (% OF SPAN) SPEC: +10% DEMON: SERVICE: Flow Transmitter LOCATION: Auxiliary Pump Room	OPERATING TIME	N/A	N/A		--	N/A	N/A
	TEMPERATURE (°F)	135	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
ABOVE FLOOD LEVEL: N/A YES NO							

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter
Trosten to Giambusso of 5/14/73

Component:

TER Item #: 19 - Model 8300
21 - Model 8314
22 - Model 8316
23A - Model 8316
24 - Model 8317
25 - Model 8300

Device: ASCO Solenoid Valves

Function: Actuates 49 separate valves

Location: Pipe Penetrations Area (21, 22, 24, 25)

Auxiliary Pump Room (19)

Steam and Feedline Penetrations Area (23A)

Deficiency:

QI

Interim Justification:

N/A

Final Resolution

The information provided in NS-CE-755 (Potential Mode of Failures Identified for Solenoid Valves) concerning these valves provides assurance through analysis that the ASCO solenoids will perform their safety function without occurrence of a common mode failure.

The documentation review for aging is ongoing. Operation is justified based on the fact that aging is a long term parameter and should not adversely affect equipment operability until the question is more fully resolved or the units are replaced. In addition to the material evaluation being conducted, Indian Point 3 will establish an ongoing program to review the surveillance and maintenance records of the plant in order to identify equipment degradation which may be age related. A maintenance program will be established which, in conjunction with the surveillance program and materials study results, will lead to the establishment of a replacement schedule for equipment that is qualified for less than the life of the plant.

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Auxiliary Feedwater I.D. NO.: PCV1121 COMPONENT: Solenoid Valve MANUFACTURER: Asco MODEL NO.: 8300 FUNCTION: City Water Suction Control Valve ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Auxiliary Feedwater Suction Control LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 days	5 hr.	---	2	Analysis	N/A
	TEMPERATURE (°F)	135		1	2	Analysis	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100		1	2	Analysis	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	N/A
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Trosten to Giambusso of 5/14/73
2. NS-CE-755

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Auxiliary Feedwater I.D. NO.: PCV1123 COMPONENT: Solenoid Valve MANUFACTURER: Asco MODEL NO.: 8300 FUNCTION: City Water Suction Control Valve ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Auxiliary Feedwater Suction Control LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 days	5 hr.	---	2	Analysis	N/A
	TEMPERATURE (°F)	135		1	2	Analysis	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100		1	2	Analysis	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	N/A
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of High Energy Lines in letter Trosten to Giambusso of 5/14/73
2. NS-CE-755

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Auxiliary Feedwater I.D. NO.: PCV 1139 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL NO.: 8300 FUNCTION: Auxiliary Feedwater Recirculation Flow Trip ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Auxiliary Feedwater Recirculation LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	5 hr	—	2	Analysis	N/A
	TEMPERATURE (°F)	135		1	2	Analysis	N/A
	PRESSURE (PSIG)	0	N/A	1	—	N/A	N/A
	RELATIVE HUMIDITY (%)	100		1	2	Analysis	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40		—	N/A	—	—
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of high energy line in Letter Trosten to Giambusso 5/14/73

2 NS-CE-755

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	
SYSTEM: Auxiliary Feedwater I.D. NO.: PCV-1187 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL NO.: 8300 FUNCTION: Auxiliary Feedwater Pump Steam Pressure Control Valve ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Steam Pressure Control LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	5 hr.	---	2	Analysis	N/A
	TEMPERATURE (°F)	135		1	2	Analysis	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100		1	2	Analysis	N/A
	CHEMICAL SPRAY	N/A		1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of high energy lines in Letter Trosten to Giambusso of 5/14/73
2. NS-CE-755

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Auxiliary Feedwater I.D. NO.: PCV-1188 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL NO.: 8300 FUNCTION: Auxiliary Feedwater Pump Steam Pressure Control Valve ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Steam Pressure Control LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	5 hr.	---	2	Analysis	N/A
	TEMPERATURE (°F)	135		1	2	Analysis	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100		1	2	Analysis	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of high energy lines in Letter Trosten to Giambusso of 5/14/73
2. NS-CE-755

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Auxiliary Feedwater I.D. NO.: PCV-1189 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL NO.: 8300 FUNCTION: Auxiliary Feedwater Pump Steam Pressure Control Valve ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Steam Pressure Con- trol LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	5 hr.	---	2	Analysis	N/A
	TEMPERATURE (°F)	135		1	2	Analysis	N/A
	PRESSURE (PSIG)	0	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	100		1	2	Analysis	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of high energy lines in Letter Trosten to Giambusso of 5/14/73
2. NS-CE-755

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Accumulator I.D. NO.956 C & D COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 8314 FUNCTION: Pressurizer Liquid Space Sample Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6×10^6	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Accumulator I.D. NO.: 519 COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 8314 FUNCTION: Pressurizer Relief Tank Make-up Isolation ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6×10^6	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator I.D. NO.: 552 COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 8314 FUNCTION: Pressurizer Relief Tank Make-up Isolation ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6 x 10 ⁶	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
I.D. NO.: 956 A & B COMPONENT: Solenoid Valves	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
MANUFACTURER: ASCO	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
MODEL NO.: 8314	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
FUNCTION: Pressurizer Steam Space Sample Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
SERVICE: Isolation Valves	RADIATION (rads)	3.6×10^6	--	1	--	--	--
LOCATION: Pipe Penetration Area	AGING (yrs)	40	--	N/A	--	--	--
ABOVE FLOOD LEVEL: N/A YES NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Accumulator I.D. NO.: 1728 COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 8314 FUNCTION: Containment Sump Pump Discharge Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6 x 10 ⁶	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator I.D. NO.: 1723 COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 8314 FUNCTION: Containment Sump Pump Discharge Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6×10^6	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator I.D. NO.: 1702 COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 8314 FUNCTION: Reactor Coolant Drain Pump Discharge Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6×10^6	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Accumulator I.D. NO.: 1705 COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 8314 FUNCTION: Reactor Coolant Drain Pump Discharge Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6 x 10 ⁶	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator I.D. NO.: 1786 COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 8314 FUNCTION: Reactor Coolant Drain Tank Vent Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6×10^6	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator I.D. NO.: 1787 COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 8314 FUNCTION: Reactor Coolant Drain Tank Vent Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	—	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6 x 10 ⁶	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator I.D. NO.: 1788 COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 8314 FUNCTION: Reactor Coolant Drain Tank Gas Analyzer Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	—	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6 x 10 ⁶	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
I.D. NO.: 1789 COMPONENT: Solenoid Valves	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
MANUFACTURER: ASCO	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
MODEL NO.: 8314	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
FUNCTION: Reactor Coolant Drain Tank Gas Analyzer Isolation Valves	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	3.6 x 10 ⁶	--	1	--	--	--
SERVICE: Isolation Valves	AGING (yrs)	40	--	N/A	--	--	--
LOCATION: Pipe Penetration Area	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
ABOVE FLOOD LEVEL: N/A YES NO							

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Accumulator I.D. NO.: 548 COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 8314 FUNCTION: Pressurizer Relief Tank Gas Analyzer Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6 x 10 ⁶	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
I.D. NO.: 549 COMPONENT: Solenoid Valves	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
MANUFACTURER: ASCO	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
MODEL NO.: 8314	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
FUNCTION: Pressurizer Relief Tank Gas Analyzer Isolation Valves	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	3.6 x 10 ⁶	--	1	--	--	--
SERVICE: Isolation Valves	AGING (yrs)	40	--	N/A	--	--	--
LOCATION: Pipe Penetration Area	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
ABOVE FLOOD LEVEL: N/A YES NO							

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator	OPERATING TIME	30 Days	N/A	—	--	N/A	N/A
I.D. NO.: 956 G & H COMPONENT: Solenoid Valves	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
MANUFACTURER: ASCO	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
MODEL NO.: 8314	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
FUNCTION: Accumulator Sample Isolation Valves	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	3.6 x 10 ⁶	--	1	--	--	--
SERVICE: Isolation Valves	AGING (yrs)	40	--	N/A	--	--	--
LOCATION: Pipe Penetration Area	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
ABOVE FLOOD LEVEL: N/A YES NO							

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
I.D. NO.: 956 E & F COMPONENT: Solenoid Valves	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
MANUFACTURER: ASCO	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
MODEL NO.: 8314	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
FUNCTION: RCS Sampling Isolation	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	3.6×10^6	--	1	--	--	--
SERVICE: Isolation Valves	AGING (yrs)	40	--	N/A	--	--	--
LOCATION: Pipe Penetration Area	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
ABOVE FLOOD LEVEL: N/A YES NO							

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Accumulator	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
I.D. NO.: 798 COMPONENT: Solenoid Valves	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
MANUFACTURER: ASCO	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
MODEL NO.: 8316	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
FUNCTION: Excess Letdown Heat Exchanger Isolation Valves	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	3.6×10^6	--	1	--	--	--
SERVICE: Isolation Valves	AGING (yrs)	40	--	N/A	--	--	--
LOCATION: Pipe Penetration Area	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
ABOVE FLOOD LEVEL: N/A YES NO							

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
I.D. NO. 796 COMPONENT: Solenoid Valves	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
MANUFACTURER: ASCO	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
MODEL NO.: 8316	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
FUNCTION: Excess Letdown Heat Exchanger Isolation Valves	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	3.6×10^6	--	1	--	--	--
SERVICE: Isolation Valves	AGING (yrs)	40	--	N/A	--	--	--
LOCATION: Pipe Penetration Area	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
ABOVE FLOOD LEVEL: N/A YES NO							

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
I.D. NO.: 791 COMPONENT: Solenoid Valves	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
MANUFACTURER: ASCO	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
MODEL NO.: 8316	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
FUNCTION: Excess Letdown Heat Exchanger Isolation Valves	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	3.6 x 10 ⁶	--	1	--	--	--
SERVICE: Isolation Valves	AGING (yrs)	40	--	N/A	--	--	--
LOCATION: Pipe Penetration Area	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
ABOVE FLOOD LEVEL: N/A YES NO							

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
I.D. NO.: 793 COMPONENT: Solenoid Valves	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
MANUFACTURER: ASCO	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
MODEL NO.: 8316	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
FUNCTION: Excess Letdown Heat Exchanger Isolation Valves	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	3.6×10^6	--	1	--	--	--
SERVICE: Isolation Valves	AGING (yrs)	40	--	N/A	--	--	--
LOCATION: Pipe Penetration Area	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
ABOVE FLOOD LEVEL: N/A YES NO							

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
I.D. NO.: 202 COMPONENT: Solenoid Valves	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
MANUFACTURER: ASCO	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
MODEL NO.: 8316	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
FUNCTION: Letdown Isolation Valves	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	3.6×10^6	--	1	--	--	--
SERVICE: Isolation Valves	AGING (yrs)	40	--	N/A	--	--	--
LOCATION: Pipe Penetration Area	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
ABOVE FLOOD LEVEL: N/A YES NO							

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
I.D. NO.: 201 COMPONENT: Solenoid Valves	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
MANUFACTURER: ASCO	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
MODEL NO.: 8316	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
FUNCTION: Letdown Isolation Valves	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	3.6 x 10 ⁶	--	1	--	--	--
SERVICE: Isolation Valves	AGING (yrs)	40	--	N/A	--	--	--
LOCATION: Pipe Penetration Area	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
ABOVE FLOOD LEVEL: N/A YES NO							

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Auxiliary Feedwater I.D. NO.: SV-1310 A COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL NO.: 8316 FUNCTION: Steam Supply to Turbine Driven Auxiliary Feed Pump ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Steam/Feedline Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Min.	5 hr.	—	2	Analysis	N/A
	TEMPERATURE (°F)	135		1	2	Analysis	N/A
	PRESSURE (PSIG)	0	--	1	--	--	--
	RELATIVE HUMIDITY (%)	100		1	2	Analysis	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of high energy lines in Letter Trosten to Giambusso 5/14/73
2. NS-CE-755

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Auxiliary Feedwater I.D. NO.: SV-1310 B COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL NO.: 8316 FUNCTION: Steam Supply to Turbine Driven Auxiliary Feed Pump ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Steam/Feedline Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Min.	5 hr.	---	2	Analysis	N/A
	TEMPERATURE (°F)	213	300	1	2	Analysis	N/A
	PRESSURE (PSIG)	.42	--	1	--	--	--
	RELATIVE HUMIDITY (%)	100		1	2	Analysis	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. Analysis of high energy lines in Letter Trosten to Giambusso 5/14/73
2. NS-CE-755

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Accumulator	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
I.D. NO.: LCV 1158 COMPONENT: Solenoid Valves	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
MANUFACTURER: ASCO	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
MODEL NO.: 8317	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
FUNCTION: Condensate Storage Tank Valve	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	3.6 x 10 ⁶	--	1	--	--	--
SERVICE: Isolation Valves	AGING (yrs)	40	--	N/A	--	--	--
LOCATION: Pipe Penetration Area	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
ABOVE FLOOD LEVEL: N/A YES NO							

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator I.D. NO.: PCV 1241 COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 8300 FUNCTION: Containment Radiation Monitoring Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	—	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6×10^6	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
I.D. NO.: PCV 1235 COMPONENT: Solenoid Valves	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
MANUFACTURER: ASCO	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
MODEL NO.: 8300	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
FUNCTION: Containment Radiation Monitoring Isolation Valves	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	3.6×10^6	--	1	--	--	--
SERVICE: Isolation Valves	AGING (yrs)	40	--	N/A	--	--	--
LOCATION: Pipe Penetration Area	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
ABOVE FLOOD LEVEL: N/A YES NO							

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator I.D. NO.: PCV 1234 COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 8300 FUNCTION: Containment Radiation Monitoring Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6 x 10 ⁶	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Accumulator I.D. NO.: PCV 1236 COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 8300 FUNCTION: Containment Radiation Monitoring Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6 x 10 ⁶	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
I.D. NO.: PCV 1237 COMPONENT: Solenoid Valves	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
MANUFACTURER: ASCO	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
MODEL NO.: 8300	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
FUNCTION: Containment Radiation Monitoring Isolation Valves	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	3.6×10^6	--	1	--	--	--
SERVICE: Isolation Valves	AGING (yrs)	40	--	N/A	--	--	--
LOCATION: Pipe Penetration Area	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
ABOVE FLOOD LEVEL: N/A YES NO							

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
I.D. NO.: PCV 1238 COMPONENT: Solenoid Valves	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
MANUFACTURER: ASCO	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
MODEL NO.: 8300	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
FUNCTION: Containment Radiation Monitoring Isolation Valves	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	3.6×10^6	--	1	--	--	--
SERVICE: Isolation Valves	AGING (yrs)	40	--	N/A	--	--	--
LOCATION: Pipe Penetration Area	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
ABOVE FLOOD LEVEL: N/A YES NO							

