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May 16, 1983
5211-83-076

Office of Nuclear Reactor Regulation
Attn: J. F. Stolz, Chief
Operating Reactor Branch No. 4
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Sir:

Three Mile Island Nuclear Station, Unit 1 (TMI-1)
Operating License No. DPR-50
Docket No. 50-289
Environmental Qualification of Electrical Equipment
Revision 7 (NUREG 0737)

Enclosed please find the Master Lists and System Component Evaluation Worksheets (SCEW) for NUREG 0737 modifications installed in a harsh area which is responsive to your requests of June 30, 1982. This information updates our submittal of August 28, 1981 and should be added to the back of Volume 6. Included are sheets for:

- II.B.1 RCS Venting (Pressurizer Vent) - Cold Shutdown
- II.E.4.2 Reactor Building Isolation - Hot Shutdown
- II.F.1 Post Accident Monitors
- II.F.2 Inadequate Core Cooling
- II.E.1.2 Emergency Feedwater Flow/Initiation
- II.B.3 Post Accident Sampling
- II.E.4.1 Hydrogen Recombiner - Hot Shutdown
- II.D.3 PORV/Safety Valves Position Indication

Sincerely,

R. D. Mukill
Director, TMI-1

A048

HDH:LWH:vjf
Enclosure
cc: J. Van Vliet
R. Conte

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P PDR

Facility: TMI

Rev. 7

Unit: 1

Date: 12/31/82

Docket: 50-289

System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Containment Isolation Plant ID No. PS-932	Operating Time	Duration of Accident	Continuous	1	2, 4	ANALYSIS	None
Component: Press Switch	Temperature (°F)	104	400	3	2	SERVICE	None
Manufacture: Static-O-Ring	Pressure (PSIA)	14.7	NEMA 4	3	2	SERVICE	None
Model Number: 6NN-AA3-M4-C2A-GGTTx3 S/N80-12-2818 Function: R.B. Press Sensor	Relative Humidity (%)	65	NEMA 4	3	2	SERVICE	None
Accuracy: Spec: 4 to 100 psi Range Demon:	Chemical Spray (PH)	N/A	-	3	-	-	None
Service: "A" Channel High Press closes MU-V25, IC-V6, NS-V15, NS-V14, IC-V3 and IC-V4	Radiation (RAD)	3.2×10^5	2×10^7 Note A	3	2	ANALYSIS	None
Location: Aux. Building El. 305' @ 6d-J	Aging (°F/Years)	85/40	185/41 Note A	3	2	ANALYSIS	None
Flood Level Elev: N/A Above Flood Level: N/A	Submergence	N/A	N/A	3	-	-	None

Documentation References:

1. NUREG 0737
2. Static-O-Ring *Catalog*
3. Plant Data
4. Seismic Qual. per Viking Reports 7401-110/109

Notes:

- A) See component material eval. sheet attached

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COMPONENT MATERIALS EVALUATION SHEET

Containment Isolation

Plant I.D. No.: PS-932

Component: Press Switch

Manufacturer: Static "O" Ring

Model No.: 6NN-AA3-M4-C2A-GGTTX3

PARTS LIST	MATERIALS LIST	THERMAL AGING		RADIATION	
		QUALIFICATION	REFERENCE	QUALIFICATION	REFERENCE
Diaphragm	316SS	N/A		N/A	
"O" Ring	Viton	288 ^o F/40 yr.	GPUN 1101x-5350-70	2 x 10 ⁷ R	GPUN 1101x-5350-70
Micro Switch Case	Phenolic	212 ^o F/43 yr.	GPUN 1101x-5350-68	1 x 10 ¹⁰ R	GPUN 1101x-5350-68
Cover Gasket	Ethylene Propylene	185 ^o F/41 yr.	GPUN 1101x-5350-74	8 x 10 ⁷ R	GPUN 1101x-5350-74
Switch Insulator	Normex 410	395 ^o F/44 yr.	GPUN 1101x-5350-85	1 x 10 ⁸ R	GPUN 1101x-5350-85

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System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Containment Isolation Plant ID No. PS-933	Operating Time	Duration of Accident	Continuous	1	2,4	ANALYSIS	None
Component: Press Switch	Temperature (°F)	104	400	3	2	SERVICE	None
Manufacture: Static-O-Ring	Pressure (PSIA)	14.7	NEMA 4	3	2	SERVICE	None
Model Number: 6NN-AA3-M4-C2A-CGTTX3 S/N80-12-2819	Relative Humidity (%)	65	NEMA 4	3	2	SERVICE	None
Function: R.B. Press Sensor	Chemical Spray (PH)	N/A	-	3	-	-	None
Accuracy: Spec: 4 to 100 psi Range Demon:	Radiation (RAD)	3.2×10^5	2×10^7 Note A	3	2	Analysis	None
Service "A" Channel High Press closes MU-V25, IC-V3/4/6 and NS-V14/15	Aging (°F/Years)	85/40	185/41 Note A	3	2	Analysis	None
Location: Aux. Building EL 305' @ 6d-J	Submergence	N/A	N/A	3	-	-	None
Flood Level Elev: N/A Above Flood Level: N/A							

Documentation References:

1. NUREG 0737
2. Static-O-Ring Catalog
3. Plant Data
4. Seismic qual. per Viking reports 7401-109/110

Notes:

- A) See component material evaluation sheet attached

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COMPONENT MATERIALS EVALUATION SHEET

Containment Isolation

Plant I.D. No.: PS-933
Manufacturer: Static "O" Ring

Component: Press Switch
Model No.: 6NN-AA3-M4-C2A-GGTTX3

PARTS LIST	MATERIALS LIST	THERMAL AGING		RADIATION	
		QUALIFICATION	REFERENCE	QUALIFICATION	REFERENCE
Diaphragm	316 SS	N/A		N/A	
"O" Ring	Viton	288 ^o F/40 yr.	GPUN 1101X-5350-70	2x10 ⁷ R	GPUN 1101x-5350-70
Micro Switch Case	Phenolic	212 ^o F/43 yr.	GPUN 1101x-5350-68	1x10 ¹⁰ R	GPUN 1101x-5350-68
Cover Gasket	Ethylene Propylene	185 ^o F/41 yr.	GPUN 1101x-5350-74	8x10 ⁷ R	GPUN 1101x-5350-74
Switch Insulator	Normex 410	395 ^o F/44 yr.	GPUN 1101x-5350-85	1x10 ⁸ R	GPUN 1101x-5350-85

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System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Containment Isolation Plant ID No. PS-934	Operating Time	Duration of Accident	Continuous	1	2,4	ANALYSIS	None
Component: Press Switch	Temperature (°F)	104	400	3	2	SERVICE	None
Manufacture: Static-O-Ring	Pressure (PSIA)	14.7	Nema 4	3	2	SERVICE	None
Model Number: 6NN-AA3-M4-C2A-CGTTX3 S/N 80-12-2820	Relative Humidity (%)	65	Nema 4	3	2	SERVICE	None
Function: R.B. Press Sensor	Chemical Spray (PH)	N/A	-	3	-	-	None
Accuracy: Spec: 4 to 100 psi Range Demon:	Radiation (RAD)	3.2×10^5	2×10^7 Note A	3	2	Analysis	None
Service: "A" Channel High Press closes MU-V25, IC-V374/6 and and NS-V14/15	Aging (°F/Years)	85/40	185/41 Note A	3	2	Analysis	None
Location: Aux. Building EL 305' @ 62-J	Submergence	N/A	N/A	3	-	-	None
Flood Level Elev: N/A Above Flood Level: N/A							