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
I.D. NO.: PCV 1239 COMPONENT: Solenoid Valves	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
MANUFACTURER: ASCO	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
MODEL NO.: 8300	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
FUNCTION: Containment Radiation Monitoring Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
SERVICE: Isolation Valves	RADIATION (rads)	3.6×10^6	--	1	--	--	--
LOCATION: Pipe Penetration Area	AGING (yrs)	40	--	N/A	--	--	--
ABOVE FLOOD LEVEL: N/A YES NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Accumulator I.D. NO.: PCV 1240 COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 8300 FUNCTION: Containment Radiation Monitoring Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6×10^6	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Accumulator I.D. NO.: PCV 1173 COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 18300 FUNCTION: Containment Purge ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6×10^6	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
I.D. NO.: PCV 1171 COMPONENT: Solenoid Valves	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
MANUFACTURER: ASCO	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
MODEL NO.: 8300	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
FUNCTION: Containment Purge Exhaust Vales	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	3.6 x 10 ⁶	--	1	--	--	--
SERVICE: Isolation Valves	AGING (yrs)	40	--	N/A	--	--	--
LOCATION: Pipe Penetration Area	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
ABOVE FLOOD LEVEL: N/A YES NO							

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Accumulator I.D. NO.: PCV 1226 COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 8300 FUNCTION: Steam Generator Sample Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6×10^6	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

FIGURE
11B

COMPONENT: SOLENOID VALVES
 MANUFACTURER: ASCO
 MODEL NO.: 8300
 FUNCTION: Steam Generator
 Sample Isolation Valves
 ACCURACY: N/A
 (% OF SPAN) SPEC:
 DEMON:
 SERVICE: Isolation Valves
 LOCATION: Pipe Penetration
 Area
 ABOVE FLOOD LEVEL: N/A
 YES NO

TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
RADIATION (rads)	3.6 x 10 ⁶	--	1	--	--	--
AGING (yrs)	40	--	N/A	--	--	--
SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator I.D. NO.: PCV 1224 COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 8300 FUNCTION: Steam Generator Sample Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6×10^6	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Accumulator I.D. NO.: PCV 1223 COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 8300 FUNCTION: Steam Generator Sample Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6×10^6	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

- IE Bulletin 79-01B Attachment 4, Section 4.3

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator	OPERATING TIME	30 Days	N/A	—	--	N/A	N/A
I.D. NO.: PCV 1228 COMPONENT: Solenoid Valves	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
MANUFACTURER: ASCO	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
MODEL NO.: 8300	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
FUNCTION: Instrument Air Isolation Valve	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	3.6 x 10 ⁶	--	1	--	--	--
SERVICE: Isolation Valves	AGING (yrs)	40	--	N/A	--	--	--
LOCATION: Pipe Penetration Area	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
ABOVE FLOOD LEVEL: N/A YES NO							

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator I.D. NO.: PCV 1217 COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 8300 FUNCTIONS: Steam Generator Blowdown Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6×10^6	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator	OPERATING TIME	30 Days	N/A	—	--	N/A	N/A
I.D. NO.: PCV 1215 COMPONENT: Solenoid Valves	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
MANUFACTURER: ASCO	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
MODEL NO.: 8300	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
FUNCTION: Steam Generator Blowdown Isolation Valves	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	3.6 x 10 ⁶	--	1	--	--	--
SERVICE: Isolation Valves	AGING (yrs)	40	--	N/A	--	--	--
LOCATION: Pipe Penetration Area	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
ABOVE FLOOD LEVEL: N/A YES NO							

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Accumulator	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
I.D. NO.: PCV 1216 COMPONENT: Solenoid Valves	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
MANUFACTURER: ASCO	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
MODEL NO.: 8300	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
FUNCTION: Steam Generator Blowdown Isolation Valves	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	3.6×10^6	--	1	--	--	--
SERVICE: Isolation Valves	AGING (yrs)	40	--	N/A	--	--	--
LOCATION: Pipe Penetration Area	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A
ABOVE FLOOD LEVEL: N/A YES NO							

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Accumulator I.D. NO.: PCV 1214 COMPONENT: Solenoid Valves MANUFACTURER: ASCO MODEL NO.: 8300 FUNCTION: Steam Generator Blowdown Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 Days	N/A	---	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	--	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	--	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	--	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6 x 10 ⁶	--	1	--	--	--
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B Attachment 4, Section 4.3

Component:

TER Item #: 20

Device: Laurence Solenoid Valve

Model: 110114W

Function: Actuates Main Steam Isolation Valves

Location: Steam and Feedline Penetrations Area

Deficiency:

QI

Interim Justification:

Failure of the MSIVs to close following a high energy steam line rupture would result in multiple steam generator blowdown. Generic analysis has shown that multiple steamline blowdown results in a higher return to power following the rupture. However, the peaking factors are less severe than those resulting from only one steamline rupture. The effects on the core were similar to those presented in the SAR.

If the MSIVs fail in the closed position or operate normally following a high energy steam line rupture outside containment, the blowdown would be limited to only one steam generator blowdown. Multiple steam generator blowdown is precluded by the steamline check valves for a rupture upstream of the MSIVs. For a rupture downstream of the MSIVs, closure of the MSIV's due to failure or automatic isolation would terminate the rupture blowdown.

Final Resolution:

These units will be replaced with qualified solenoid valves. Indian Point 3 is the process of evaluating qualified solenoids. A replacement schedule will be established upon completion of this evaluation prior to June 30, 1982.

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	
SYSTEM: Main Steam I.D. NO.: MS-1-31 COMPONENT: Solenoid Valves MANUFACTURER: Laurence MODEL NO.: 110114W FUNCTION: Actuates Main Steam Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Steam/Feedline Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	5 min.	Note 1	---	--	--	--
	TEMPERATURE (°F)	213	Note 1	1	--	--	--
	PRESSURE (PSIG)	.42	Note 1	1	--	--	--
	RELATIVE HUMIDITY (%)	100	Note 1	1	--	--	--
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	Note 1	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- Equipment Qualification to latest standards has not been performed.

REFERENCES:

- Analysis of High Energy Lines in letter Trosten to Giambusso 5/14/73

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Main Steam I.D. NO.: MS-1-32 COMPONENT: Solenoid Valves MANUFACTURER: Laurence MODEL NO.: 110114W FUNCTION: Actuates Main Steam Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Steam/Feedline Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	5 min.	Note 1	---	--	--	--
	TEMPERATURE (°F)	213	Note 1	1	--	--	--
	PRESSURE (PSIG)	.42	Note 1	1	--	--	--
	RELATIVE HUMIDITY (%)	100	Note 1	1	--	--	--
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	Note 1	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- Equipment Qualification to latest standards has not been performed.

REFERENCES:

- Analysis of High Energy Lines in letter Trosten to Giambusso 5/14/73

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Main Steam I.D. NO.: MS-1-33 COMPONENT: Solenoid Valves MANUFACTURER: Laurence MODEL NO.: 110114W FUNCTION: Actuates Main Steam Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Steam/Feedline Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	5 min.	Note 1	---	--	--	--
	TEMPERATURE (°F)	213	Note 1	1	--	--	--
	PRESSURE (PSIG)	.42	Note 1	1	--	--	--
	RELATIVE HUMIDITY (%)	100	Note 1	1	--	--	--
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	Note 1	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- Equipment Qualification to latest standards has not been performed.

REFERENCES:

- Analysis of High Energy Lines in letter Trosten to Giambusso 5/14/73

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Main Steam I.D. NO.: MS-1-34 COMPONENT: Solenoid Valves MANUFACTURER: Laurence MODEL NO.: 110114W FUNCTION: Actuates Main Steam Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Steam/Feedline Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	5 min.	Note 1	---	--	--	--
	TEMPERATURE (°F)	213	Note 1	1	--	--	--
	PRESSURE (PSIG)	.42	Note 1	1	--	--	--
	RELATIVE HUMIDITY (%)	100	Note 1	1	--	--	--
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	Note 1	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- Equipment Qualification to latest standards has not been performed.

REFERENCES:

- Analysis of High Energy Lines in letter Trosten to Giambusso 5/14/73

Component:

TER Item #: 27
Device: Laurence Solenoid Valve
Model: 629BC85PS
Function: Actuates H₂ Recombiner Isolation Valves
Location: Pipe Penetration Area

Deficiency:

QI, A, T

Interim Justification:

These Laurence solenoid valves are used for isolation of the hydrogen recombinder and are located in the pipe penetration area. It has been determined that the design basis event environment deviates only slightly from ambient conditions with the exception of radiation. A radiation shield is in the process of being installed around these sources to lower the radiation field in the event of a DBE to a value of 3.6×10^3 rads.

Final Resolution:

Radiation shielding will be installed which lowers the radiation field for these solenoids to a level which makes the environment non-harsh. The shielding installation will be completed prior to June 30, 1982.

FACILITY: Indian Point 3
DOCKET:

SYSTEM, COMPONENT EVALUATION
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Hydrogen Recombiner I.D. NO.: IV-5A&B COMPONENT: Solenoid Valves MANUFACTURER: Lawrence MODEL NO.: Cat. 629BC85PS FUNCTION: Hydrogen Recombiner Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area	OPERATING TIME	30 days	N/A	---	N/A	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	N/A	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	N/A	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	N/A	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6×10^3 Note 1	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	ABOVE FLOOD LEVEL: N/A YES NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

1. Additional shielding reduces dosage to 3.6×10^3 Rads.

REFERENCES:

1. IE Bulletin 79-01B, Attachment 4, Section 4.3

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Hydrogen Recombiner I.D. NO.: IV- 3A&B COMPONENT: Solenoid Valves MANUFACTURER: Lawrence MODEL NO.: Cat. 629BC85PS FUNCTION: Hydrogen Recombiner Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	OPERATING TIME	30 days	N/A	---	N/A	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	N/A	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	N/A	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	N/A	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6×10^3 Note 1	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	ABOVE FLOOD LEVEL: N/A YES NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

1. Additional shielding reduces dosage to 3.6×10^3 Rads.

REFERENCES:

1. IE Bulletin 79-01B, Attachment 4, Section 4.3

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Hydrogen Recombiner I.D. NO.: IV-2A&B COMPONENT: Solenoid Valves MANUFACTURER: Lawrence MODEL NO.: Cat. 629BC85PS FUNCTION: Hydrogen Recombiner Isolation Valves ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Isolation Valves LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 days	N/A	---	N/A	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	N/A	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	N/A	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	N/A	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6 x 10 ³ Note 1	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

1. Additional shielding reduces dosage to 3.6 x 10³ Rads.

REFERENCES:

1. IE Bulletin 79-01B, Attachment 4, Section 4.3

Component:

TER Item #: 29, 30, 31, 32A, 32B

Device: Position Switch

29 NAMCO EA-170

30 NAMCO SL3

31 NAMCO D2400X

32A Microswitch EXAR-7313

32B Microswitch EXHAR-3

Location: Various outside containment

Deficiency:

QI, A, T, P, S

Interim Justification:

These devices are not subject to HELB accidents inside containment, and it is felt that the environment that these devices are subject to during an accident will not be extremely harsh.

Final Resolution:

Indian Point 3 is presently conducting an evaluation of the capabilities of these devices to withstand the Design Basis Event. Devices whose qualification is not adequately demonstrated will be replaced. Additional information will be submitted to the NRC as soon as it becomes available.

Component:

TER Item #: 34B and 34C
Device: Large Electric Motors
34B SI Pump Drive
Model: Westinghouse 509 US Frame
34C RHR Pump Drive
Model: Westinghouse 509 UPZ Frame
Location: Primary Auxiliary Building

Deficiency:

QI, QM, A, T

Interim Justification:

The testing conducted as part of WCAP-8754 addresses thermal and radiation aging as well as moisture and humidity tests for Thermalastic Epoxy Insulation systems. A preliminary review has established that the insulation tested is similar to the insulation used in these motors.

The only form of harsh environment seen in these locations is an increased radiation level to 3.6×10^6 rads. The insulation system used in these motors has been tested to radiation levels of 2×10^8 rads as documented in WCAP-8754 with satisfactory results.

Final Resolution:

An insulation system comparison to the tested materials is currently underway and the results will be furnished when completed.

Prescribed maintenance will maintain these motors in an as-new condition. Additionally, these motors will be included in the Indian Point 3 maintenance surveillance program to ensure that significant aging degradation is noted and corrected if it occurs.

Since the only harsh environmental parameter seen by these motors is that of high radiation levels, the qualification data provided is sufficient to ensure operability under accident conditions.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Residual Heat Removal I.D. NO.: COMPONENT: Motor MANUFACTURER: Westinghouse MODEL NO.: Frame 509UPZ FUNCTION: Residual Heat Removal Pump Motor ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Pump Motor LOCATION: Primary Auxiliary Building ABOVE FLOOD LEVEL: N/A YES NO.	OPERATING TIME	1 year	--	--	--	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	N/A	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	N/A	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	N/A	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	N/A	N/A	N/A	N/A
	RADIATION (rads)	4.3 x 10 ⁷	2 x 10 ⁸	1	2	Type Test & Analysis	N/A
	AGING (yrs)	40	40	N/A	2	Type Test & Analysis	N/A
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B, Attachment 4. Section 4.3
2. Westinghouse Report WCAP 8754

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.	
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS	
SYSTEM: Safety Injection I.D. NO.: COMPONENT: Motor MANUFACTURER: Westinghouse MODEL NO.: 509 US Frame FUNCTION: Safety Injection Pump Motor ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Pump Motor LOCATION: Primary Auxiliary Building	OPERATING TIME	30 Days	--	---	--	N/A	N/A	
	TEMPERATURE (°F)	Ambient	N/A	1	N/A	N/A	N/A	
	PRESSURE (PSIG)	Ambient	N/A	1	N/A	N/A	N/A	
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	N/A	N/A	N/A	
	CHEMICAL SPRAY	N/A	N/A	N/A	N/A	N/A	N/A	
	RADIATION (rads)	3.6×10^6	2×10^8	1	2	Type Test & Analysis	N/A	
	AGING (yrs)	40	40	N/A	2	Type Test & Analysis	N/A	
	ABOVE FLOOD LEVEL: N/A YES NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

REFERENCES:

1. IE Bulletin 79-01B, Attachment 4, Section 4.3
2. Westinghouse Report WCAP 8754.

Component:

TER Item #: 35
Device: Large Electric Motors
SI Recirculating Pump Drive
Model: Westinghouse 588-5 Frame
Location: Inside Containment

Deficiency:

QI, QM, A

Interim Justification:

A preliminary review has established that the motors tested in the referenced test reports (WCAP's-7829, 7343L) are similar to the installed motors. The motor tested was designed to represent the worst case design of these motors.

Final Resolution:

Additional studies to document a comparison of the insulation system, lubricants and bearings to the tested motor is underway and will be forwarded when complete. The bearings and lubricants are maintained as recommended by the manufacturer.

These motors will be included in the Indian Point 3 maintenance surveillance program to ensure that significant aging degradation is noted and corrected if it occurs.

Prescribed maintenance will maintain these motors in an as-new condition. Additionally, these motors will be included in the Indian Point 3 maintenance surveillance program to ensure that significant aging degradation is noted and corrected if it occurs.

Since the only harsh environmental parameter seen by these motors is that of high radiation levels, the qualification data provided is sufficient to ensure operability under accident conditions.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Safety Injection I.D. NO.: COMPONENT: Motor MANUFACTURER: Westinghouse MODEL NO.: 588-5 Frame FUNCTION: Safety Injection Recirculation ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Recirculation Pump Motor LOCATION: In Containment	OPERATING TIME	1 YR	1 YR	---	3	Type Test Simultaneous	N/A
	TEMPERATURE (°F)	287	324	1	3	Type Test Simultaneous	N/A
	PRESSURE (PSIG)	40.6	80	1	3	Type Test Simultaneous	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Type Test Simultaneous	N/A
	CHEMICAL SPRAY	Note 1	Note 2	1	3	Type Test Simultaneous	N/A
	RADIATION (rads)	3×10^7	2×10^8	2	3	Type Test Sequential	N/A
	AGING (yrs)	40	40 NOTE 4	N/A	N/A	N/A	N/A
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.
- 1.43 wt% boric acid with NaOH to ph of 9.5
- 40 yr. life obtained through maintenance surveillance program.