Documentation References:

1. NUREG 0737
2. Static-O-Ring Catalog
3. Plant Data
4. Seismic Qual. per Viking Reports 7401-109/110

Notes:

- A) See component Material evaluation sheet attached

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COMPONENT MATERIALS EVALUATION SHEET

Containment Isolation

Plant I.D. No.: PS-934

Component: Press Switch

Manufacturer: Static "O" Ring

Model No.: 6NN-AA3-M4-C2A-GGTTX3

PARTS LIST	MATERIALS LIST	THERMAL AGING		RADIATION	
		QUALIFICATION	REFERENCE	QUALIFICATION	REFERENCE
Diaphragm	316 SS	N/A		N/A	
"O" Ring	Viton	288°F/40 yr.	GPUN 1101x-5350-70	2x10 ⁷ R	GPUN 1101X-5350-70
Micro Switch Case	Phenolic	212°F/43 yr.	GPUN 1101x-5350-68	1x10 ¹⁰ R	GPUN 1101x-5350-68
Cover Gasket	Ethylene Propylene	185°F/41 yr.	GPUN 1101x-5350-74	8x10 ⁷ R	GPUN 1101x-5350-74
Switch Insulator	Normex 410	395°F/44 yr.	GPUN 1101x-5350-85	1x10 ⁸ R	GPUN 1101x-5350-85

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System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Containment Isolation Plant ID No. PS-935	Operating Time	Duration of Accident	Continuous	1	2,4	ANALYSIS	None
Component: Press Switch	Temperature (°F)	104	400	3	2	SERVICE	None
Manufacture: Static-O-Ring	Pressure (PSIA)	14.7	Nema 4	3	2	SERVICE	None
Model Number: 6NN-AA3-M4-C2A-GCTTX3 S/N 80-12-2821	Relative Humidity (%)	65	Nema 4	3	2	SERVICE	None
Function: R.B. Press Sensor	Chemical Spray (PH)	N/A	-	3	-	-	None
Accuracy: Spec: 4 to 100 psi Range Demon:	Radiation (RAD)	3.2x10 ⁵	2x10 ⁷ NOTE A	3	2	Analysis	None
Service: "B" Channel High Press closes MU-V26, IC-V3/4/6 and NS-V14/15	Aging (°F/Years)	85/40	185/41 NOTE A	3	2	Analysis	None
Location: Aux. Building El. 305' @ 6Q-J	Submergence	N/A	N/A	3	-	-	None
Flood Level Elev: N/A Above Flood Level: N/A							

Documentation References:

1. NUREG 0737
2. Static-O-Ring Catalog
3. Plant Data
4. Seismic Qual. per Viking Reports 7401-109/110

Notes:

- A) See component material evaluation sheet attached

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COMPONENT MATERIALS EVALUATION SHEET

Containment Isolation

Plant I.D. No.: PS-935
Manufacturer: Static "O" Ring

Component: Press Switch
Model No.: 6NN-AA3-M4-C2A-GGTTX3

PARTS LIST	MATERIALS LIST	THERMAL AGING		RADIATION	
		QUALIFICATION	REFERENCE	QUALIFICATION	REFERENCE
Diaphragm	316 SS	N/A		N/A	
"O" Ring	Viton	288 ^o F/40 yr.	GPUN 1101x-5350-70	2x10 ⁷ R	GPUN 1101x-5350-70
Micro Switch Case	Phenolic	212 ^o F/43 yr.	GPUN 1101x-5350-68	1x10 ¹⁰ R	GPUN 1101x-5350-68
Cover Gasket	Ethylene Propylene	185 ^o F/41 yr.	GPUN 1101x-5350-74	8x10 ⁷ R	GPUN 1101x-5350-74
Switch Insulator	Normex 410	395 ^o F/44 yr.	GPUN 1101x-5350-85	1x10 ⁸ R	GPUN 1101x-5350-85

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System: Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Containment Isolation Plant ID No. PS-936	Operating Time	Duration of Accident	Continuous	1	2,4	ANALYSIS	None
Component: Press Switch	Temperature (°F)	104	400	3	2	SERVICE	None
Manufacture: Static-O-Ring	Pressure (PSIA)	14.7	Nema 4	3	2	SERVICE	None
Model Number: 6NN-AA3-M4-C2A-GGTTX3 S/N 80-12-2822	Relative Humidity (%)	65	Nema 4	3	2	SERVICE	None
Function: R.B. Press Sensor	Chemical Spray (PH)	N/A	-	3	-	-	None
Accuracy: Spec: 4 to 100 psi Range Demon:	Radiation (RAD)	3.2×10^5	2×10^7 Note A	3	2	Analysis	None
Service: "B" Channel High Press Closes MII-V26. IC-V3/4/6 and NS-V14/15	Aging (°F/Years)	85/40	185/41 Note A	3	2	Analysis	None
Location: Aux. Building El. 305' @ 62-J	Submergence	N/A	N/A	3	-	-	None
Flood Level Elev: N/A Above Flood Level: N/A							

Documentation References:

1. NUREG 0737
2. Static-O-Ring Catalog
3. Plant Data
4. Seismic Qual. Per Viking Report 7401-109/110

Notes:

A) See component material Evaluation work sheet *attached*

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COMPONENT MATERIALS EVALUATION SHEET

Containment Isolation

Plant I.D. No.: PS-936
Manufacturer: Static "O" Ring

Component: Press Switch
Model No.: 6NN-AA3-M4-C2A-GGTTX3

PARTS LIST	MATERIALS LIST	THERMAL AGING		RADIATION	
		QUALIFICATION	REFERENCE	QUALIFICATION	REFERENCE
Diaphragm	316 SS	n/a		n/a	
"O" Ring	Viton	288 ⁰ F/40 yr.	GPUN 1101x-5350-70	2x10 ⁷ R	GPUN 1101x5350-70
Micro Switch Case	Phenolic	212 ⁰ F/43 yr.	GPUN 1101x-5350-68	1x10 ¹⁰ R	GPUN 1101x-5350-68
Cover Gasket	Ethylene Propylene	185 ⁰ F/41 yr.	GPUN 1101x-5350-74	8x10 ⁷ R	GPUN 1101x-5350-74
Switch Insulator	Normex 410	395 ⁰ F/44 yr.	GPUN 1101x-5350-85	1x10 ⁸ R	GPUN 1101x-5350-85

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NUREG 0737 ITEM II.E.4.2
 HARSH - HOT SHUTDOWN
 System Component Evaluation Work Sheet

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Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Containment Isolation Plant ID No. PS-937	Operating Time	Duration of Accident	Continuous	1	2,4	ANALYSIS	None
Component: Press Switch	Temperature (°F)	104	400	3	2	SERVICE	None
Manufacture: Static-O-Ring	Pressure (PSIA)	14.7	Nema 4	3	2	SERVICE	None
Model Number: 6NN-AA3-M4-C2A-GGTX3 S/N 80-12-282	Relative Humidity (%)	65	Nema 4	3	2	SERVICE	None
Function: R.B. Press Sensor	Chemical Spray (PH)	N/A	-	3	-	-	None
Accuracy: Spec: 4 to 100 psi Range Demon:	Radiation (RAD)	3.2×10^5	2×10^7 Note A	3	2	Analysis	None
Service: "B" Channel High Press Closes MU-V26, IC-V3/4/6 and NS-V14/15	Aging (°F/Years)	85/40	185/41 Note A	3	2	Analysis	None
Location: Aux. Building E1 305' @ 60-J	Submergence	N/A	N/A	3	-	-	None
Flood Level Elev: N/A Above Flood Level: N/A							