REFERENCES:

- FSAR Section 14.3.
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Westinghouse Report WCAP 7829

Component:

TER Item #: 36

Device: Large Electric Motors
Fan Cooler Motor

Model: Westinghouse 69F97009

Location: Inside Containment, Outside Cranewall

Deficiency:

QI, QM, A

Interim Justification:

A preliminary review has established that the motors tested in the referenced test reports (WCAP's-7829, 7343L) are similar to the installed motors. The motor tested was designed to represent the worst case design of these motors.

Final Resolution:

Additional studies to document a comparison of the insulation system, lubricants and bearings to the tested motor is underway and will be forwarded when complete. The bearings and lubricants are maintained as recommended by the manufacturer.

These motors will be included in the Indian Point 3 maintenance surveillance program to ensure that significant aging degradation is noted and corrected if it occurs.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Containment Fan Coolers I.D. NO.: COMPONENT: Motor MANUFACTURER: Westinghouse MODEL NO.: 69F97009 FUNCTION: Containment Cooling ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Fan Cooler Motor LOCATION: In Containment	OPERATING TIME	1 YEAR	1 YEAR	—	3	Type Test Simultaneous	N/A
	TEMPERATURE (°F)	287	324	1	3	Type Test Simultaneous	N/A
	PRESSURE (PSIG)	40.6	80	1	3	Type Test Simultaneous	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Type Test Simultaneous	N/A
	CHEMICAL SPRAY	Note 1	Note 2	1	3	Type Test Simultaneous	N/A
	RADIATION (rads)	Note 3 1.1 x 10 ⁷	2 x 10 ⁸	2	3	Type Test Sequential	N/A
	AGING (yrs)	40	40 Note 4	N/A	N/A	N/A	N/A
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.
- 1.43 wt% boric acid with Naoh to ph of 9.5
- Radiation dose based on motor located outside cranewall.
- 40 yr life obtained through maintenance surveillance program.

REFERENCES:

- FSAR Section 14.3.
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2.
- Westinghouse Report WCAP 7829

Component:

TER Item #: 40A, 40B, 41
Device: 40A Cable/Splice Kerite/Raychem
40B Cable/Splice Kerite/Raychem
41 Cable/Splice Lewis/Raychem
Location: Inside Containment

Deficiency:

S, R

Interim Justification:

Samples of cable and splices were removed from Indian Point 2 and were tested under different programs run by both Westinghouse and the different cable manufacturers. This justification summarizes these tests as well as establishes traceability for manufacturer versus test.

During all of the tests only one failure was noted. This was described in the Westinghouse test report in WCAP-7410L Volume 2 of 2. This failure resulted from apparent steam impingement on the cable splice. Since steam impingement is not a factor on field mounted cables, this failure was not considered relevant.

The test conditions are as follows:

Note: all tests are summarized

1. HELB

Steam and Chemical Environment

Pressure = 80 psig

Temperature = 300°F

Time = 200 hours, 68 hours at a steam pressure higher than
containment design pressure

2. Radiation and Steam (WCAP 7410-L)

Gamma - 2.8×10^7 Rads followed by exposure to a steam environment of 85 psig for two 30 minute cycles.

3. Aging, Steam and Radiation (WCAP 7410-L)

40 year equivalent followed by 4 hours of steam at 287°F and 60 psig followed by irradiation exposure to 2×10^8 Rads.

4. Radiation and Steam (F-C2442-02 Franklin Institute)

2.5×10^7 rads gamma
328°F, 85 psig.

5. Submergence (Phelps Dodge R&D Center Test Report #10519)

Submerged in simulated river water for 2 weeks.

IR tests - 4×10^6 meg ohms.

DC withstand test - 18 KVdc for 15 minutes and 6 KVdc for 5 minutes

6. Radiation and HELB (F-C2781 Franklin Institute)

100 MRAD gamma radiation followed by steam and chemical environment

Pressure = 50 psig

Temperature = 298°F

Time = 7 days (12 hours at a steam pressure and temperature)

7. Steam and Chemical Spray (Raychem Thermofit Report 71100 Rev. 1)

250°F, 21 psig, & 0.2% Boric Acid Spray for 24 hours.

NOTE: Tests 1 through 4 apply to Kerite cables

Test 6 applies to Lewis cables

Tests 1 through 7 apply to Raychem splices

The above test data provides sufficient justification for interim operation since no absolute failures occurred as a result of anticipated environmental conditions.

Final Resolution:

The analysis of the deficiencies associated with the cables and splices is ongoing. New data and test reports are presently under review by the licensee. In addition, the licensee is presently involved with other utilities conducting an evaluation of similar problems.

A detailed resolution will be submitted as soon as the above effort is completed.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Various	OPERATING TIME	50 days	Note 2 70 days	---	3	Type Test Simultaneous	N/A
I.D. NO.: COMPONENT: Cable/Splice	TEMPERATURE (°F)	287	328	1	3	Type Test Simultaneous	N/A
MANUFACTURER: Kerite/ Raychem	PRESSURE (PSIG)	40.6	85	1	3	Type Test Simultaneous	N/A
MODEL NO.:	RELATIVE HUMIDITY (%)	100	100	1	3	Type Test Simultaneous	N/A
FUNCTION: Electrical Cable	CHEMICAL SPRAY	Note 1	--	1	--	N/A	Note 4
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	1.3×10^8	2×10^8	2	3	Separate Test	N/A
SERVICE: Electrical Cable	AGING (yrs)	40	40	N/A	3	Separate Test	N/A
LOCATION: Inside Containment	SUBMERGENCE	Assumed	Ref. 4	1	4	Separate Test	Note 3
ABOVE FLOOD LEVEL: YES NO X							

NOTES:

- 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.
- Based on test of 436 hours at 214°F (steam) using 0.5 ev and as ambient of 160°F in the Arrhenius equation.
- Test conducted on GE cables with Raychem splices.
- Chemical spray not part of test sequence.

REFERENCES:

- FSAR Section 14.3.
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2.
- WCAP - 7410L Vol. II.
- Phelps - Dodge R&D Report #10519 (Raychem splices)

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Various I.D. NO.: COMPONENT: Cable/Splice MANUFACTURER: Kerite/ Raychem MODEL NO.: FUNCTION: Electrical Cable ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Electrical Cable LOCATION: In Containment ABOVE FLOOD LEVEL: YES NO X	OPERATING TIME	30 days	70 days Note 2	—	3	Type Test Simultaneous	N/A
	TEMPERATURE (°F)	287	328	1	3	Type Test Simultaneous	N/A
	PRESSURE (PSIG)	40.6	85	1	3	Type Test Simultaneous	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Type Test Simultaneous	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	N/A	Note 4 N/A
	RADIATION (rads)	1.3×10^8	2×10^8	2	3	Separate Test	N/A
	AGING (yrs)	40	40	N/A	3	Separate Test	N/A
	SUBMERGENCE	Assumed	Ref. 4	1	4	Separate Test	Note 3

NOTES:

- 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.
- Based on test of 436 hours at 214°F (Steam) using 0.5 ev and an ambient of 160°F in the Arrhenius equation.
- Test conducted on GE cables with Raychem splices.
- Chemical spray not part of test sequence.

REFERENCES.

- FSAR Section 14.3.
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2.
- WCAP - 7410L Vol. II
- Phelps-Dodge R&D Report #10519 (Raychem splices)

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Various	OPERATING TIME	30 days	7 days	---	3	Type Test Simultaneous	Note 3
I.D. NO.: COMPONENT: Cable/Splice	TEMPERATURE (°F)	287	298	1	3	Type Test Simultaneous	N/A
MANUFACTURER: Lewis/ Raychem	PRESSURE (PSIG)	40.6	50	1	3	Type Test Simultaneous	N/A
MODEL NO.:	RELATIVE HUMIDITY (%)	100	100	1	3	Type Test Simultaneous	N/A
FUNCTION: Electrical Cable	CHEMICAL SPRAY	Note 1	Note 2	1	3	Type Test Simultaneous	N/A
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	.88x 10 ⁸	1.0 x 10 ⁸	2	3	Type Test Sequential	N/A
SERVICE: Electrical Cable	AGING (yrs)	40	--	N/A	--	--	Note 4
LOCATION: In Containment	SUBMERGENCE	Assumed	Ref. 4	1	4	Separate Test	Note 5
ABOVE FLOOD LEVEL: YES NO X							

NOTES:

- 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.
- 1.23 parts boric acid per hundred parts H₂O buffered to a ph 9.0 with NaOH.
- Test conducted at 160°F. IR improving as test progressed.
- Thermal aging not part of test sequence.
- Test conducted on GE cables with Raychem splices.

REFERENCES:

- FSAR Section 14.3.
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2.
- Franklin Report F-C2781
- Phelps - Dodge R&D Report #10519 (Raychem spliced)

Component:

TER Item #: 43
Device: RTD - Sostman
Model: 11901B
Location: Inside Containment

Deficiency:

A, T, R

Interim Justification:

The documentation review for aging is ongoing. Interim operation is justified based on the fact that aging is a long term parameter and should not adversely affect equipment operability until the question is more fully resolved. In addition to the material evaluation being conducted, Indian Point 3 will establish an ongoing program to review the surveillance and maintenance records of the plant in order to identify equipment degradation which may be age related. A maintenance program will be established which, in conjunction with the surveillance program and materials study results, will lead to the establishment of a replacement schedule for equipment that is qualified for less than the life of the plant. This replacement schedule will be developed and provided to the staff as it becomes available.

The maximum temperature that must be survived and sensed is 700°F. The RTDs are designed and built to withstand these temperatures and any failures due to these conditions alone would be random in nature.

Since the original testing, requirements to address contained accidents have been imposed. Westinghouse has performed an analysis that addresses this requirement and a qualified life of 4.5 years full power plus 6 days post accident has been established based on the total test dose of 1×10^8 rads.

Final Resolution:

The licensee is presently evaluating the availability of other qualified RTDs on the market in order to replace the existing units. A purchase order will be issued by mid-October 1981. Based on the average projected lead time of one year, the replacement RTDs should be received by October 1982. The installation will take place during the first outage of sufficient duration following receipt of these replacements.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Reactor Coolant 410 A & B 411 A & B I.D. NO.: RTD 413 A & B COMPONENT: Resistance Temperature Detector MANUFACTURER: Sostman MODEL NO.: 11901B FUNCTION: Reactor Coolant System Tempera- ture ACCURACY: (% OF SPAN) SPEC: + .2 DEMON: + .2 SERVICE: Temperature LOCATION: In Containment	OPERATING TIME	6 DAYS POST ACCIDENT	6 DAYS POST ACCIDENT	---	2	Type Test Simultaneous	Note 2
	TEMPERATURE (°F)	287	332	1	2	Type Test Simultaneous	N/A
	PRESSURE (PSIG)	40.6	66	1	2	Type Test Simultaneous	N/A
	RELATIVE HUMIDITY (%)	100	100	1	2	Type Test Simultaneous	N/A
	CHEMICAL SPRAY	Note 1	Note 3	1	2	Type Test Simultaneous	N/A
	RADIATION (rads)	1.0×10^8	1.0×10^8	--	2	Type Test Sequential	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

1. 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.

2. Equipment committed for replacement.

3. 1.146 wt.% boric acid with .17 wt % NaOH.

REFERENCES:

1. FSAR Section 14.3.
2. Westinghouse Report WCAP 9157

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Reactor Coolant 420 A & B 421 A & B I.D. NO.: RTD 423 A & B COMPONENT: Resistance Temperature Detector MANUFACTURER: Sostman MODEL NO.: 11901B FUNCTION: Reactor Coolant System Temperature ACCURACY: (% OF SPAN) SPEC: + .2 DEMON: + .2 SERVICE: Temperature LOCATION: In Containment ABOVE FLOOD LEVEL: YES X NO	OPERATING TIME	6 DAYS POST ACCIDENT	6 DAYS POST ACCIDENT	---	2	Type Test Simultaneous	Note 2
	TEMPERATURE (°F)	287	332	1	2	Type Test Simultaneous	N/A
	PRESSURE (PSIG)	40.6	66	1	2	Type Test Simultaneous	N/A
	RELATIVE HUMIDITY (%)	100	100	1	2	Type Test Simultaneous	N/A
	CHEMICAL SPRAY	Note 1	Note 3	1	2	Type Test Simultaneous	N/A
	RADIATION (rads)	1.0 x 10 ⁸	1.0 x 10 ⁸	--	2	Type Test Sequential	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

1. 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.

2. Equipment committed for replacement.

3. 1.146 wt.% boric acid with .17 wt % NaOH.

REFERENCES:

1. FSAR Section 14.3.
2. Westinghouse Report WCAP 9157

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Reactor Coolant 430 A & B 431 A & B I.D. NO. RTD 433 A & B COMPONENT: Resistance Temperature Detector MANUFACTURER: Sostman MODEL NO.: 11901B FUNCTION: Reactor Coolant System Tempera- ture ACCURACY: (% OF SPAN) SPEC: + .2 DEMON: ± .2 SERVICE: Temperature LOCATION: In Containment	OPERATING TIME	6 DAYS POST ACCIDENT	6 DAYS POST ACCIDENT	---	2	Type Test Simultaneous	Note 2
	TEMPERATURE (°F)	287	332	1	2	Type Test Simultaneous	N/A
	PRESSURE (PSIG)	40.6	66	1	2	Type Test Simultaneous	N/A
	RELATIVE HUMIDITY (%)	100	100	1	2	Type Test Simultaneous	N/A
	CHEMICAL SPRAY	Note 1	Note 3	1	2	Type Test Simultaneous	N/A
	RADIATION (rads)	1.0×10^8	1.0×10^8	--	2	Type Test Sequential	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

1. 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.

2. Equipment committed for replacement.

3. 1.146 wt.% boric acid with .17 wt % NaOH.

REFERENCES:

1. FSAR Section 14.3.
2. Westinghouse Report WCAP 9157

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Reactor Coolant 440 A & B 441 A & B I.D. NO.: RTD 443 A & B COMPONENT: Resistance Temperature Detector MANUFACTURER: Sostman MODEL NO.: 11901B FUNCTION: Reactor Coolant System Tempera- ture ACCURACY: (% OF SPAN) SPEC: + .2 DEMON: + .2 SERVICE: Temperature LOCATION: In Containment	OPERATING TIME	6 DAYS POST ACCIDENT	6 DAYS POST ACCIDENT	---	2	Type Test Simultaneous	Note 2
	TEMPERATURE (°F)	287	332	1	2	Type Test Simultaneous	N/A
	PRESSURE (PSIG)	40.6	66	1	2	Type Test Simultaneous	N/A
	RELATIVE HUMIDITY (%)	100	100	1	2	Type Test Simultaneous	N/A
	CHEMICAL SPRAY	Note 1	Note 3	1	2	Type Test Simultaneous	N/A
	RADIATION (rads)	1.0×10^8	1.0×10^8	--	2	Type Test Sequential	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

1. 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.

2. Equipment committed for replacement.

3. 1.146 wt.% boric acid with .17 wt % NaOH.