Documentation References:

1. NUREG 0737
2. Static-O-Ring Catalog
3. Plant Data
4. Seismic Qual. per Viking Report 7401-109/110

Notes:

- A) See Component Material Evaluation sheet attached

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COMPONENT MATERIALS EVALUATION SHEET

Plant I.D. No.: PS-937
Manufacturer: Static "O" Ring

Component: Press Switch
Model No.: 6NN-AA3-M4-C2A-GGTX3

PARTS LIST	MATERIALS LIST	THERMAL AGING		RADIATION	
		QUALIFICATION	REFERENCE	QUALIFICATION	REFERENCE
Diaphragm	316 SS	n/a		n/a	
"O" Ring	Viton	288 ^o F/40 yr.	GPUN 1101x-5350-70	2x10 ⁷ R	GPUN-1101x-5350-70
Micro Switch Case	Phenolic	212 ^o F/43 yr.	GPUN 1101x-5350-68	1x10 ¹⁰ R	GPUN 1101x-5350-68
Cover Gasket	Ethylene Propylene	185 ^o F/41 yr.	GPUN 1101x-5350-74	3x10 ⁷ R	GPUN 1101x-5350-74
Switch Insulator	Normex 410	395 ^o F/44 yr.	GPUN 1101x-5350-85	1x10 ⁸ R	GPUN 1101x-5350-85

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NUREG 0737 ITEM II.E.1.2
 HARSH LESSONS LEARNED
System Component Evaluation Work Sheet

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Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: EFW Plant ID No. FE-777	Operating Time	DURATION OF ACCIDENT	CONTINUOUS	1	3, 6	ANALYSIS	NONE
Component: FLOW TRANSDUCER	Temperature (°F)	SEE ACCIDENT PRO-FILE #3	325	4	5	SERVICE	NONE
Manufacture: CONTROLOTRON	Pressure (PSIA)	SEE ACCIDENT PRO-FILE #3	POTTED ASSY	4	Note A 3	ANALYSIS	NONE
Model Number: 240N6CS80	Relative Humidity (%)	100	POTTED ASSY	4	Note A 3	ANALYSIS	NONE
Function: EFW FLOW	Chemical Spray (PH)	N/A	-	2	-	-	NONE
Accuracy: Spec: Demon:	Radiation (RAD)	N/A	-	2	-	-	NONE
Service: EMERGENCY FEEDWATER LOOP "A" FLOW	Aging (°F/Years)	90/40	125/54	2	Note A 3, 6	SERVICE & ANALYSIS	NONE
Location: INTERMEDIATE BLDG. EL. 295@ (H+30'), 2 COLUMN LINE	Submergence	N/A	N/A	-	-	-	NONE
Flood Level Elev: N/A Above Flood Level: N/A							

Documentation References:

1. NUREG 0737 ITEM II.E.1.2
2. PLANT DATA
3. LTR. CONTROLOTRON TO S. DESHMUKH DATED 9/21/81
4. EDS REPORT 02-0370-1058 REV. 2 DATED 6/23/81
5. LTR. CONTROLOTRON TO P. BOUCHER DATED 2/24/83
6. DAYTON T. BROWN (SEISMIC) REPORT DTB04R78-0041

Notes:

- A) See Component Materials Evaluation Sheet

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COMPONENT MATERIALS EVALUATION SHEET

EFW Plant I.D. No.: FE-777 Component: FLOW TRANSDUCER
 Manufacturer: CONTROLOTRON Model No.: 24GN6CS80

PARTS LIST	MATERIALS LIST	THERMAL AGING		RADIATION	
		QUALIFICATION	REFERENCE	QUALIFICATION	REFERENCE
HOUSING	ALUMINUM	N/A	-	N/A	-
COVER GASKET	SILICONE RUBBER	125°F/54 yrs.	GPUN 1101X-5350-77	5×10^6 R	EPRI RP 1707-3
BARRIER STRIP	PHENOLIC	212°F/43 yrs.	GPUN 1101X-5350-68	1×10^{10} R	EPRI NP 1558
PLASTIC BLOCK	POLYIMIDE	465°F/41 yrs.	GPUN 1101X-5350-76	2×10^9 R	GPUN 1101x-5350-76
WIRE INSULATION	TEFLON	300°F/42 yrs.	GPUN 1101X-5350-75	3×10^4 R	EPRI NP 1558
BACKING MATERIAL	(GE) RTV 116 SILICONE RUBBER	125°F/54 yrs.	GPUN 1101X-5350-77	5×10^6 R	EPRI RP 1707-3
CERAMIC CRYSTAL	CERAMIC	N/A	-	1×10^{12}	EPRI NP 1558

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 HARSH - LESSONS LEARNED
System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: EFW Plant ID No. FE-780	Operating Time	DURATION OF ACCIDENT	CONTINUOUS	1	3, 6	ANALYSIS	NONE
Component: FLOW TRANSDUCER	Temperature (°F)	SEE ACCIDENT PROFILE #3	325	4	5	SERVICE	NONE
Manufacture: CONTROLTRON	Pressure (PSIA)	SEE ACCIDENT PROFILE #3	POTTED ASSY	4	Note A 3	ANALYSIS	NONE
Model Number: 240N6CS80	Relative Humidity (%)	100	POTTED ASSY	4	Note A 3	ANALYSIS	NONE
Function: EFW FLOW	Chemical Spray (PH)	N/A	-	2	-	-	NONE
Accuracy: Spec: Demon:	Radiation (RAD)	N/A	-	2	-	-	NONE
Service: EMERGENCY FEEDWATER LOOP "B" FLOW	Aging (°F/Years)	90/40	125/54	2	Note A 3, 6	SERVICE & ANALYSIS	NONE
Location: INTERMEDIATE BLDG. EL.295@ (H + 30'), 2 COLUMN LIN.	Submergence	N/A	N/A	-	-	-	NONE
Flood Level Elev: N/A Above Flood Level: N/A							

Documentation References:

1. NUREG 0737 ITEM II.E.1.2
2. PLANT DATA
3. LTR. CONTROLTRON TO S. DESHMUKH DATED 9/21/81
4. EDS REPORT 02-0370-1058 REV. 2 DATED 6/23/81
5. LTR. CONTROLTRON TO P. BOUCHER DATED 2/24/83
6. DAYTON T. BROWN (SEISMIC) REPORT DTB04R78-0041

Notes:

- A) See component materials evaluation sheet

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COMPONENT MATERIALS EVALUATION SHEET

EFW

Plant I.D. No.: FE-780
 Manufacturer: CONTROLOTRON

Component: FLOW TRANSDUCER
 Model No.: 240N6CS60

PARTS LIST	MATERIALS LIST	THERMAL AGING		RADIATION	
		QUALIFICATION	REFERENCE	QUALIFICATION	REFERENCE
HOUSING	ALUMINUM	N/A	-	N/A	-
COVER GASKET	SILICONE RUBBER	125°F/54 yrs.	GPUN 1101X-5350-77	5x10 ⁶ R	EPRI RP 1707-3
BARRIER STRIP	PHENOLIC	212°F/43 yrs.	GPUN 1101X-5350-68	1x10 ¹⁰ R	EPRI NP 1558
PLASTIC BLOCK	POLYIMIDE	465°F/41 yrs.	GPUN 1101X-5350-76	2x10 ⁹ R	GPUN 1101X-5350-76
WIRE INSULATION	TEFLON	300°F/42 yrs.	GPUN 1101X-5350-75	3x10 ⁴ R	EPRI NP 1558
BACKING MATERIAL	(GE) RTV 116 SILICONE RUBBER	125°F/54 yrs.	GPUN 1101X-5350-77	5x10 ⁶ R	EPRI RP 1707-3
CERAMIC CRYSTAL	CERAMIC	N/A	-	1x10 ¹²	EPRI NP 1558

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 HARSH -LESSONS LEARNED
System Component Evaluation Work Sheet

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Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: EFW Plant ID No. FE-786	Operating Time	DURATION OF ACCIDENT	CONTINUOUS	1	3, 6	ANALYSIS	NONE
Component: FLOW TRANSDUCER	Temperature (°F)	SEE ACCIDENT PROFILE #3	325	4	5	SERVICE	NONE
Manufacture: CONTROLOTRON	Pressure (PSIA)	SEE ACCIDENT PROFILE #3	POTTED ASSY	4	Note A 3	ANALYSIS	NONE
Model Number: 240N6CS80	Relative Humidity (%)	100	POTTED ASSY	4	Note A 3	ANALYSIS	NONE
Function: EFW FLOW	Chemical Spray (PH)	N/A	-	2	-	-	NONE
Accuracy: Spec: Demon:	Radiation (RAD)	N/A	-	2	-	-	NONE
Service: EMERGENCY FEEDWATER LOOP "A" FLOW	Aging (°F/Years)	90/40	125/54	2	Note A 3, 6	SERVICE & ANALYSIS	NONE
Location: INTERMEDIATE BLDG. EL. 295 @ (H + 30'), 2 COLUMN LINES	Submergence	N/A	N/A	-	-	-	NONE
Flood Level Elev: N/A Above Flood Level: N/A							

Documentation References:

1. NUREG 0737 ITEM II.E.1.2
2. PLANT DATA
3. LTR. CONTROLOTRON TO S. DESHMUKH DATED 9/21/81
4. EDS REPORT 02-0370-1058 REV. 2 DATED 6/23/81
5. LTR. CONTROLOTRON TO P. BOUCHER DATED 2/24/83
6. DAYTON T. BROWN (SEISMIC) REPORT DTB04R78-0041

Notes:

- A) SEE COMPONENT MATERIALS EVALUATION SHEET

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COMPONENT MATERIALS EVALUATION SHEET

EFW

Plant I.D. No.: FE-786
Manufacturer: CONTROLOTRON

Component: FLOW TRANSDUCER
Model No.: 240N6C580

PARTS LIST	MATERIALS LIST	THERMAL AGING		RADIATION	
		QUALIFICATION	REFERENCE	QUALIFICATION	REFERENCE
HOUSING	ALUMINUM	N/A	-	N/A	-
COVER GASKET	SILICONE RUBBER	125 ^o F/54 yrs.	GPUN 1101X-5350-77	5x10 ⁶ R	EPRI RP 1707-3
BARRIER STRIP	PHENOLIC	212 ^o F/43 yrs.	GPUN 1101X-5350-68	1x10 ¹⁰ R	EPRI NP 1558
PLASTIC BLOCK	POLYIMIDE	465 ^o F/41 yrs.	GPUN 1101X-5350-76	2 x10 ⁹ R	GPUN 1101X-5350-76
WIRE INSULATION	TEFLON	300 ^o F/42 yrs.	GPUN 1101X-5350-75	3x10 ⁴ R	EPRI NP 1558
BACKING MATERIAL	(GE) RTV 116 SILICONE RUBBER	125 ^o F/54 yrs.	GPUN 1101X-5350-77	5x10 ⁵ R	EPRI RP 1707-3
CERAMIC CRYSTAL	CERAMIC	N/A	-	1x10 ¹²	EPRI NP 1558

Facility: TMI REV. 7
 Unit: 1 DATED 12/31/82
 Dockei: 50-289

NUREG 0737 ITEM II.E.1.2
 HARSH -LESSONS LEARNED
System Component Evaluation Work Sheet

Sheet 4 of 6

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: EFW Plant ID No. FE-789	Operating Time	DURATION OF ACCIDENT	CONTINUOUS	1	3, 6	ANALYSIS	NONE
Component: FLOW TRANSDUCER	Temperature (°F)	SEE ACCIDENT PROFILE #3	325	4	5	SERVICE	NONE
Manufacture: CONTROLOTRON	Pressure (PSIA)	SEE ACCIDENT PROFILE #3	POTTED ASSY	4	Note A 3	ANALYSIS	NONE
Model Number: 240N6CS80	Relative Humidity (%)	100	POTTED ASSY	4	Note A 3	ANALYSIS	NONE
Function: EFW FLOW	Chemical Spray (PH)	N/A	-	2	-	-	NONE
Accuracy: Spec: Demon:	Radiation (RAD)	N/A	-	2	-	-	NONE
Service: EMERGENCY FEEDWATER LOOP "B" FLOW	Aging (°F/Years)	90/40	125/54	2	Note A 3, 6	SERVICE & ANALYSIS	NONE
Location: INTERMEDIATE BLDG. EL. 295 @ (H + 3C), 2 COLUMN LINE	Submergence	N/A	N/A	-	-	-	NONE
Flood Level Elev: N/A Above Flood Level: N/A							

Documentation References:

1. NUREG 0737 ITEM II.E.1.2
2. PLANT DATA
3. LTR. CONTROLOTRON TO S. DESHMUKH DATED 9/21/81
4. EDS REPORT 02-0370-1058 REV. 2 DATED 6/23/81
5. LTR. CONTROLOTRON TO P. BOUCHER DATED 2/24/83
6. DAYTON T. BROWN (SEISMIC) REPORT DTB04R78-0041

Notes:

- A) SEE COMPONENT MATERIALS EVALUATION SHEET

Revision: 7
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COMPONENT MATERIALS EVALUATION SHEET

EFW

Plant I.D. No.: FE-789
 Manufacturer: CONTROLOTRON

Component: FLOW TRANSDUCER
 Model No.: 240N6CS80

PARTS LIST	MATERIALS LIST	THERMAL AGING		RADIATION	
		QUALIFICATION	REFERENCE	QUALIFICATION	REFERENCE
HOUSING	ALUMINUM	N/A	-	N/A	-
COVER GASKET	SILICONE RUBBER	125 ^o F/54 yrs.	GPUN 1101X-5350-77	5x10 ⁶ R	EPRI RP 1707-3
BARRIER STRIP	PHENOLIC	212 ^o F/43 yrs.	GPUN 1101X-5350-68	1x10 ¹⁰ R	EPRI NP 1558
PLASTIC BLOCK	POLYIMIDE	465 ^o F/41 yrs.	GPUN 1101X-5350-76	2x10 ⁹ R	GPUN 1101X-5350-76
WIRE INSULATION	TEFLON	300 ^o F/42 yrs.	GPUN 1101X-5350-75	3x10 ⁴ R	EPRI NP 1558
BACKING MATERIAL	(GE) RTV 116 SILICONE RUBBER	125 ^o F/54 yrs.	GPUN 1101X-5350-77	5x10 ⁶ R	EPRI RP 1707-3
CERAMIC CRYSTAL	CERAMIC	N/A	-	1x10 ¹²	EPRI NP 1558