REFERENCES:

1. FSAR Section 14.3.
2. Westinghouse Report WCAP 9157

Component:

TER Item #: 10
Device: Level Switch
Manufacturer: GEMS
Model: LS 1900
Location: In Containment

Deficiency:

QI

Interim Justification:

The water level in the containment may be inferred from refueling water storage tank level indication.

Final Resolution:

Qualified transmitters will be installed prior to June 30, 1982, to provide containment level indication.

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Containment Sump Level I.D. NO.: LT941 COMPONENT: Level Switch MANUFACTURER: GEMS MODEL NO.: LS1900 FUNCTION: Containment Sump ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Containment Sump LOCATION: In Containment	OPERATING TIME	30 min.	Note 3	—	—	—	Note 2
	TEMPERATURE (°F)	287	Note 3	1	—	—	—
	PRESSURE (PSIG)	40.6	Note 3	1	—	—	—
	RELATIVE HUMIDITY (%)	100	Note 3	1	—	—	—
	CHEMICAL SPRAY	Note 1	Note 3	1	—	—	—
	RADIATION (rads)	1.6 x 10 ⁸	Note 3	2	—	—	—
	AGING (yrs)	40	Note 3	N/A	—	—	—
	ABOVE FLOOD LEVEL: YES NO X	SUBMERGENCE	BY DESIGN	Note 3	i	—	—

NOTES:

- 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement.
- Equipment qualification to latest standards has not been performed.

REFERENCES:

- FSAR Section 14.3.
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2.

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Containment Sump Level I.D. NO.: LT940 COMPONENT: Level Switch MANUFACTURER: GEMS MODEL NO.: LS1900 FUNCTION: Containment Sump ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Containment Sump LOCATION: In Containment	OPERATING TIME	30 min.	Note 3	—	—	—	Note 2
	TEMPERATURE (°F)	287	Note 3	1	—	—	—
	PRESSURE (PSIG)	40.6	Note 3	1	—	—	—
	RELATIVE HUMIDITY (%)	100	Note 3	1	—	—	—
	CHEMICAL SPRAY	Note 1	Note 3	1	—	—	—
	RADIATION (rads)	1.6 x 10 ⁸	Note 3	2	—	—	—
	AGING (yrs)	40	Note 3	N/A	—	—	—
	ABOVE FLOOD LEVEL: YES NO X	SUBMERGENCE	BY DESIGN	Note 3	1	—	—

NOTES:

- 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement.
- Equipment qualification to latest standards has not been performed.

REFERENCES:

- FSAR Section 14.3.
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2.

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Containment Sump Level I.D. NO.: LT939 COMPONENT: Level Switch MANUFACTURER: GEMS MODEL NO.: LS1900 FUNCTION: Containment Sump ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Containment Sump LOCATION: In Containment	OPERATING TIME	30 min.	Note 3	—	—	—	Note 2
	TEMPERATURE (°F)	287	Note 3	1	—	—	—
	PRESSURE (PSIG)	40.6	Note 3	1	—	—	—
	RELATIVE HUMIDITY (%)	100	Note 3	1	—	—	—
	CHEMICAL SPRAY	Note 1	Note 3	1	—	—	—
	RADIATION (rads)	1.6 x 10 ⁸	Note 3	2	—	—	—
	AGING (yrs)	40	Note 3	N/A	—	—	—
	ABOVE FLOOD LEVEL: YES NO X	SUBMERGENCE	BY DESIGN	Note 3	1	—	—

NOTES:

- 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement.
- Equipment qualification to latest standards has not been performed.

REFERENCES:

- FSAR Section 14.3.
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2.

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
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ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Containment Sump Level	OPERATING TIME	30 min.	Note 3	—	—	—	Note 2
I.D. NO.: LT938 COMPONENT: Level Switch	TEMPERATURE (°F)	287	Note 3	1	—	—	—
MANUFACTURER: GEMS	PRESSURE (PSIG)	40.6	Note 3	1	—	—	—
MODEL NO.: LS1900	RELATIVE HUMIDITY (%)	100	Note 3	1	—	—	—
FUNCTION: Containment Sump	CHEMICAL SPRAY	Note 1	Note 3	1	—	—	—
ACCURACY: N/A (% OF SPAN) SPEC: DEMON:	RADIATION (rads)	1.6 x 10 ⁸	Note 3	2	—	—	—
SERVICE: Containment Sump	AGING (yrs)	40	Note 3	N/A	—	—	—
LOCATION: In Containment	SUBMERGENCE	BY DESIGN	Note 3	1	—	—	—
ABOVE FLOOD LEVEL: YES NO X							

NOTES:

- 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement.
- Equipment qualification to latest standards has not been performed.

REFERENCES:

- FSAR Section 14.3.
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2.

Component:

TER Item #: 17

Device: Barton Transmitter

Model: 386

Function: RHR Recirculating Flow

Location: Inside Containment

Deficiency:

QI

Interim Justification:

Barton model 332 Model 1 was designated as Model 386 after successfully completing the testing described in WCAP-7410. The same model is installed for this function. Westinghouse has justified short term operation by an analysis of the effect of chemical spray on exposed materials as discussed in letter NS-CE-719 of July 25, 1975 from C. Eicheldinger to D. B. Vassallo.

Final Resolution:

These units will be replaced with qualified transmitters. Replacement transmitters were ordered in 1978. However, these transmitters do not meet the 1974 qualification standards. The qualification of these transmitters to 1974 standards is presently under investigation. Furthermore, the Authority is a member of the utility transmitter qualification group that has been organized to fund and coordinate the environmental qualification testing of Foxboro and Rosemount transmitters to 1974 standards. In order to insure timely replacement of the above transmitters, the Authority is pursuing both methods. The completion of the transmitter replacement program will depend on the availability of qualified transmitters as well as on lead time. A more complete implementation schedule will be submitted to the NRC as soon as availability and delivery schedules are better defined.

Flow will be established and adjusted following changeover to recirculation. Afterwards, there is no need to monitor this flow.

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Residual Heat Removal I.D. NO.: FT-946A,B,C,D COMPONENT: Transmitter MANUFACTURER: ITT Barton MODEL NO.: 386 FUNCTION: Residual Heat Removal Recirculation Flow Transmitter ACCURACY: (% OF SPAN) SPEC: DEMON: SERVICE: Flow Transmitter LOCATION: In Containment	OPERATING TIME	30 min.	2 hr.	---	3	Type Test Simultaneous	Note 2
	TEMPERATURE (°F)	287	288	1	3	Type Test Simultaneous	N/A
	PRESSURE (PSIG)	40.6	60	1	3	Type Test Simultaneous	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Type Test Simultaneous	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	Note 3 .67 X 10 ⁷	2.4 x 10 ⁸	2	4	Type Test Sequential	N/A
	AGING (yrs)	40	--	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment committed for replacement
- Radiation dose based on transmitter located outside crane wall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Franklin Report F-C2667
- Westinghouse Report WCAP 7410L

Component:

TER Item #: 18B

Device: SOV Operator

Model: ASCO NP-8316, NP-8320

Function: Actuates Containment Purge Valves (FCV-1170, 1172) and Containment Pressure Relief Valve (PCV-1190)

Location: Inside Containment

Deficiency:

T, P, CS

Interim Justification:

N/A

Final Resolution:

These devices are qualified as described in ASCO test report AQS-21678/TR. The licensee will investigate the reasons why these devices were listed.

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Containment Ventilation I.D. NO.: PCV-1190 COMPONENT: Solenoid Valve MANUFACTURER: Asco MODEL NO.: NP8316A75E FUNCTION: Containment Isolation ACCURACY: N/A (% OF SPAN) SPEC: N/A DEMON: SERVICE: Containment Purge LOCATION: In Containment ABOVE FLOOD LEVEL: YES X NO	OPERATING TIME	30 days	30 days	-	3	Type Test Simultaneous	N/A
	TEMPERATURE (°F)	287	340	1	3	Type Test Simultaneous	N/A
	PRESSURE (PSIG)	40.6	70	1	3	Type Test Simultaneous	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Type Test Simultaneous	N/A
	CHEMICAL SPRAY	Note 1	Note 2	1	3	Type Test Simultaneous	N/A
	RADIATION (rads)	Note 4 .67 x 10 ⁷	2 x 10 ⁸	2	3	Type Test Sequential	N/A
	AGING (yrs)	40	Note 3	N/A	3	Type Test Sequential	N/A
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- 3000 ppm boric acid buffered with NaOH to ph of 10.0.
- 4.5 years designed life at 140F.
- Radiation dose based on Solenoid located outside cranewall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Asco Test Report AQS 21678/TR

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	
SYSTEM: Containment Ventilation I.D. NO.: FCV-1170 COMPONENT: Solenoid Valve MANUFACTURER: Asco MODEL NO.: NP8316A75E FUNCTION: Containment Isolation ACCURACY: N/A (% OF SPAN) SPEC: N/A DEMON: SERVICE: Containment Purge LOCATION: In Containment	OPERATING TIME	30 days	30 days	-	3	Type Test Simultaneous	N/A
	TEMPERATURE (°F)	287	340	1	3	Type Test Simultaneous	N/A
	PRESSURE (PSIG)	40.6	70	1	3	Type Test Simultaneous	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Type Test Simultaneous	N/A
	CHEMICAL SPRAY	Note 1	Note 2	1	3	Type Test Simultaneous	N/A
	RADIATION (rads)	Note 4 .67 x 10 ⁷	2 x 10 ⁸	2	3	Type Test Sequential	N/A
	AGING (yrs)	40	Note 3	N/A	3	Type Test Sequential	N/A
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- 3000 ppm boric acid buffered with NaOH to ph of 10.0.
- 4.5 years designed life at 140°F.
- Radiation dose based on Solenoid located outside cranewall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Asco Test Report AQS 21678/TR

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Containment Ventilation I.D. NO.: FCV-1172 COMPONENT: Solenoid Valve MANUFACTURER: Asco MODEL NO.: NP8316A75E FUNCTION: Containment Isolation ACCURACY: N/A (% OF SPAN) SPEC: N/A DEMON: SERVICE: Containment Purge LOCATION: In Containment	OPERATING TIME	30 days	30 days	-	3	Type Test Simultaneous	N/A
	TEMPERATURE (°F)	287	340	1	3	Type Test Simultaneous	N/A
	PRESSURE (PSIG)	40.6	70	1	3	Type Test Simultaneous	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Type Test Simultaneous	N/A
	CHEMICAL SPRAY	Note 1	Note 2	1	3	Type Test Simultaneous	N/A
	RADIATION (rads)	Note 4 .67 x 10 ⁷	2 x 10 ⁸	2	3	Type Test Sequential	N/A
	AGING (yrs)	40	Note 3	N/A	3	Type Test Sequential	N/A
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- 3000 ppm boric acid buffered with NaOH to ph of 10.0.
- 4.5 years designed life at 140°F.
- Radiation dose based on Solenoid located outside cranewall.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2
- Asco Test Report AQS 21678/TR

Component:

TER Item #: 26
Device: Solenoid
Model: Skinner
Function: Actuates Fan Cooler Unit Dampers (31, 32, 33, 34, 35)
Location: Inside Containment

Deficiency:

QI

Interim Justification:

Valves in containment are automatically deenergized, instrument air is automatically isolated from containment and the air compressor is automatically tripped on a SI signal. A failure mode and effects analysis conducted by the licensee indicates that these valves will close (in its safe position) for all potential modes of failure.

Final Resolution:

Replacement units were ordered in 1980. The shipping date has been determined to be August 1981. These units will be replaced during the next outage of sufficient duration.

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Containment Fan Coolers I.D. NO.: 35 COMPONENT: Solenoid Valve MANUFACTURER: Skinner MODEL NO.: FUNCTION: Containment Cooling ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Fan Cooler Damper Control LOCATION: In Containment ABOVE FLOOD LEVEL: YES X NO	OPERATING TIME	30 Days	Note 2	---	--	--	--
	TEMPERATURE (°F)	287	Note 2	1	--	--	--
	PRESSURE (PSIG)	40.6	Note 2	1	--	--	--
	RELATIVE HUMIDITY (%)	100	Note 2	1	--	--	--
	CHEMICAL SPRAY	Note 1	Note 2	1	--	--	--
	RADIATION (rads)	1.6×10^8	Note 2	2	--	--	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment Qualification to latest standards has not been performed.

REFERENCES:

- FSAR section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2.

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Containment Fan Coolers I.D. NO.: 34 COMPONENT: Solenoid Valve MANUFACTURER: Skinner MODEL NO.: FUNCTION: Containment Cooling ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Fan Cooler Damper Control LOCATION: In Containment ABOVE FLOOD LEVEL: YES X NO	OPERATING TIME	30 Days	Note 2	---	--	--	--
	TEMPERATURE (°F)	287	Note 2	1	--	--	--
	PRESSURE (PSIG)	40.6	Note 2	1	--	--	--
	RELATIVE HUMIDITY (%)	100	Note 2	1	--	--	--
	CHEMICAL SPRAY	Note 1	Note 2	1	--	--	--
	RADIATION (rads)	1.6×10^8	Note 2	2	--	--	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment Qualification to latest standards has not been performed.

REFERENCES:

- FSAR section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2.

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
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79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Containment Fan Coolers I.D. NO.: 33 COMPONENT: Solenoid Valve MANUFACTURER: Skinner MODEL NO.: FUNCTION: Containment Cooling ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Fan Cooler Damper Control LOCATION: In Containment ABOVE FLOOD LEVEL: YES X NO	OPERATING TIME	30 Days	Note 2	—	--	--	--
	TEMPERATURE (°F)	287	Note 2	1	--	--	--
	PRESSURE (PSIG)	40.6	Note 2	1	--	--	--
	RELATIVE HUMIDITY (%)	100	Note 2	1	--	--	--
	CHEMICAL SPRAY	Note 1	Note 2	1	--	--	--
	RADIATION (rads)	1.6×10^8	Note 2	2	--	--	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment Qualification to latest standards has not been performed.

REFERENCES:

- FSAR section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2.

FACILITY: Indian Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
WORK SHEET

ENCLOSURE
79-01B

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Containment Fan Coolers I.D. NO.: 32 COMPONENT: Solenoid Valve MANUFACTURER: Skinner MODEL NO.: FUNCTION: Containment Cooling ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Fan Cooler Damper Control LOCATION: In Containment ABOVE FLOOD LEVEL: YES X NO	OPERATING TIME	30 Days	Note 2	—	--	--	--
	TEMPERATURE (°F)	287	Note 2	1	--	--	--
	PRESSURE (PSTG)	40.6	Note 2	1	--	--	--
	RELATIVE HUMIDITY (%)	100	Note 2	1	--	--	--
	CHEMICAL SPRAY	Note 1	Note 2	1	--	--	--
	RADIATION (rads)	1.6×10^8	Note 2	2	--	--	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment Qualification to latest standards has not been performed.

REFERENCES:

- FSAR section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2.

FACILITY: Indian Point 3
 DOCKET:

SYSTEM COMPONENT EVALUATION
 WORK SHEET

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Containment Fan Coolers I.D. NO.: 31 COMPONENT: Solenoid Valve MANUFACTURER: Skinner MODEL NO.: FUNCTION: Containment Cooling ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Fan Cooler Damper Control LOCATION: In Containment	OPERATING TIME	30 Days	Note 2	—	--	--	--
	TEMPERATURE (°F)	287	Note 2	1	--	--	--
	PRESSURE (PSIG)	40.6	Note 2	1	--	--	--
	RELATIVE HUMIDITY (%)	100	Note 2	1	--	--	--
	CHEMICAL SPRAY	Note 1	Note 2	1	--	--	--
	RADIATION (rads)	1.6×10^8	Note 2	2	--	--	N/A
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment Qualification to latest standards has not been performed.