Facility: TMI
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NUREG 0737 ITEM II.E.1.2
 HARSH - LESSONS LEARNED
 System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: EFW Plant ID No. RK-849 thru 852	Operating Time	DURATION OF ACCIDENT	CONTINUOUS	1	4	TEST	NONE
Component: CABLE	Temperature (°F)	SEE ACCIDENT PROFILE #3	346	3	4	TEST	NONE
Manufacture: ROCKBESTOS	Pressure (PSIA)	SEE ACCIDENT PROFILE #3	113	3	4	TEST	NONE
Model Number: RSS-6-113 GAI B/M EK-13C (RG-62/4)	Relative Humidity (%)	100	100	3	4	TEST	NONE
Function:	Chemical Spray (PH)	N/A	9.5	2	-	-	NONE
Accuracy: Spec: Demon:	Radiation (RAD)	N/A	N/A	2	-	-	NONE
Service: EFW FLOW	Aging (°F/Years)	90/40	194/40	2	4	TEST & ANALYSIS	NONE
Location: INTERMEDIATE BLDG. EL.295' @ (H+30'), 2 COLUMN LINE	Submergence	N/A	N/A	2	-	-	NONE
Flood Level Elev: N/A Above Flood Level: N/A							

Documentation References:

Notes:

1. NUREG 0737 ITEM II.E.1.2
2. PLANT DATA
3. EDS REPORT 02-0370-1058 REV. 2 DATED 6/23/81
4. ROCKBESTOS SPECIFICATION RSS-6-113 DATED 1/24/74 AND RG-62/4 EQ REPORT

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NUREG 0737 ITEM II.E.1.2
 HARSH - LESSONS LEARNED
 System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: EFW Plant ID No. RK -849 thru 852	Operating Time	DURATION OF ACCIDENT	CONTINUOUS	1	4, 5	ANALYSIS	NONE
Component: BNC CONNECTOR	Temperature (°F)	SEE ACCIDENT PROFILE #3	356	3	4, 5	TEST	NONE
Manufacture: AMPHENOL	Pressure (PSIA)	SEE ACCIDENT PROFILE #3	65.3	3	4, 5	ANALYSIS	NONE
Model Number: UG 260B	Relative Humidity (%)	100	100	3	4, 5	TEST	NONE
Function:	Chemical Spray (PH)	N/A	N/A	3	-	ANALYSIS	NONE
Accuracy: Spec: Demon:	Radiation (RAD)	N/A	N/A	2	-	ANALYSIS	NONE
Service: EFW FLOW	Aging (°F/Years)	90/40	266/42 yr.	2	5	TEST & ANALYSIS	NONE
Location: INTERMEDIATE BLDG. El. 295' @ (H+30'), 2 <small>COLUMN LINE</small>	Submergence	N/A	N/A	2	-	ANALYSIS	NONE
Flood Level Elev: N/A Above Flood Level: N/A							

Documentation References:

Notes:

1. NUREG 0737 ITEM II.E.1.2
2. PLANT DATA
3. EDS REPORT 02-0370-1058 REV. 2 DATED 6.23.81
4. AMPHENOL SPEC. SHEETS AND MIL-C-39012/16-0102
5. GPUN CAL. 1101X-5350-75 (TEFLON INSULATION)

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NUREG 0737 ITEM II. B. 1
 HARSH - COLD SHUTDOWN

System Component Evaluation Work Sheet

Sheet 1 of 2

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS VENTING Plant ID No. DPT-1079	Operating Time	DURATION OF ACCIDENT	CONTINUOUS	1	5	TEST	NONE
Component: TRANSMITTER	Temperature (°F)	SEE ACCIDENT PROFILE # 1	350	2	5	TEST	NONE
Manufacture: FOXBORO	Pressure (PSIA)	SEE ACCIDENT PROFILE # 2	99.7	2	5	TEST	NONE
Model Number: N-E13-DH	Relative Humidity (%)	100	100	2	5	TEST	NONE
Function: RC-V28 PZR LINE FLOW	Chemical Spray (PH)	9.5	9.5	3	5	TEST	NONE
Accuracy: Spec: Demon:	Radiation (RAD)	2x10 ⁷	5x10 ⁷	3	5	TEST	NONE
Service: PZR HIGH POINT VENT	Aging (°F/Years)	120/40	120/10	4	5	TEST & ANALYSIS	NONE
Location: CONTAINMENT EL. 352' @ 90°	Submergence	N/A	N/A	-	-	-	NONE
Flood Level Elev: 286.66' Above Flood Level: YES							

Documentation References:

1. NUREG 0737 ITEM II. B. 1
2. FSAR CHAPTER 14
3. IEB. 79-01B
4. PLANT RECORDS
5. ELEC. POWER UTILITY GROUP E.Q. TEST

Notes:

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NUREG 0737 ITEM II.B.1
 HARSH - COLD SHUTDOWN
System Component Evaluation Work Sheet

Sheet 2 of 2

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS VENTING Plant ID No. RC-V44	Operating Time	DURATION OF ACCIDENT	CONTINUOUS	1	5	TEST	NONE
Component: SOLENOID	Temperature (°F)	SEE ACCIDENT PROFILE #1	350	2	5	TEST	NONE
Manufacture: TARGET ROCK	Pressure (PSIA)	SEE ACCIDENT PROFILE #2	60	2	5	TEST	NONE
Model Number: 80Z-14-005	Relative Humidity (%)	100	100	2	5	TEST	NONE
Function: RCS VENTING	Chemical Spray (PH)	9.5	8.6 to 10	3	5	TEST	NONE
Accuracy: Spec: Demon:	Radiation (RAD)	2x10 ⁷	1x10 ⁸	3	5	TEST	NONE
Service: PZR HIGH POINT VENT	Aging (°F/Years)	120/40	120/40	4	5	TEST & ANALYSIS	NONE
Location: CONTAINMENT EL. 352' @ 90°	Submergence	N/A	N/A	-	-	-	NONE

Documentation References:

1. NUREG 0737 ITEM II.B.1
2. FSAR CHAPTER 14
3. IEB. 79-01B
4. PLANT RECORDS
5. TARGET ROCK REPORT 2375-D DATED 9/26/79

Notes:

Three Mile Island
Unit 1

NUREG 0737 ITEM II.F.1

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LESSONS LEARNED

(Class IE Electrical Equipment Required to
Function Under Postulated Accident
Conditions)

System: A.A.M.E.

COMPONENTS			
Plant Identification Number	Generic Name	LOCATION	
		Inside Primary Containment	II.F-1 SUB ITEM
HM-V03A	Solenoid (H ₂ Monitor)	X	(H ₂ Monitoring)
ZSL-V-3A	Position Switch	X	"
ZSH-V03A	Position Switch	X	"
HM-V03B	Solenoid (H ₂ Monitor)	X	"
ZSL-V03B	Position Switch	X	"
ZSH-V03B	Position Switch	X	"
HM-V04A	Solenoid (H ₂ Monitor)	X	"
ZSL-V04A	Position Switch	X	"
ZSH-V04A	Position Switch	X	"
HM-V04B	Solenoid (H ₂ Monitor)	X	"
ZSL-V04B	Position Switch	X	"
ZSH-V04B	Position Switch	X	"
RMG-22	Gamma Detector	X	(Hi Rad)
RMG-23	Gamma Detector	X	"
LT-804	Level Transmitter	X	(H ₂ O Level)
LT-805	Level Transmitter	X	"
LT-806	Level Transmitter	X	"
LT-807	Level Transmitter	X	"

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NUREG 0737 ITEM II.F.1 (H₂ Monitoring)
 HARSH - LESSONS LEARNED
System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: A A M E Plant ID No. HM-V03A	Operating Time	Duration of Accident	Continuous	6	3	Test	None
Component: SOLENOID	Temperature (°F)	See Accident Profile #1	370	1	3	Test	None
Manufacture: TARGET ROCK	Pressure (PSIA)	See Accident Profile #2	60	1	3	Test	None
Model Number: 80Z-14-005	Relative Humidity (%)	100	100	1	3	Test	None
Function: H ₂ Sample Return Shut-off Valve	Chemical Spray (PH)	9.5	8.6 to 10	1	3	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	1×10^8	5	3	Test	None
Service: POST ACCIDENT H ₂ MONITORING CHANNEL A	Aging (°F/Years)	125/40	130/40	2	3,4	Test & Analysis	None
Location: CONTAINMENT EI 330 @ 315°	Submergence	N/A	N/A	-	-	-	None
Flood Level Elev: 286.66' Above Flood Level: Yes							

Documentation References:

1. FSAR Chapter 14
2. Plant Records
3. Target Rock Report 2375D dated 9/26/79
4. Limiting Non-Metallic Material (Silicon) GPUN Calc. 1101X-5350-77
5. IEB 79-01B
6. NUREG 0737 Item II.F.1

Notes:

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System Component Evaluation Work Sheet

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Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: A A M E Plant ID No. ZSL-V03A	Operating Time	Duration of Accident	Continuous	6	3	Test	None
Component: POSITION IND. SWITCH	Temperature (°F)	See Accident Profile #1	370	1	3	Test	None
Manufacture: TARGET ROCK	Pressure (PSIA)	See Accident Profile #2	60	1	3	Test	None
Model Number: P/N 100967-1 (Solenoid 80Z-14-005)	Relative Humidity (%)	100	100	1	3	Test	None
Function: Indicates Valve Closed Position	Chemical Spray (PH)	9.5	8.6 to 10	1	3	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	1×10^8	5	3	Test	None
Service: POST ACCIDENT H ₂ Monitoring Channel "A"	Aging (°F/Years)	125/40	130/40	2	3,4	Test & Analysis	None
Location: CONTAINMENT E1 330 @ 315 ⁰	Submergence	N/A	N/A	-	-	--	None
Flood Level Elev: 286.66 Above Flood Level: Yes							

Documentation References:

1. FSAR Chapter 14
2. Plant Records
3. Target Rock Report 2375D dated 9/26/79
4. Limiting Non-Metallic Material (Silicon) GPUN Calc. 1101X-5350-77
5. IEB-79-01B
6. NUREG 0737 Item II.F.1

Notes:

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System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: A A M E Plant ID No. ZSH-V03A	Operating Time	Duration of Accident	Continuous	6	3	Test	None
Component: POSITION IND. SWITCH	Temperature (°F)	See Accident Profile #1	370	1	3	Test	None
Manufacture: TARGET ROCK	Pressure (PSIA)	See Accident Profile #2	60	1	3	Test	None
Model Number: p/N 100967-1 (Solenoid 80Z-14-005)	Relative Humidity (%)	100	100	1	3	Test	None
Function: Indicates Valve Open Position	Chemical Spray (PH)	9.5	8.6 to 10	1	3	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2 x 10 ⁷	1 x 10 ⁸	5	3	Test	None
Service: POST ACCIDENT H ₂ Monitoring Channel A	Aging (°F/Years)	125/40	130/40	2	3,4	Test & Analysis	None
Location: CONTAINMENT El. 330 @ 315 ⁰	Submergence	N/A	N/A	-	-	-	None
Flood Level Elev: 286.66 Above Flood Level: Yes							

Documentation References:

1. FSAR Chapter 14
2. Plant Records
3. Target Rock Report 2375D dated 9/26/79
4. Limiting Non-Metallic Material (Silicon) GPUN Calc. No. 110IX-5350-77
5. IEB-79-01B
6. NUREG 0737 Item II.F.1

Notes:

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System Component Evaluation Work Sheet

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Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: A A M E Plant ID No. HM-V03B	Operating Time	Duration of Accident	Continuous	6	3	Test	None
Component: SOLENOID	Temperature (°F)	See Accident Profile #1	370	1	3	Test	None
Manufacture: TARGET ROCK	Pressure (PSIA)	See Accident Profile #2	60	1	3	Test	None
Model Number: 80Z-14-005	Relative Humidity (%)	100	100	1	3	Test	None
Function: H ₂ Sample Return Shut-Off Valve	Chemical Spray (PH)	9.5	8.6 to 10	1	3	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	1×10^8	5	3	Test	None
Service: POST ACCIDENT H ₂ MONITORING CHANNEL B	Aging (°F/Years)	125/40	130/40	2	3,4	Test & Analysis	None
Location: CONTAINMENT E. 305 @ 45°	Flood Level Elev: 286.66' Above Flood Level: Yes	Submergence	N/A	N/A	-	-	None

Documentation References:

1. FSAR Chapter 14
2. Plant Records
3. Target Rock Report 2375D dated 9/26/70
4. Limiting Non-Metallic Material (Silicon) GPUN Calc. 1101X-5350-77
5. IEB 79-01B
6. NUREG 0737 Item II.F.1

Notes:

System Component Evaluation Work Sheet

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Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: A A M E Plant ID No. ZSL-V03B	Operating Time	Duration of Accident	Continuous	6	3	Test	None
Component: POSITION IND. SWITCH	Temperature (°F)	See Accident Profile #1	370	1	3	Test	None
Manufacture: TARGET ROCK	Pressure (PSIA)	See Accident Profile #2	60	1	3	Test	None
Model Number: P/N 100967-1 (Solenoid 80Z-14-005)	Relative Humidity (%)	100	100	1	3	Test	None
Function: Indicates Valve Closed Position	Chemical Spray (PH)	9.5	8.6 to 10	1	3	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	1×10^8	5	3	Test	None
Service: POST ACCIDENT H ₂ MONITORING CHANNEL B	Aging (°F/Years)	125/40	130/40	2	3,4	Test & Analysis	None
Location: CONTAINMENT EL. 305 @ 45°	Submergence	N/A	N/A	-	-	-	None
Flood Level Elev: 286.66 Above Flood Level: Yes							

Documentation References:

1. FSAR Chapter 14
2. Plant Records
3. Target Rock Report 2375D dated 9/26/79
4. Limiting Non-Metallic Material (Silicon) GPUN Calc. 1101X-5350-77
5. IEB-79-01B
6. NUREG 0737 Item II.F.1

Notes:

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System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: A A M E Plant ID No. Z5H-V03B	Operating Time	Duration of Accident	continuous	6	3	Test	None
Component: Position Inc. Switch	Temperature (°F)	See Accident Profile #1	370	1	3	Test	None
Manufacture: TARGET ROCK	Pressure (PSIA)	See Accident Profile#2	60	1	3	Test	None
Model Number: P/N 100967-1 (Solenoid 80Z-14-005)	Relative Humidity (%)	100	100	1	3	Test	None
Function: Indicates Valve open positon	Chemical Spray (PH)	95	8.6 to 10	1	3	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2 x 10 ⁷	1 x 10 ⁸	5	3	Test	None
Service: POST ACCIDENT H ₂ MONITORING CHANNEL	Aging (°F/Years)	125/40	130/40	2	3,4	Test & Analysis	None
Location: CONTAINMENT EL. 305 ¹ @45 ⁰	Submergence	N/A	N/A	-	-	-	NONE
Flood Level Elev: 286.66 F+ Above Flood Level: Yes							

Documentation References:

1. FSAR Chapter 14
2. Plant Records
3. Target Rock Report 2375D dated 9/26/79
4. Limiting Non-Metallic Material (silicon) GPUN Calc. 1101x-5350 -77
5. IEB-79-01B
6. NUREG 0737 Item II.F.1

Notes:

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HARSH - LESSONS LEARNED
System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: A A M E Plant ID No. HM-V04A	Operating Time	Duration of Accident	Continuous	6	3	Test	None
Component: SOLENOID	Temperature (°F)	See Accident Profile #1	370	1	3	Test	None
Manufacture: TARGET ROCK	Pressure (PSIA)	See Accident Profile #2	60	1	3	Test	None
Model Number: 80Z-14-005	Relative Humidity (%)	100	100	1	3	Test	None
Function: H ₂ Sampling Shut-off Valve	Chemical Spray (PH)	9.5	8.6 to 10	1	3	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2 x 10 ⁷	1 x 10 ⁸	5	3	Test	None
Service: POST ACCIDENT H ₂ MONITORING CHANNEL A	Aging (°F/Years)	125/40	130/40	2	3,4	Test & Analysis	None
Location: <i>CONTAINMENT</i> <i>EL. 330' @ 315°</i>	Submergence	N/A	N/A	-	-	-	None
Flood Level Elev: 286.66' Above Flood Level: Yes							

Documentation References:

1. FSAR Chapter 14
2. Plant Records
3. Target Rock Reprot 2375D dated 9/26/79
4. Limiting Non-Metallic Material (Silicon) GPUN Calc. 1101X-5350-77
5. IEB-79-01B
6. NUREG 0737 Item II.F.1

Notes:

System Component Evaluation Work Sheet

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Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: A A M E Plant ID No. ZSL-V04A	Operating Time	Duration of Accident	Continuous	6	3	Test	None
Component: POSITION IND. SWITCH	Temperature (°F)	See Accident Profile #1	370	1	3	Test	None
Manufacture: TARGET ROCK	Pressure (PSIA)	See Accident Profile #2	60	1	3	Test	None
Model Number: P/N 100967-1 (Solenoid 80Z-14-005)	Relative Humidity (%)	100	100	1	3	Test	None
Function: Indicates Valve Closed Position	Chemical Spray (PH)	9.5	8.6. to 10	1	3	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	1×10^8	5	3	Test	None
Service: POST ACCIDENT H ₂ MONITORING CHANNEL A	Aging (°F/Years)	125/40	130/40	2	3,4	Test & Analysis	None
Location: CONTAINMENT EL. 330@ 315 ⁰	Submergence	N/A	N/A	-	-	-	None
Flood Level Elev: 286.66 Above Flood Level: Yes							

Documentation References:

1. FSAR Chaper 14
2. Plan Records
3. Target Rock Report 2375D dated 9/26/79
4. Limiting Non-Metallic Material (Silicon) GPUN Calc. 1101X-5350-77
5. IEB-79-01B
6. NUREG 0737 Item II.F.1

Notes:

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HARSH - LESSONS LEARNED
System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: A A M E Plant ID No. ZSH-V04A	Operating Time	Duration of Accident	Continuous	6	3	Test	None
Component: POSITION IND. SWITCH	Temperature (°F)	See Accident Profile #1	370	1	3	Test	None
Manufacture: TARGET ROCK	Pressure (PSIA)	See Accident Profile #2	60	1	3	Test	None
Model Number: P/N 100967-1 (Solenoid 80Z-14-005)	Relative Humidity (%)	100	100	1	3	Test	None
Function: Indicates Valve Open Position	Chemical Spray (PH)	9.5	8.6 to 10	1	3	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2 x 10 ⁷	1 x 10 ⁸	5	3	Test	None
Service: POST ACCIDENT H ₂ MONITORING CHANNEL A	Aging (°F/Years)	125/40	130/40	2	3,4	Test & Analysis	None
Location: CONTAINMENT El. 330 @ 315 ⁰	Submergence	N/A	N/A	-	-	-	None
Flood Level Elev: 286.66 Above Flood Level: Yes							

Documentation References:

Notes:

1. FSAR Chapter 14
2. Plan Records
3. Target Rock Report 2375D dated 9/26/79
4. Limiting Non-Metallic Material (Silicon) GPUN Calc. 1101X5350-77
5. IEB-79-01B
6. NUREG 0737 Item II.F.1

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HARSH - LESSONS LEARNED

System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: A A M E Plant ID No. HM-VO4B	Operating Time	Duration of Accident	Continuous	6	3	Test	None
Component: SOLENOID	Temperature (°F)	See Accident Profile #1	370	1	3	Test	None
Manufacture: TARGET ROCK	Pressure (PSIA)	See Accident Profile #2	60	1	3	Test	None
Model Number: 80Z-14-005	Relative Humidity (%)	100	100	1		Test	None
Function: H ₂ Sampling shut-off valve	Chemical Spray (PH)	9.5	8.6 to 10	1	3	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2 x 10 ⁷	1 x 10 ⁸	5	3	Test	None
Service: POST ACCIDENT H ₂ MONITORING CHANNEL B	Aging (°F/Years)	125/40	130/40	2	3,4	Test & Analysis	None
Location: CONTAINMENT EL 305' @ 45°	Submergence	N/A	N/A	-	-	-	None
Flood Level Elev: 286.66' Above Flood Level: Yes							

Documentation References:

1. FSAR Chapter 14
2. Plant Records
3. Target Rock Report 2375D dated 9/26/79
4. Limiting Non-Metallic Material (Silicon) GPUN Calc. 1101X-5350-77
5. IEB-79-01B
6. NUREG 0737 Item II.F.1

Notes:

Facility: TMI

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System Component Evaluation Work Sheet

Sheet 11 of 18

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: A A M E Plant ID No. ZSL -V04B	Operating Time	Duration of Accident	Continuous	6	3	Test	None
Component: POSITION IND. SWITCH	Temperature (°F)	See Accident Profile #1	370	1	3	Test	None
Manufacture: TARGET ROCK	Pressure (PSIA)	See Accident Profile #2	60	1	3	Test	None
Model Number: P/N 100967-1 (Solenoid 80Z-14-005)	Relative Humidity (%)	100	100	1	3	Test	None
Function: Indicates valve closed position	Chemical Spray (PH)	9.5	8.6 to 10	1	3	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	1×10^8	5	3	Test	None
Service: POST ACCIDENT H ₂ MONITORING CHANNEL B	Aging (°F/Years)	125/40	130/40	2	3,4	Test & Analysis	None
Location: CONTAINMENT E1. 305 @ 45°	Submergence	N/A	N/A	-	-	-	None
Flood Level Elev: 286.66 Above Flood Level: Yes							