REFERENCES:

- FSAR section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2.

Component:

TER Item #: 34A
Device: Motor 509 US Frame, Auxiliary Feedwater Pump Drive
Manufacturer: Westinghouse
Location: Auxiliary Pump Room

Deficiency:

QI, A, QM, T

Interim Justification:

The testing conducted as part of WCAP-8754 addresses thermal and radiation aging as well as humidity and moisture tests for Thermalastic Epoxy Insulation systems. A preliminary review has established that the insulation tested is similar to the insulation used in these motors.

The Auxiliary Pump Room is protected by redundant temperature switches which actuate at 135°F to isolate the steam to the auxiliary feed pump. Once these switches actuate, the conditions in the room should quickly return to normal in case of an accident. The calculations performed showing 0.9 psig and a saturation temperature of 215°F assume that the temperature switches fail to operate and that the leak remains unisolated.

Even though these temperature switches are presently unqualified, it is felt that in the interim, their operation can be relied upon due to their low actuation temperature setpoint of 135°F. Assuming that these switches do operate in the event of a steam leak, the room conditions should not greatly exceed the 135°F setpoint.

Final Resolution:

The temperature switches relied upon in this accident will be qualified, replaced, or modified to ensure their operation.

The licensee is also evaluating the effect on safety related equipment of the temperature excursion expected in this area as a result of a steam line break. Additional action will be taken by the licensee based on the results of this study. It is anticipated that the results will confirm the belief that the rupture will be isolated by the temperature switches before the critical components of the safety related devices become elevated to temperatures that will affect their operability.

Additional studies to document a comparison of the insulation system to the tested system is currently underway and the results will be furnished when completed.

Additionally, the licensee is in the process of evaluating the feasibility of isolating the steam line to the turbine driven auxiliary feedwater pump outside the Auxiliary Pump Room. If this modification is made, this area would then become a mild environmental zone.

FACILITY: Indiana Point 3
DOCKET:

SYSTEM COMPONENT EVALUATION
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ENCLOSURE
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Auxiliary Feedwater I.D. NO.: COMPONENT: Motor MANUFACTURER: Westinghouse MODEL NO.: 509US Frame FUNCTION: Auxiliary Feedpump Drive ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Feed Pump Motor LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	---	--	---	--	N/A	N/A
	TEMPERATURE (°F)	135	Note 1	1	N/A	N/A	N/A
	PRESSURE (PSIG)	0	N/A	1	N/A	N/A	N/A
	RELATIVE HUMIDITY (%)	100	100	1	2	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	N/A	2×10^8	1	2	Type Test & Analysis	N/A
	AGING (yrs)	40	40	N/A	2	Type Test & Analysis	N/A
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

1. A short excursion above ambient will not degrade the insulation as qualified in WCAP 8754.

REFERENCES:

1. Analysis of High Energy Lines in letter Troston to Giambusso of 5-14-73.
2. Westinghouse Report WCAP 8754

Component:

TER Item #: 38
Device: Terminal Blocks
Manufacturer: Westinghouse
Model: 542247
Location: Inside Containment

Deficiency:

QM, A

Interim Justification:

Existing data on the wood-flour-reinforced phenolic material used for these terminal blocks does not indicate any degradation in electrical properties due to thermal aging or a radiation dose less than 20 MRADS gamma. These terminal blocks were replaced in 1979 and are all housed in protective enclosures. These terminal blocks will be inspected periodically and a determination will be made at that time concerning the necessity of cleaning. The steam test (FIRL #F-C4911-1) indicates that satisfactory performance may be expected for protected terminal blocks. Resilient washers will be installed under the blocks to preclude any cracking of the block while mounting or connecting to the block. The above information provides sufficient justification for continued usage of these terminal blocks.

Final Resolution:

The resolution of the deficiencies associated with the terminal blocks is ongoing. Appropriate action will be taken once these deficiencies are resolved. An inspection will be conducted of these terminal blocks during the next refueling outage. If necessary, the terminal blocks will also be cleaned during this outage. Following the resolution of the deficiencies, resilient washers will be installed under the blocks if necessary. If the remaining deficiencies are not satisfactorily resolved, a type test will be conducted before June 30, 1982, to provide full documentation of the capability of this installation.

FACILITY:
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Various I.D. NO.: COMPONENT: Terminal Blocks MANUFACTURER: Westinghouse MODEL NO.: 542247(805432) FUNCTION: Electrical Cable Connections ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Electrical Connections LOCATION: In Containment	OPERATING TIME	30 days	24 hrs.	---	3	Type Test Sequential	N/A
	TEMPERATURE (°F)	287	285	1	3	Type Test Sequential	N/A
	PRESSURE (PSIG)	40.6	40	1	3	Type Test Sequential	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Type Test Sequential	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	1.8×10^7	2×10^7	2	3	Type Test Separate	N/A
	AGING (yrs)	40	Note 2	N/A	N/A	N/A	N/A
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.
- 40 Yr. life obtained through surveillance maintenance program.

REFERENCES:

- FSAR Section 14.3.
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2.
- Franklin Report F-C4911-1

Component:

TER Item #: 39
Device: Containment Penetrations
Model: Westinghouse WX31892, WX31774, 5, and 6
Function: Electrical Cable Penetrations
Location: Inside Containment, Outside Cranewall

Deficiency:

QM, A

Interim Justification:

The testing conducted as described in test reports PEN-TR-81-37, PEN-RLK-3-16-01, and Addendum to PEN-RLK-3-16-01, indicated that the type WX31892, WX31774, 5, and 6 penetrations would perform satisfactorily following exposure to LOCA conditions while under electrical load.

Final Resolution:

Test report PEN-TR-81-37 established the relationship between the samples tested and the penetrations installed and established that, in conjunction with the surveillance program, the penetrations are qualified for the life of the plant under the required service conditions.

The above mentioned reports will be submitted under separate cover.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Containment Penetrations I.D. NO.: COMPONENT: Electrical Penetrations MANUFACTURER: Westinghouse MODEL NO.: WX31774, WX31775, WX31776 FUNCTION: Containment Seal at Electrical Penetration ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Electrical/Control Cable Penetrations LOCATION: In Containment	OPERATING TIME	30 days	21 Days	—	3,4	Type Test Simultaneous	Note 2
	TEMPERATURE (°F)	287	340	1	3,4	Type Test Simultaneous	N/A
	PRESSURE (PSIG)	40.6	56	1	3,4	Type Test Simultaneous	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3,4	Type Test Simultaneous	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	6×10^8	1.25×10^8	2	3,4	Type Test Separate	N/A
	AGING (yrs)	40	40	N/A	3,4	Type Test Separate	N/A
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.
- Total qualification time based on test reported in Ref. 3 and using a conservative activation energy of 0.5 eV in the Arrhenius equation to extrapolate from the required envelope of 287°F for one hour and 160°F for the remainder of the period.

REFERENCES:

- FSAR Section 14.3.
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2.
- Westinghouse Report PEN-TR-81-37.
- Westinghouse Report PEN-RLK-3-16-01 and Addendum to PEN-RLK-3-16-01.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Containment Penetrations I.D. NO.: COMPONENT: Electrical Penetrations MANUFACTURER: Westinghouse MODEL NO.: WX 31892 FUNCTION: Containment Seal at Electrical Penetration ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Electrical Control/Power Cable Penetration LOCATION: In Containment	OPERATING TIME	30 days	43 Days	---	3	Type Test Simultaneous	Note 3
	TEMPERATURE (°F)	287	340	1	3	Type Test Simultaneous	N/A
	PRESSURE (PSIG)	40.6	103	1	3	Type Test Simultaneous	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Type Test Simultaneous	N/A
	CHEMICAL SPRAY	Note 1	Note 2	1	3	Type Test Simultaneous	N/A
	RADIATION (rads)	$.6 \times 10^8$	1.6×10^8	2	3	Type Test Separate	N/A
	AGING (yrs)	40	40	N/A	3	Type Test Separate	N/A
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.
- 2000 PPM boric acid spray with 40% sodium hydroxide to result in 12.6 ph for 6 hours.
- Total qualification time based on test reported in REF. 3&4 and using a conservative activation energy of 0.5 ev in the Arrhenius equation to extrapolate from the required envelope of 287°F for one hour and 160°F for the remainder of the period.

REFERENCES:

- FSAR Section 14.3.
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2.
- Westinghouse Report PEN-TR-81-37.

Component:

TER Item #: 42A
Device: Hydrogen Recombiner Panel
Model: Westinghouse
Function: Control Panel for Recombiner
Location: Pipe Penetration Area

Deficiency:

RPN

Interim Justification:

It has been determined that the design basis event environment deviates only slightly from ambient conditions with the exception of radiation. A radiation shield is being installed around the radiation sources to lower the DBE radiation field for these solenoids in order to improve personnel access to this area.

Final Resolution:

Radiation shielding will be installed which lowers the radiation field for the panel to a level which makes the environment non-harsh. This shielding installation will be completed prior to June 30, 1982.

This change will also lower the radiation field in this area such that a TID accumulated over 30 days post DBE will be $\leq 3.6 \times 10^3$ rads, which constitutes a mild environment for radiation. After thirty days, this area will be accessible for maintenance on this device if necessary.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION METHOD	OUTSTAND. ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Hydrogen Recombiner I.D. NO.: COMPONENT: Hydrogen Recombiner Panel MANUFACTURER: Westinghouse MODEL NO.: N/A FUNCTION: Operation of Hydrogen Recombiner ACCURACY: (% OF SPAN) SPEC: DEMON: SERVICE: Hydrogen Recombiner LOCATION: Pipe Penetration Area ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 days	N/A	---	N/A	N/A	N/A
	TEMPERATURE (°F)	Ambient	N/A	1	N/A	N/A	N/A
	PRESSURE (PSIG)	Ambient	N/A	1	N/A	N/A	N/A
	RELATIVE HUMIDITY (%)	Ambient	N/A	1	N/A	N/A	N/A
	CHEMICAL SPRAY	N/A	N/A	1	N/A	N/A	N/A
	RADIATION (rads)	3.6 x 10 ³ Note 2	N/A	1	N/A	N/A	N/A
	AGING (yrs)	40	40 Note 3	N/A	N/A	N/A	N/A
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

1. Normal Operating Conditions.
2. Additional shielding reduces dosage to 3.6 x 10³ RADS.
3. 40 Yr. life obtained through maintenance program.

REFERENCES:

1. IE Bulletin 79-01B, Attachment 4, Section 4.3.

Component:

TER Item #: 42B

Device: Hydrogen Recombiner

Model: Flame Type

Function: Remove Hydrogen from Containment Environment

Location: Inside Containment

Deficiency:

QI, QM, A

Interim Justification:

Continued operation of the H₂ Recombiner is justified by the following tests:

1) WCAP-7410L Vol. 2

A) Ignitor Excitor

The unit performed satisfactorily after three separate radiation exposures totalling 3.23×10^8 rads gamma demonstrating a one year post accident capability with margin. Following these tests the unit was exposed to a steam environment (285°F, 55 psig) for two hours followed by 22 hours at 220°F and 20 psig and three weeks at 155°F and slightly above atmospheric pressure and demonstrated satisfactory performance.

B) Blower Motor

A 2 HP, 3 PH, 230/460V motor with class H insulation constructed in the same manner as the actual 15 HP motor was subjected to the following tests:

1) Radiation - 2×10^8 rads gamma

2) Thermal Aging - aged at 240°C for 120 hours which is equivalent to seven years of continuous operation at 150°C assuming a 10°C rise per half life. This test included a 3KV surge and a 220V no-load operation for two hours.

3) Steam tests - the motor was subjected to the same environment as the excitor with satisfactory performance.

2) WCAP-9001

A) Ignitor and thermocouple

These components do not contain any organic materials and will not be affected by the environment.

B) Wiring

Both the ignition lead and the thermocouple leads are completely housed in a pressure tight system with the connections field brazed.

3) WCAP-7301L

This test demonstrates the proper operation of the recombiner from 55% to 175% of the design basis with a one gallon per minute water mist being introduced into the combustor section.

Final Resolution:

The information contained in the above reports demonstrates that the Hydrogen Recombiner can be expected to be available and perform satisfactorily for one year post accident with the possible exception of the Barksdale Flow Switch. Qualification data will be established for this switch or a qualified replacement will be provided by June 30, 1982. A replacement switch will be ordered by October 1981.

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DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Hydrogen Recombiner I.D. NO.: COMPONENT: Ignitor Excitor MANUFACTURER: Westinghouse MODEL NO.: GLA43737 FUNCTION: Ignition of Burner in Hydrogen Recombiner ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Hydrogen Control in Containment Air LOCATION: In Containment	OPERATING TIME	30 days	2 hours 1 year	---	3	Type Test Sequential	N/A
	TEMPERATURE (°F)	287	285 155	1	3	Type Test Sequential	N/A
	PRESSURE (PSIG)	40.6	55 5	1	3	Type Test Sequential	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Type Test Sequential	N/A
	CHEMICAL SPRAY	Note 1	--	1	--	--	--
	RADIATION (rads)	1.6×10^8	1.86×10^8	2	3	Type Test Separate	N/A
	AGING (yrs)	40	40 Note 2	N/A	3	Type Test Separate	N/A
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.
- 40 yr. life obtained through maintenance program.

REFERENCES:

- FSAR Section 14.3.
- IE-Bulletin 79-01B, Attachment 4, Section 4.1.2.
- Westinghouse Report WCAP 7410L

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Hydrogen Recombiner I.D. NO.: COMPONENT: Thermocouple MANUFACTURER: Westinghouse MODEL NO.: A-2092 FUNCTION: Hydrogen Recombiner Exhaust Temp. Indication ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Exhaust Temp. Indication LOCATION: In Containment ABOVE FLOOD LEVEL: YES X NO	OPERATING TIME	30 days	Note 2	---	--	--	--
	TEMPERATURE (°F)	287	Note 2	1	--	--	--
	PRESSURE (PSIG)	40.6	Note 2	1	--	--	--
	RELATIVE HUMIDITY (%)	100	Note 2	1	--	--	--
	CHEMICAL SPRAY	Note 1	Note 2	1	--	--	--
	RADIATION (rads)	1.6×10^8	Note 2	2	--	--	--
	AGING (yrs)	40	Note 2	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- Thermocouple contains no organic materials and will not be affected by the environment per Drawing A-2092.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, section 4.1.2

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Hydrogen Recombiner I.D. NO.: COMPONENT: Fan Blower Motor MANUFACTURER: Westinghouse MODEL NO.: FUNCTION: Air Handling for Hydrogen Recombiner ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Hydrogen Control in Containment Air LOCATION: In Containment	OPERATING TIME	30 days	2 hours 1 year	—	3	Type Test Sequential	N/A
	TEMPERATURE (°F)	287	220 155	1	3	Type Test Sequential	N/A
	PRESSURE (PSIG)	40.6	55 5	1	3	Type Test Sequential	N/A
	RELATIVE HUMIDITY (%)	100	100	1	3	Type Test Sequential	N/A
	CHEMICAL SPRAY	Note 1	Note 2	1	3	Type Test Sequential	N/A
	RADIATION (rads)	1.6×10^8	2×10^8	2	3	Type Test Separate	N/A
	AGING (yrs)	40	40 Note 3	N/A	3	Type Test Sequential	N/A
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 PPM boric acid spray with 40% NaOH to result in 10.0 ph.
- 1.5% boric acid with NaOH to result in 9.25 ph.
- 40 yr. based on occasional use of H₂ Recombiner and testing which indicates satisfactory operation for a continuous duty of 7 yr.

REFERENCES:

- FSAR Section 14.3.
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2.
- Westinghouse Report WCAP-7410L

FACILITY: Indian Point 3
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Hydrogen Recombiner I.D. NO.: COMPONENT: Flow Switch MANUFACTURER: Barksdale MODEL NO.: FUNCTION: Air Handling for Hydrogen Recombiner ACCURACY: N/A (% OF SPAN) SPEC: DEMON: SERVICE: Hydrogen Control In Containment LOCATION: Inside Containment	OPERATING TIME	30 days	Note 2	—	--	--	--
	TEMPERATURE (°F)	287	Note 2	1	--	--	--
	PRESSURE (PSIG)	40.6	Note 2	1	--	--	--
	RELATIVE HUMIDITY (%)	100	Note 2	1	--	--	--
	CHEMICAL SPRAY	Note 1	Note 2	1	--	--	--
	RADIATION (rads)	1.6×10^8	Note 2	2	--	--	--
	AGING (yrs)	40	Note 2	N/A	--	--	--
	ABOVE FLOOD LEVEL: YES X NO	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A

NOTES:

- 2000 ppm boric acid spray with 40% NaOH to result in 10.0 ph.
- Equipment Qualification to latest standards has not been performed.

REFERENCES:

- FSAR Section 14.3
- IE Bulletin 79-01B, Attachment 4, Section 4.1.2

Component:

TER Item #: N/A
Device: Temperature Switch
Manufacturer: United Electric Controls
Model: 6CS Type F110A
Location: Auxiliary Pump Room

Deficiency:

This device, which has no documented qualification evidence, is relied upon to isolate steam to the auxiliary pump room in case of a steam leak.

Interim Justification:

This device is set to actuate at a low temperature of 135°F and should actuate before extremely harsh conditions develop in this room.

Final Resolution:

This device will be replaced, qualified, or modified to ensure its operation prior to June 30, 1982.

FACILITY: Indian Point 3
DOCKET:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOC. REF.		QUALIFICATION	OUTSTAND.
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Auxiliary Feedwater I.D. NO.: COMPONENT: Temperature Switch MANUFACTURER: United Electric Controls MODEL NO.: 6CS Type F110A FUNCTION: Aux Feedpump Turbine Isolation ACCURACY: (% OF SPAN) SPEC: N/A DEMON: SERVICE: Temp Sensor LOCATION: Auxiliary Pump Room ABOVE FLOOD LEVEL: N/A YES NO	OPERATING TIME	30 days	Note 1		--	--	--
	TEMPERATURE (°F)	135	Note 1	1	--	--	--
	PRESSURE (PSIG)	0	Note 1	1	--	--	--
	RELATIVE HUMIDITY (%)	100	Note 1	1	--	--	--
	CHEMICAL SPRAY	N/A	Note 1	1	--	--	--
	RADIATION (rads)	N/A	Note 1	1	--	--	--
	AGING (yrs)	40	Note 1	N/A	--	--	--
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

- Equipment Qualification to latest standards has not been performed.

REFERENCES:

- Analysis of High Energy Lines in letter Trosten to Gianbusso 5/14/73

APPENDIX C

The documentation review for aging is ongoing. Interim operation is justified based on the fact that aging is a long term parameter and should not adversely affect equipment operability until the question is more fully resolved. In addition to the material evaluation being conducted, Indian Point 3 will establish an ongoing program to review the surveillance and maintenance records of the plant in order to identify equipment degradation which may be age related. A maintenance program will be established which, in conjunction with the surveillance program and materials study results, will lead to the establishment of a replacement schedule for equipment that is qualified for less than the life of the plant. This replacement schedule will be developed and provided to the Staff as soon as possible, but no later than June 30, 1982.

ATTACHMENT I

SEISMIC QUALIFICATION OF
AUXILIARY FEEDWATER SYSTEM
(GENERIC LETTER NO. 81-14)

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
DOCKET NO. 50-286

POWER AUTHORITY OF THE STATE OF NEW YORK

INDIAN POINT 3 NUCLEAR POWER PLANT

SEISMIC QUALIFICATION OF

AUXILIARY FEEDWATER SYSTEM

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1.0 INTRODUCTION

This report provides information collected as a result of a study made to determine the extent of seismic qualification of the Auxiliary Feedwater System, at the Indian Point No 3 Nuclear Power Plant. This study was conducted in response to NRC Generic Letter No. 81-14 dated February 10, 1981.

The study was conducted by Ebasco Services Incorporated in conjunction with personnel from the Power Authority of the State of New York.

This report is divided into nine sections with Appendices. Section 1 is an Introduction. Section 2 describes the Objectives and Scope of this report. Section 3 provides a Summary of Findings. Section 4 identifies Seismic Category I portions of the Auxiliary Feedwater System and provides a detailed description of the methodologies and acceptance criteria used for establishing seismic qualification. It also specifies compliance of the Auxiliary Feedwater System with various seismic related IE Bulletins and IE Information Notices. Section 5 identifies non-seismically qualified portions of the Auxiliary Feedwater System and provides evaluation criteria used for the walk-down of the non-seismically qualified portions of the Auxiliary Feedwater Systems. This section also describes apparent and practically correctable deficiencies that were identified by the walk-down with recommendations for modifications which, based upon engineering judgment, are expected to increase seismic resistance of the system.

Section 6 of this Report describes criteria used for evaluating the effect of non-seismically qualified piping, equipment, and components, in the vicinity of Auxiliary Feedwater Systems. This section references applicable positions of the Systems Interaction Study Report prepared by Ebasco Services Incorporated for the Power Authority of the State of New York.

Section 7 describes the availability of the secondary water supply to the Auxiliary Feedwater System.

Section 8 provides information relating to alternate decay heat removal systems. Section 9 details conclusions and recommendation.

2.0 OBJECTIVES, SCOPE AND SYSTEM BOUNDARY

2.1 Objectives

The objective of this Report is to provide information and results of the study performed to determine the extent of seismic qualification of Auxiliary Feedwater Systems in response to NRC Generic Letter No. 81-14. The purpose of this information is to review the capability of the plant to reliably remove shutdown decay heat following a design basis earthquake and to assure conformance of the plant with General Design Criteria 2 and 34, of Appendix A to Part 50.

2.2 System Boundary

The AFW system boundary considered for this study was from suction to discharge including those portions of the system required to accomplish the AFW system function and connected branch piping up to and including the second valve which is normally closed or capable of automatic closure when the safety function is required. The AFW system boundary also includes any portion of branch piping that is structurally coupled to the AFW system boundary so as to include the branch piping loads transmitted to the AFW system. This study included the branch lines outside the AFW system boundary to a point of three orthogonal restraints. Also all mechanical and electrical equipment, piping, instrument air, conduits and cable trays, which are necessary or include components which are necessary for the operation of the AFW system were considered to the maximum extend possible/practical.

Seismic Class I portions of the Main Feedwater and Main Steam Systems are required to operate to remove decay heat. They are therefore, considered for this study. However, non-seismic portions of the Main Steam, Feedwater and Condensate piping to Condensate Storage Tank are not required for the AFW system function. This piping was not considered in this study. The effects of non-seismic piping on the seismic Class 1 piping was considered during seismic analysis of seismic Class 1 piping.

2.3 Scope

The scope of the study is as follows:

- (A) To identify seismically qualified portions of the AFW System, that are designed constructed and maintained to withstand a Safe Shutdown Earthquake and are included within the scope of seismic related IE Bulletins 79-02, 79-04, 79-07, 79-14 and 80-11 and IE Information Notice 80-21.
- (B) To provide a description of methodologies, acceptance criteria, seismic analyses methods, seismic input, load combinations, allowable stresses, qualification testing and engineering evaluations performed for seismic qualification.
- (C) To provide findings of the walk down performed for non-seismically qualified portions of the AFW system including existing seismic deficiencies and proposed recommendations to increase seismic resistance where necessary.

3.0 SUMMARY OF FINDINGS

The study conducted of the AFW System confirmed that the majority of the system is seismically qualified. A small number of system components including N₂-bottles, I&C racks, instruments air piping & tubing, lacks seismic qualification and is considered not to have adequate seismic resistance to withstand a Safe Shutdown Earthquake. Findings of the study are summarized below.

- (1) Pumps and motors are seismically qualified.
- (2) All piping required for AFW system function are seismically qualified except non seismic portions of the AFW System piping down stream of the LCV valve 1158.
- (3) All valves required for the AFW system function are seismically qualified except valve LCV-1128.
- (4) Typical generic deficiencies were found in existing restraints for instrument air piping in the AFW Pump Building. The existing restraints which utilize friction clamps, and rod hangers do not appear to have adequate seismic resistance and anchorage capacity.
- (5) I&C racks in the AFW pump room were found to be free standing with no means of positive lateral support.
- (6) N₂ bottles in the AFW pump room were found to be supported by chains and lacked rigid restraints.
- (7) Structures supporting or housing AFW System equipment and components are seismically qualified except those located in the Turbine Building.
- (8) The AFW System is in compliance with NRC IE Bulletins 79-02, 79-04, 79-07, 79-14 and 80-11. With respect to IE information Notice 80-21, preliminary review has been made of representative items. The results are being evaluated.

4.0 SEISMICALLY QUALIFIED PORTION OF AFW SYSTEMS:

4.1 Discussion

This section identifies the extent of seismic qualification of the AFW System. It specifies compliance of the AFW System with various seismic related IE Bulletins and IE Information Notices. For those portions of the AFW System which are seismically qualified, a description of the methodologies employed and criteria utilized to support the conclusion of seismic qualification are also provided.

4.2 Seismic Criteria

The Auxiliary Feedwater System at Indian Point 3, as bounded by the criteria provided in NRC Generic Letter No. 81-14, is composed both of portions which comply with the criteria contained in Item A (b) of Enclosure 1 to the Generic letter as well as portions which, by virtue of their original Seismic Classification (as contained and defined in the FSAR), do not satisfy this criteria.

Table I identifies those portions of the AFW System which originally were not qualified to withstand a design basis earthquake.

4.3 IE Bulletin Status

For piping within the "AFW System Boundary," Table II has been attached which identifies the associated piping by line number, seismic classification, and the status of each with respect to NRC IE Bulletins 79-02, 79-07, and 79-14. The flow diagram drawing number on which these line numbers appear are also listed. Copies of these drawings are attached.

With respect to IE Bulletin 79-04, there are no valves within the AFW System Boundary that were affected. With respect to IE Bulletin 80-11, Seismic Class I piping and all other equipment that was within Seismic Class I structures was considered as being within the scope of that Bulletin.

With respect to IE Information Notice 80-21, preliminary review has been made of representative types of safety-related electrical equipment as to their anchorage and support characteristics. Although representative types of such equipment were reviewed rather than all such equipment, review of this notice to date has indicated that it is applicable to the AFW System.

4.4 Seismic Qualifications of Pumps/Motors

The Seismic Class I pumps and their prime movers within the AFW system boundary include two identical electric motor and pump sets and one steam turbine/pump set.

Each type of pump/driver set was qualified for the design basis earthquake (0.15 horizontal ground acceleration and 0.10 g vertical ground acceleration) by calculating stresses due to imposed accelerations of 0.6 g's in the horizontal direction concurrent with 0.4 g's in the vertical direction. The calculations considered stresses in the bolts used on the pump feet, the motor feet, the foundation and the bearing bracket. Internal clearances and bearing radial and thrust loads were also calculated and compared to required minimums and rated capacities, respectively. The electric-motor driven pumps are similar in construction to others that had undergone extensive high intensity U S Navy shock testing. No failures were experienced during such testing.

The instrument air compressor and motor sets, in addition to the instrument air dryers and the receiver tank, were qualified analytically by utilizing the response spectrum approach in determining the dynamic loads imparted by the DBE. Stresses resulting from these loads were combined with those due to normal loads and compared to Code-established limits. In rotating equipment components, deflections of moving parts were calculated so as to ascertain that no operational impairment would occur.

4.5 Seismic Qualifications of Piping

Two design approaches were utilized for the analysis of Seismic Class I piping systems. Lines within the AFW system boundary that were 6 inches in diameter or larger were dynamically analyzed to obtain the seismic response and loading. Lines smaller than 6 inches in diameter were analyzed for an equivalent static load. Each method, along with the acceptance criteria, load combinations and allowable stresses, is described below:

(a) Dynamic Analysis

Analysis was performed using the computer code ADLPIPE. Input data consisted of system geometry, inertia values, member sectional properties, elastic characteristics support and restraint characteristic, and the appropriate plant specific seismic floor response spectrum, based on 0.5% critical damping. Both horizontal and vertical components of the seismic response spectrum were applied simultaneously.

With the input data, the program generated the overall stiffness matrix of the three dimensional piping system, including translational and rotational stiffnesses.

Modal participation factors were computed and combined with the mode shapes and the appropriate seismic response spectra to produce the structural response for each mode.

Each piping run was modeled as a three-dimensional system and included straight segments, curved segments and supports and restraints, with due consideration given to the direction and location at which the supports and restraints act. When valves or other in-line components were located within a piping system, concentrated masses representing these items were included in the computer model.

Seismic piping stresses calculated by the computer code were combined with stresses due to other considerations in the following manner.

In stresses arising from an Operating Basis Earthquake (OBE), the plant system was considered to be in an upset condition and the below equation was employed:

$$F = D+P+E \quad \text{Eq. (1)}$$

Where

F = primary piping stress

D = stress due to dead weight of the pipe and pipe supported elements such as valves and insulation. Weight of the contained fluid was also included.

P = stress due to internal pressurization of the pipe, including any fluid flow effects

E = stress due to operating basis earthquake

In stresses arising from a Design Basis Earthquake (DBE), the plant system was considered to be in an emergency operating condition with the following equation being utilized;

$$F = D+P+E' \quad \text{Equation (2)}$$

Where

F, D, and P are as defined above

E' = stress arising from the design basis earthquake loading

Acceptance criteria were based on the combined stresses being less than the following stress limits:

Upset Category

$$F \leq 1.2S \quad F \text{ as determined in Eq. (1)}$$

Emergency Category

$$F \leq K_B \quad F \text{ as determined in Eq. (2)}$$

where:

S = allowable stress at temperature for the piping material, as specified in the ANSI B31.1-1967 Code.

K_B = stress value which is the greater of 1.2 (1.5S) or 1.0 S_y for a membrane plus bending stress condition. S_y (yield strength) values of the material at temperature were taken from the ASME B&PV Code, Section VIII, 1968.

(b) Static Analysis

Piping within the AFW system boundary which was less than 6 inches in diameter and which was designated as Seismic Class I was analyzed for an equivalent static loading. Such analysis consisted of applying a uniformly distributed horizontal force, first in a nominal North-South direction and then separately in a nominal East-West direction on the piping system. This force was applied, over the piping system between active lateral restraints, so as to be equal to 2.0 times the peak of the floor response spectrum acceleration, which is the maximum floor response spectra defined for that piping system at its location in the structure. Concurrently with this horizontal loading, a uniformly distributed vertical static force was applied to the piping system between active vertical restraints equal to 1.33 times the peak of that floor response spectrum acceleration which is the maximum floor response spectra defined for the piping at its location within the structure. The acceleration values used correspond to response curves based on 0.5% critical damping.

The resulting stresses were summed and then added to the normally-acting (deadweight and pressure) stresses. This total value was then limited to 1.2 times the material allowable stress at temperature (S), as taken from the ANSI B31.1 Code.

4.6 Seismic Qualifications of Valves:

Seismic Class I valves were qualified for service at IP-3 by determining the stresses created in the component by the Design Basis Earthquake. This was one which had ground acceleration values of 0.15 g in the horizontal direction and 0.10 g in the vertical direction. The response spectrum approach was utilized in determining the dynamic loads imparted by such an earthquake. In this approach, the spectra acceleration may be determined based on the percentage of equipment critical damping and the known or calculated period of free vibration. In valves, the maximum response from the 0.5 percent critical damping curve was utilized; this conservative approach equated to a horizontal spectral acceleration of 0.6 g and a vertical spectral acceleration of 0.4 g. These values were then applied to the valve at its c.g. location and stresses at selected locations were calculated. These stresses were then combined with those due to normal loads and compared against the following limits:

Normal + Design
Basis Earthquake
Loads

$$P_m \leq 1.2S$$

$$P_l + R_B \leq 1.2(1.5S)$$

Where:

P_m = primary general membrane stress
P_l = primary local membrane stress
P_B = primary bending stress
S = allowable stress from the B31.1 Code for
Pressure Piping

4.7 Seismic Qualification of Power Supplies:

Cable Trays - Cable trays, including their support members, were designed based on ground acceleration values (0.3g horizontal and 0.10 vertical) in excess of the DBE criteria (0.15 g horizontal and 0.10 g vertical). In this design condition, the seismic induced stresses were combined with those due to normally acting loads (deadweight) and the resulting values were limited to less than 90% of the stated strength values for the support (Unistrut) members.

A test program was conducted on several cable tray and support systems which were configured to be conservative (i.e., greater span and rung spacing) with respect to IP-3 design and installation criteria. Concentrated loads were applied in the horizontal direction at quarter-span locations on the cable trays and their supports were much stronger than that which had been utilized in the design criteria.

Conduit - Conduit runs were designed such that the primary steady state stress, when combined with the seismic stresses resulting from a DBE (.10g ground vertical acceleration concurrent with .15g ground horizontal acceleration), will produce stresses such that the function of the conduit would not be impaired.

4.8 Seismic Qualification of Water Supply

The primary water supply for the Auxiliary Feedwater System is the Condensate Storage Tank. In consideration of the maximum potential earthquake, zero period ground accelerations of 0.15 g in the horizontal direction concurrent with 0.10 g in the vertical directions were considered. Seismic analysis was performed in a manner consistent with that discussed in AEC Report TID-7024; this document utilized the response spectrum approach. Seismic stresses were combined with those due to deadweight loadings and compared to the ASME allowable stress, S, of $0.85 \times 15,000 \text{ psi} = 12,750 \text{ psi}$ (for shell tension). Task anchorage and anchor bolt combined loadings were calculated and compared to the limits stated in AWWA D100.

The design of the tank foundation considered the loadings associated with the maximum potential earthquake in combination with the dead loads and live loads. Stress limits for this condition were based on factored yield strength values taken from ACI-318.

The seismic qualification of the supply path between the condensate tank and the auxiliary feedwater pumps is discussed under the section titled "Piping".

The primary water supply for the AFW system is seismically qualified therefore seismic qualification for secondary water path is not applicable.

4.9 Seismic Qualification of Initiation and Control System:

A testing and evaluation program was conducted by Westinghouse for its electrical and control systems equipment involved in performing reactor trip and safeguards actuation functions. In the consideration of the Design Basis Earthquake (DBE), the equipment was to be designed so as to ensure that it does not lose its capability to perform its functions; i.e., shut the plant down and maintain it in a safe shutdown condition. Permanent deformations of such equipment may be allowed provided that the capability to perform its function is maintained.

This program is reported upon in Westinghouse Report WCAP-7817, titled "Seismic Testing of Electrical and Control Equipment", by E. L. Vogeding, dated December 1971. This report is based on a "low seismic" class of plant in which the horizontal ground acceleration of a Design Basis Earthquake is equal to or less than 0.2g. Supplements 1 through 8 dated June 1975 of WCAP-7817, provide detailed information on specific types of equipment tested and evaluated.

A review of existing documentation indicates that items identical in model number to the control and electrical equipment consisting of transmitters, racks, power supplies and uninterruptible power supply which form the auxiliary feed circuit were tested and did not malfunction during the simulated earthquake - the ability to function was unimpaired during and after the test. The single exception is the speed control of the turbine driven pump # 32. No data is available on this control.

Table III lists the model numbers of the control equipment used in various combinations in auxiliary feed water service.

The Foxboro transmitters, models E-13-DM and E-11-GM were specifically tested as part of the procedure for the report WCAP-7817.

The other devices, with the exception of the Static "O" Ring and ITT Barton switches, fall into the category of equipment tested in accordance with the following paragraphs from report WCAP-7817, dated December, 1971.

"2.1 Static Inverter

This single cabinet unit . . . supplies 118 volt 60 hz power to an instrument bus that provides power to instrumentation equipment . . . The inverter operates from a DC voltage source consisting of a battery bank floating on the output of a battery charger. In normal operation, the battery charger supplies the power required to operate the inverter and charge the battery bank. In the event of an AC power failure, the inverter power is derived from the batteries until the AC supply is restored . . . The presence of a continuous AC output voltage during and after the test formed the basis for determining the functional integrity of the inverter".

"2.2 Foxboro Process Equipment

This three-cabinet unit contains signal conditioning equipment for monitoring reactor coolant flow, temperature and pressure, pressurizer level and pressure safety injection flow, and steam generator feedwater level and pressure . . . The three-cabinet assembly, . . ., includes at least one of each type of module used in all of the various process protection and safeguards actuation channels. . . . Both analog and bistable type output signals were recorded, . . . The basis for determining the functional integrity . . . was that these signals should remain unchanged during the test and be capable of changing state after the test if called upon to do so."

"2.8 Pressure and Differential Pressure Transmitters

These transmitters are representative of the ones installed in a Westinghouse pressurized water reactor plant to sense the reactor cooling system pressure and flow, the pressurizer level and pressure and the steam generator feedwater/steam level, pressure and flow. . . . The output signals from these transmitters are sent to the Process Control System equipment which generates various reactor trips and safeguards actuation signals. . . . The transmitters were mounted in three separate racks, with six transmitters per rack. Vertical and horizontal mounting configurations were tested.

The output signal from each transmitter was recorded for comparison with a laboratory type pressure transmitter (not being vibrated). The basis for establishing functional integrity of these transmitters was that the output signal should remain constant during the shaking, and return to the pre-test level when the test completed. They should not go to zero or full output at any time during the test period.

The vibration input to the base of the equipment under test consisted of a sine beat type vibration. Each sine beat consisted of 10 cycles of the test frequency with the amplitude of the beat (G level) increasing from essentially zero to the maximum value and returning to zero in sine wave fashion. Five consecutive beats were applied at each test frequency with a maximum of two seconds between each beat. The test was performed at 2 Hz increments from 5 Hz to 25 Hz, except that the static inverter was tested at 5 Hz increments."

A later test using a hydraulic actuator was performed using frequencies of 1.25, 1.75, 2.50, 3.50 and 5.0 Hz.

In addition, a search for resonances was conducted at 1/4 Hz increments in the range of 1 to 5 Hz.

As was stated above, all initiation and control system equipment under test performed in a manner that would not endanger the facility during and after the seismic tests.

4.10 Seismic Qualification of Structures:

The seismic design of Class I structures for Indian Point No. 3 was based on a "design earthquake" and a "maximum potential earthquake". The design earthquake, also called the OBE, considered a seismic motion in terms of response spectra, with zero period accelerations of 0.05 g acting in the vertical direction and 0.10 g acting in the horizontal direction. The maximum potential earthquake, also called the DBE, considered seismic motion, in terms of response spectra, with zero period accelerations of 0.10 g acting in the vertical direction and 0.15 g acting in a horizontal direction. The response spectra of these motions are based on "Nuclear Reactors and Earthquakes", by Housner, USAFE TID-7024, dated August 1963.

In this approach, a natural period of vibration for the structure is determined for both vertical and horizontal motion. The response accelerations were then obtained from the appropriate response spectrum curves. These accelerations may be converted to seismic loads for static application to the buildings and structures. In the determination of these response accelerations, a 5 percent critical damping parameter was taken for evaluation of loads associated with the DBE.

For the containment, the seismic loads obtained by use of the response spectra were applied in the design process by use of the following factored load equation.

$$C = (1.0 + 0.05) D + 1.0 P + 1.0 (T + TL) + 1.0E'$$

Where

C = required load capacity

D = dead load of structure and equipment loads

P = DBA pressure load

T", TL" = loads due to thermal gradients through the concrete
and liner temperature associated with P

E' = load resulting from DBE

The containment was designed to remain elastic under all factored load conditions. The behavior range was defined by the stress limits covered in the ACI-318-63 Code and included additional margin as provided by capacity reduction factors. These factors were taken as 0.95 for tension, 0.90 for flexure and 0.85 for diagonal tension (shear), bond and anchorage.

All other Seismic Class I structures housing portions of the AFW system were designed for the combination of normal loads plus the response to the DBE. In as much as there was no differentiation between values assumed for the DBE and OBE events and no load factors were used for structures other than the containment, the DBE event was the governing seismic load case. Stress limits utilized were in accordance with the provisions of the ACI-318-63 Code and AISC-63 Code for concrete and steel structures, respectively. In those cases where the seismic load condition governed the design, a one-third increase in working stress design allowables was taken, as permitted by the code.

TABLE - I

4.11 Items Necessary For Operation Of The AFW System Which Are Not Seismically Qualified.

(1) Pumps/Motors: None

(2) Piping:

Seismic Class III portion of the Condensate piping between valve LCV 1158 and valve LCV-1128.

(3) Power Supplies:

-Motor Control Centers No. 34 and 39

(4) Primary Water and Supply Path: None

(5) Secondary Water and Supply Path:

Not applicable

(6) Initiation and Control Systems:

-Speed Control System for turbine-driven auxiliary feedwater pump

-Instrument Air Piping in AFW Pump Building (field routed 3/4" portion only)

(7) Structures Supporting or Housing These AFW System Items:

Turbine Building

LIST OF PIPING LINE NOS. COMPRISING AFW SYSTEM BOUNDARY

T II
BOUNDARY

SYSTEM	LINE NO./ SIZE	SEISMIC CLASSIFICATION	FLOW DIAGRAM No: 9321-F-	79-02	79-07	79-14	NOTES
Boiler Feed- water	5/18"	I	20193-17	X	X	X	Between Steam Generator and Valve BFD-6
	6/18"	I		X	X	X	
	7/18"	I		X	X	X	
	8/18"	I		X	X	X	
	5/18"	III		Not Re- quired	Not Re- quired	Not Re- quired	From Valve BFD-6 to Third Orthogonal Restraint
	6/18"	III		Not Re- quired	Not Re- quired	Not Re- quired	
	7/18"	III		Not Re- quired	Not Re- quired	Not Re- quired	
	8/18"	III		Not Re- quired	Not Re- quired	Not Re- quired	
	1001/3",4"	I		Not Re- quired	Not Re- quired	Not Re- quired	
	1002,3",4"	I		X	N/A	X	
	1003,3",4"	I		X	N/A	X	
	1004,3",4"	I		X	N/A	X	
	1005,6",3",4"	I		X	N/A	X	
1006,3"	I		X	N/A	X		
1007,3"	I		X	N/A	X		
1008,3"	I		X	N/A	X		
1009,2"	I		X	N/A	X		
1010,2"	I		X	N/A	X		
1011/2",3"	I		X	N/A	X		
1012/2",1½"	I		X	N/A	X		
1013/2",1½"	I		X	N/A	X		

4.12 LIST OF PIPING LINE NOS. COMPRISING AFW SYSTEM PRIMARY

TABLE II (cont'd)

SYSTEM	LINE NO./ SIZE	SEISMIC CLASSIFICATION	FLOW DIAGRAM No. 9321-F-	79-02	79-07	79-14	NOTES	
Boiler Feed- water	1014/1"	I	20193-17	X	N/A	X		
	1015/3"	I		X	N/A	X		
	1030/2"	I		X	N/A	X		
	1031/2"	I		X	N/A	X		
	LA/2"	I		N/A	N/A	N/A		
	LC/2"	I		N/A	N/A	N/A		
Main Steam	1/28"	I	20173-20	X	X	X	Between Steam Generator and Valve MS-2	
	2/28"	I		X	X	X		
	3/28"	I		X	X	X		
	4/28"	I		X	X	X		
	1/28"	III		Not Re- quired	Not Re- quired	Not Re- quired		From MS-2 to Third Orthogonal Restraint (Turbine)
	2/28"	III		Not Re- quired	Not Re- quired	Not Re- quired		
	3/28"	III		Not Re- quired	Not Re- quired	Not Re- quired		
	4/28"	III		Not Re- quired	Not Re- quired	Not Re- quired		
	1161 Thru 1180/14"	I		N/A	X	X	No Concrete anchors	
	1026/3",4"	I		N/A	N/A	X		
	1027/3",4"	I		X	N/A	X		
	1120/1"	I		X	N/A	X		
	1121/1"	I		X	N/A	X		
	1016/4"	I		X	X	X		

4.12 LIST OF PIPING LINE NOS. COMPRISING AFW SYSTEM BOUNDARY TABLE II (cont'd)

SYSTEM	LINE NO., / SIZE	SEISMIC CLASSIFICATION	FLOW DIRECTION No. 9321-F-	79-02	79-07	79-14	NOTES
Condensate & Boiler Feed Pump Suction	1080/8"	I	20183-18	X	X	X	From Valve CD-109 to Con- densate Storage Tank From CD-109 back to Valves LCV 1129 and CT-36
	1080/6"	III	↓	Not Re- quired	Not Re- quired	Not Re- quired	
Instrument Air	1140/6"	I	20363-17	X	X	X	
	1141/6"	I		X	X	X	
	1142/6"	I		X	X	X	
	1143/6"	I		X	X	X	
	1144/3", 4"	I		N/A	N/A	N/A	No Pipe Supports
	1145/3", 4"	I		N/A	X	X	No Concrete Anchors
	1146/3"	I		X	N/A	X	
	1147/2"	I		X	N/A	X	
	1148/1½"	I		N/A	N/A	N/A	No Pipe Supports
	1149/1½"	I		N/A	N/A	N/A	No Pipe Supports
	1150/2", 3"	I		X	N/A	X	
	1151/2"	I		X	N/A	X	
	1152/2"	I		X	N/A	X	
	1153/2"	I		X	N/A	X	
	1154/2", 3"	I		X	N/A	X	
1155/3"	I		X	N/A	X		
1156/2"	I		X	N/A	X		
1157/2"	I		↓	X	N/A	X	

TABLE III

4.13 MODEL NUMBERS OF INSTRUMENTS IN AUXILIARY FEED WATER SERVICE

Manufacturer	Model No.	Description
Foxboro	E-13-DM	Diff Press Trans (Flow) (Lvl)
Foxboro	E-11-GM	Press Transmitter
Foxboro	67-HTG	Manual Station
Foxboro	69-FTH	I/P Converter
Foxboro	62H-4E	Controller (P+I)
Foxboro	66 CR	Summing Amp (Output Reversed)
Foxboro	610 AR	Single Loop Power Supply
Foxboro	65-PX-W252-W	Indicator by Westinghouse
Westinghouse	HX-252	Indicator Static Inverter

5.0 NON-SEISMICALLY QUALIFIED PORTION OF AFW SYSTEMS

5.1 Discussion and Scope

As discussed in Section 4, the AFW system is a seismically qualified system except for a small portion of the system. The study included a physical walkdowns of the non-seismically qualified portion of the AFW system. Walk-down of the non-seismically qualified portions of the AFW system was performed to identify apparent and practically correctable deficiencies. Walk-down of the non-seismically qualified portions of the AFW system was limited to AFW Pump Building because the major portion of the AFW system is located in the AFW Pump Building, however, components of the support systems were followed outside the building to maximum possible/practical extend.

5.2 Walk-down Team

The plant walk-down was performed by an interdisciplinary team of experienced personnel from Ebasco Services Incorporated and PASNY.

The walk-down team was composed of following engineering and design specialities:

1. Mechanical-Engineering
2. Electrical-Engineering
3. Instrumentation and Control-Engineering
4. Stress Analysis and Supports and Restraints-Engineering
5. Mechanical Design

The walk-down team was led by the Authority's task force leader.

5.3 Methodology

A procedure was prepared to outline the approach and techniques to be used by the walk down team. Using this procedure, walk-down was performed for those portions of the AFW system which have not been designed, constructed, and maintained as seismically qualified systems. The AFW system boundary was considered as defined in Section 2.2 of this Report.

During the walk-down, the team inspected non-seismically qualified mechanical and electrical equipment and components including instrument air piping, electrical supplies, and the cabinets containing such items to determine their seismic resistance to the Safe Shutdown Earthquake. The walkdown team then identified apparent and practically correctable deficiencies that existed. The process of inspection, evaluation, and required correction is recorded on evaluation sheets and verified by a checker. Photographic records were also made.

The procedure included:

- (a) Identification of large piping deflections which during the SSE, could impair system function or would be expected to overload equipment nozzles or branch connections.
- (b) Identified eccentric masses, such as valve operators that did not appear to be adequately supported.
- (c) Identified pipes that were merely resting on existing supports and would be expected during an SSE to move off their supports.
- (d) Inspected electrical and control cables, near points of attachment of the cables to equipment or other relatively fixed points, to determine if during the SSE the connection could be expected to fail as a result of excessive movements.

Sound engineering judgement and previous experience were used in performing the walk down of the non-seismically qualified portions of the AFW System to identify apparent and practically correctable deficiencies. The team members had performed similar work previously.

The procedure also provided the walk down team with simplified and conservative analytical guidelines to assist them in their evaluations. These guidelines included:

- (i) Tables for Seismic Spans for Piping: This table provides the maximum seismic span for different sizes of pipe. This table also provides criteria for reducing seismic spans for straight runs with changes of direction or for concentrated weight such as valves.
- (ii) Tables for Seismic Acceleration: This table provides the peak SSE acceleration values at 2% damping for all three orthogonal directions at different floor elevations of the building.

The above guidelines were prepared based on the SSE Response Spectra Curve for the AFW Pump Building Shield Wall.

No explicit analysis was performed.

5.4 Results of Walkdown Evaluation:

This section describes the results of the walkdown evaluations performed for the non-seismically qualified portion of the AFW System.

Non-seismically qualified portions of the AFW System were evaluated using the methodology as described in Section 5.3. Results of the walk downs are described as follows:

5.4.1 Piping

The 12" piping line No. CT-1070 down stream of Level Control Valve LCV-1158, is non seismic and was found not to have adequate seismic resistance. Valve LCV-1158 is normally open and is designed to close when the water level in the Condensate Storage Tank drops to a predetermined low level. Valve closure prevents water supply to non essential users (Hot Well). Full or partial loss of function of this valve will jeopardize suction flow to the AFW pumps #31, 32 & 33 from the Condensate Storage Tank. One seismic restraint in two orthogonal directions, approximately 6" downstream of the valve, is provided. Also near the first elbow downstream of the valve, the pipe is merely resting on an existing support. It is anticipated that during an earthquake this pipe will move off its support.

Room is available downstream of the valve to provide an additional seismically qualified valve of similar type, and to provide a restraint in three orthogonal directions in the AFW Pump Building.

5.4.2 Instruments Air Piping

Instrument Air Piping within the AFW Pump Building were found to be required for AFW System function.

The existing restraints consist of rod hangers from ceiling and uni-struts from walls with clamps that rely on frictional clamping forces. These types of restraints are not considered to have an adequate level of seismic resistance capability. These deficiencies are shown in Photographs #1, 2 & 5 through 8 in Appendix B.

Room is available for providing additional restraints and/or to modify existing restraints to increase seismic resistance. Proposed maximum seismic spans are provided in Appendix C, which would be used during installation of these new restraints.

5.4.3 Instrumentation and Control Racks

I & C racks #5,8,9,26 and 28 located on Elevation 18'-6" in AFW Pump Building were reviewed for seismic resistance. However only two racks, Rack #5 and #8, are required for AFW System function. All racks were found to be supported by 1/2" bolts at the floor except for rack #28, which was found to be free standing without any bolts. None of the racks had any other supports to provide seismic resistance in the lateral direction. Grout was not provided at the bottom of the racks. See Photograph #13 through #16.

Providing additional anchor bolts and grout at the bottom of the racks is expected to increase seismic resistance. Room is available to provide lateral supports using structural members attached to the racks and existing walls nearby. Providing rust proof paint at the bottom of the racks will decrease deterioration of the framed structure of the racks and help to increase seismic resistance.

5.4.4 Nitrogen Bottles

The nitrogen bottles located on Elevation 18'-6" in the AFW Pump Building are required as a backup source in the event of instrument air failure. These bottles are therefore considered necessary for AFW System function. All four bottles were found to be free standing and tied only with chains and ropes against existing steel structure (C4x13). This method of support will not provide adequate seismic resistance. This deficiency is shown in Photographs 10 through 12.

Additional seismic resistance can be provided with an additional restraint structure to hold the bottles.

5.4.5 AFW Pumps Local Control Panel

The AFW Pumps Local Control Panel located on Elevation 18'-6" in AFW Pump Building is supported on the floor through 4 angles and 1/2" bolts. This support is not considered to have adequate seismic resistance in the horizontal direction. Providing X-bracing will increase seismic resistance in horizontal directions.

6.0 NON-SEISMICALLY QUALIFIED COMPONENTS IN THE VICINITY

Those portions of structures, systems or components whose continued function is not required, but whose failure during SSE could jeopardize the functioning of the AFW System were identified in the Systems Interaction Study. This Systems Interaction Study is presently being reviewed by NRC.

The following extracts from the Systems Interaction Study are provided in Appendix E of this report.

- (i) Chapter 6, which describes the criteria used for the study.
- (ii) Appendix A-2.2 which identifies System Interactions induced by the effects of a safe shutdown earthquake, including the interaction matrix and evaluation sheets for all unacceptable interactions.

From a review of the results of the seismic system interactions, the following items are considered to be the major contributions to unacceptable systems interactions which would affect AFW System functionality.

- (1) The Crane/Monorail structure located directly above the AFW pumps.
- (2) The 4" nonseismic floor drain pipe directly above the electrical cable trays.
- (3) The space heaters and electrical lighting fixtures located directly above essential safety related equipment and structures.
- (4) The large roll-up door located in the shield wall whose structural failure could affect the flow control stations of the turbine drive AFW pump.

Instrument racks were also considered to be major contributors to the identification of adverse systems interactions. By increasing seismic resistance as described previously, these interactions no longer occur.

7.0 SECONDARY WATER SUPPLY

The water supply to the AFW system is redundant. The normal source of water is by gravity feed from the condensate storage tank. The tank is sized to meet the normal operating and maintenance needs of the turbine cycle.

Availability of water from this source is guaranteed by LCV-1158 which closes when the quantity of water in the condensate storage tank drops to 360,000 gallons. When LCV-1158 closes, make up to the main condenser is prevented and a sufficient quantity of water is assured to be available to remove the heat generated by the reactor for 24 hours at hot shutdown conditions.

An alternate supply of water is provided from the city water system. Each pump is supplied from a header through a check and control valve which is normally closed. This valve is controlled by a switch located in the CCR. Valve position is indicated in the CCR.

8.0 ALTERNATE DECAY HEAT REMOVAL

Item D of Enclosure 1 to NRC Generic Letter 81-14 requested the seismic qualification and a summary of procedures for alternate decay heat removal, if substantial lack of seismic qualification is indicated for the AFW system.

As described in Section 4 of this report the AFW system is seismically qualified with only minor exceptions and a substantial lack of seismic qualification was not found. Therefore, an alternate decay heat removal system is not required.

9.0 CONCLUSION AND RECOMMENDATION

As a result of this study it was concluded that the AFW System at IP-3 is seismically qualified except for a small number of system components which lacks seismic qualification. The following Table IV summarizes evaluation methods used for seismic qualification of the AFW System. It also provides existing deficiencies and proposed actions to increase seismic resistance.

9.1 SUMMARY EVALUATION METHODS USED

COMPONENT	ITEM NO.	DESCRIPTION	EVALUATION METHOD	EXISTING DEFICIENCIES	PROPOSED ACTION	REF SECTION NO.	REFERENCES
Fluid Piping	1-A	Seismic Class 1 piping	Computer analysis was performed using ADLPIPE code. Dynamic analysis for $D \geq 6"$, static analysis for $D < 6"$	None	None	4.5 4.11 4.12	Fig. No. 1 through 5
	1-B	Non-seismically qualified piping	Walk-down	A 12" piping line No. CT-1070 downstream of the valve LCV-1158 does not have adequate seismic resistance	Provide an additional valve of similar type and a restraint in three orthogonal directions in the pump building	4.5 5.4 4.11 4.12	Fig. No. 2 and 5
Pump and Motors	2-A	Two electrical motor and pumps and one steam turbine/pump	Seismic calculation done using acceleration of 0.6 in horizontal and 0.4 in vertical direction	None	None	4.4	None
	2-B	Instruments air compressor and motor sets, air dryers, and receiver tank	Qualified analytically utilizing the response spectrum approach to determine the dynamic loads	None	None	4.4	None
Valves	3	Seismic Class 1 valves	Seismic stresses were calculated applying 0.6g in horz. and 0.4g in vert. direction at its C. G.	None	None	4.6	None

TABLE-IV (cont'd)

COMPONENT	ITEM NO.	DESCRIPTION	EVALUATION METHOD	EXISTING DEFICIENCIES	PROPOSED ACTION	REF SECTION NO.	REFERENCES
Power Supplies	4-A	Electrical conduits	Were designed such that the primary steady-state stress, when combined with the seismic stresses resulting from a DBE will produce stresses such that the function of the conduit would not be impaired.	None	None	4.7	None
	4-B	Motor Control Centers No. 34 and 39	None	Seismic qualification data is not available	These items may be similar to seismically qualified MCC's No. 36A, 36B and 36C to the extent that a seismic Class 1 designation could be applied. Investigate with Westinghouse	4.11	None
	4-C	480 Volt Switchgear Nos 31 & 32	None	Seismic qualification data is not available	Investigate with vendor	4.11	None
	4-D	125 Volt DC Power Panels Nos 31, 32 & 33	None	Seismic qualification data is not available	Investigate with vendor	4.11	None

TABLE-IV (cont'd)

COMPONENT	ITEM NO.	DESCRIPTION	EVALUATION METHOD	EXISTING DEFICIENCIES	PROPOSED ACTION	REF SECTION NO.	REFERENCES
Primary Water & Supply Path	5-A	Condensate Storage Tank	Seismic analysis performed per AEC Report TID-70-24	None	None	4.8	None
	5-B	The Supply Path	See Items 1-A and 1-B	See Items 1-A and 1-B	See Items 1-A and 1-B	4.5, 5.4	See Items 1-A and 1-B
Secondary Water Supply	6-A	City Water Supply	Since primary water supply is seismically qualified, seismic evaluation of secondary water supply not applicable	Not applicable	Not applicable	4.8, 7.0	None
Initiation and control System	7-A	Static Inverter, Foxboro Process Equipment, Pressure and Diff. Pressure transmitters and racks	Westinghouse Report WCAP-7817, titled "Seismic Testing of Electrical and Control Equipment	None	None	4.9	None
	7-B	Speed Control System for Turbine AFW Pump	None	Seismic data is not available	Investigate with vendor	4.9	None
	7-C	Flow Control Switches FC-1135S & 1136S, Static "O" Ring	None	Seismic data is not available	Investigate with vendor	4.9	None
	7-D	Seismic Class 1 Instruments Air Piping	Seismic analysis was performed See Item 1-A	None	None	4.11 4.12	Fig. No. 4
	7-E	Field routed Instruments Air Piping in AFW Pump room	Walk-down	The existing restraints consist of rod hangers or frictional clamps & appears to lack seismic resistance.	1) Evaluate to verify restraints capacity to withstand SSE loads 2) Verify that restraints are located within seismic span. 3) Provide additional restraints and/or modify existing restraints as required to increase seismic resistance.	5.4.2	

TABLE - IV (cont'd)

COMPONENT	ITEM NO.	DESCRIPTION	EVALUATION METHOD	EXISTING DEFICIENCIES	PROPOSED ACTION	REF SECTION NO.	REFERENCES
	7-F	Instrumentations and Controls Rack Supports	Walk-down	1) Rack #28 free standing without any bolts. 2) Appears to lack seismic resistance in lateral direction 3) Grout is not provided 4) Bottom of racks rusted	1) Provide missing anchor bolts. 2) Check with Vendor for additional lateral restraints 3) Provide grout 4) Provide rust-proof paint	5.4.3	Photographs 13 through 16.
	7-G	N ₂ - Bottles	Walk-down	Bottles free standing tied with chains and ropes	Provide with an additional restraints structure to increase seismic resistance	5.4.4	Photographs 10 through 12
	7-H	AFW Pumps Local Control Panel	Walk-down	Appears to lack adequate seismic resistance in lateral direction	Check with vendor for additional lateral support or X-Bracing	5.4.5	Photograph #11
Structures Supporting or Housing the AFW Systems	8-A	Seismic Class 1 Structures	Seismic analysis was performed. The response spectra are based on "Nuclear Reactors and Earthquakes" by Housener USAFE TID-7024. Containment building is designed to remain elastic	None (Turbine building is not seismic Class 1)	None	4.10	None

APPENDIX A

FIGURES

FIGURE NO.

1. U.E. & C Dwg No. 9321-F-20173-19
Flow Diagram - Main Steam
2. U.E. & C Dwg No. 9321-F-20183-16
Flow Diagram - Condensate & Boiler Feed Pump Suction
3. U.E. & C Dwg No. 9321-F-20193-14
Flow Diagram - Boiler Feedwater
4. U.E. & C Dwg No. 9321-F-20363-17
Flow Diagram - Instrument Air
5. Flow Diagram - Auxiliary Feedwater System