Documentation References:

1. FSAR Chapter 14
2. Plan Records
3. Target Rock Report 2375D dated 9/26/79
4. Limiting Non-Metallic Material (Silicon) GPUN Calc. 1101X-5350-77
5. IEB-79-01B
6. NUREG 0737 Item II.F.1

Notes:

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HARSH - LESSONS LEARNED

System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: A A M E Plant ID No. ZSH-V04B	Operating Time	Duration of Accident	Continuous	6	3	Test	None
Component: POSITION IND. SWITCH	Temperature (°F)	See Accident Profile #1	370	1	3	Test	None
Manufacture: TARGET ROCK	Pressure (PSIA)	See Accident Profile #2	60	1	3	Test	None
Model Number: P/N 100967-1 (Solenoid 80Z-14-005)	Relative Humidity (%)	100	100	1	3	Test	None
Function: Indicates valve Open Position	Chemical Spray (PH)	9.5	8.6 to 10	1	3	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	1×10^8	5	3	Test	None
Service: POST ACCIDENT H ₂ MONITORING CHANNEL B	Aging (°F/Years)	125/40	130/40	2	3,4	Test & Analysis	None
Flood Level Elev: 286.66 Above Flood Level: Yes	Submergence	N/A	N/A	-	-	-	None

Documentation References:

1. FSAR Chapter 14
2. PLANT Records
3. Target Rock Report 2375D dated 9/26/79
4. Limiting Non-Metallic Material (Silicon) GPUN Calc 1101X-5350-77
5. IEB-79-01B
6. NUREG 0737 Item II.F.1

Notes:

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System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: A A M E Plant ID No. RMG-22	Operating Time	Duration of Accident	Note A Continuous	1	4	Test	None
Component: GAMMA DETECTOR	Temperature (°F)	See Accident Profile #1	357	1	4	Test	None
Manufacture: VICTOREEN	Pressure (PSIA)	See Accident Profile #2	147	1	4	Test	None
Model Number: 877-1	Relative Humidity (%)	100	100	1	4	Test	None
Function: Hi. Rad. Monitor	Chemical Spray (PH)	9.5	Note B	2	4, 5	Test & Analysis	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	2.2×10^8	3	4	Test	None
Service: R.B. RADIATION MONITOR	Aging (°F/Years)	125/40	125/40	2	4	Test & Analysis	None
Location: CONTAINMENT EL. 346' @ 215	Submergence	N/A	N/A	-	-	-	None
Flood Level Elev: 286.66 ft. Above Flood Level: Yes							

Documentation References:

1. TMI-1 FSAR Chapter 14
2. Plant Records
3. IEB-79-01B
4. VICTOREEN 950.301
5. ORNL-TM-2412 Chemical Spray Testing

Notes:

- A) Victoreen 950.301 Also included Seismic test
- B) All external surfaces are 316 Stainless Steel

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HARSH - LESSONS LEARNED

System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: A A M E Plant ID No. RMG - 23	Operating Time	Duration of Accident	Note A Continuous	1	4	Test	None
Component: GAMMA DETECTOR	Temperature (°F)	See Accident Profile #1	357	1	4	Test	None
Manufacture: VICTOREEN	Pressure (PSIA)	See Accident Profile #2	147	1	4	Test	None
Model Number: 877-1	Relative Humidity (%)	100	100	1	4	Test	None
Function: Hi Rad. Monitor	Chemical Spray (PH)	9.5	Note B	2	4, 5	Test & Analysis	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	2.2×10^8	3	4	Test	None
Service: R.B. RADIATION MONITOR	Aging (°F/Years)	125/40	125/40	2	4	Test & Analysis	None
Location: CONTAINMENT El. 346' @ 145°	Flood Level Elev: Above Flood Level:	286.66 ft. yes	N/A	N/A	-	-	None

Documentation References:

1. TMI-1 FSAR CHAPTER 14
2. Plant Records
3. IEB-79-OIB
4. VICTOREEN 950.301
5. ORNL-TM-2412 Chemical Spray Testing

Notes:

- A) Victoreen 950.301 also included Seismic test.
- B) All external surfaces are 316 Stainless Steel

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 HARSH - LESSONS LEARNED
System Component Evaluation Work Sheet

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Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: A A M E Plant ID No. LT - 804	Operating Time	Duration of Accident	Continuous Note A	1	Note A	Note A	None
Component: LEVEL TRANSMITTER	Temperature (°F)	See Accident Profile #1	381	1	4	Test	None
Manufacture: DELA VAL (GEM)	Pressure (PSIA)	See Accident Profile #2	69	1	4	Test	None
Model Number: XM 54852	Relative Humidity (%)	100	100	1	4	Test	None
Function: WATER LEVEL MONITOR	Chemical Spray (PH)	9.5	9.5	2	4	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	1×10^8	3	4	Test	None
Service: R.B. "A" CHANNEL SUMP WATER LEVEL MONITOR	Aging (°F/Years)	100/40	122/40	2	4	Test & Analysis	None
Location: CONTAINMENT EL. 282' @ 200'	Submergence	N/A	N/A	-	Note A	-	None
Flood Level Elev: 286.66 ft. Above Flood Level: No							

Documentation References:

1. TMI-1 FSAR Chapter 14
2. Plant Records
3. IEB 79-01B
4. Wyle Eq Report 45102-1

Notes:

- A) NOT REQUIRED TO FUNCTION AFTER SUBMERGENCE. LT-806 "A" CHANNEL FLOOD LEVEL TRANS. TAKES OVER.

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Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: A A M E Plant ID No. LT - 805	Operating Time	Duration of Accident	Continuous Note A	1	Note A	Note A	None
Component: LEVEL TRANSMITTER	Temperature (°F)	See Accident Profile #1	381	1	4	Test	None
Manufacture: DELAVAL (GEM)	Pressure (PSIA)	See Accident Profile #2	69	1	4	Test	None
Model Number: XM 54852	Relative Humidity (%)	100	100	1	4	Test	None
Function: WATER LEVEL MONITOR	Chemical Spray (PH)	9.5	9.5	2	4	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	1×10^8	3	4	Test	None
Service: R.B. "B" Channel SUMP LEVEL MONITOR	Aging (°F/Years)	100/40	122/40	2	4	Test & Analysis	None
Location: CONTAINMENT EL. 282' @ 200'	Submergence	N/A	N/A	-	Note A	-	None
Flood Level Elev: 286.66 ft. Above Flood Level: No							

Documentation References:

1. TMI-1 FSAR Chapter 14
2. Plant Records
3. IEB 79-OIB
4. Wyle Eq. Report 45102-1

Notes:

- A) NOT REQUIRED TO FUNCTION AFTER SUBMERGENCE. LT-807 "B" CHANNEL FLOOD LEVEL TRANS. TAKES OVER.

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System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: A A M E Plant ID No. LT-806	Operating Time	Duration of Accident	Continuous	1	4	Test	None
Component: LEVEL TRANSMITTER	Temperature (°F)	See Accident Profile #1	381	1	4	Test	None
Manufacture: DELAVAL (GEM)	Pressure (PSIA)	See Accident Profile#2	69	1	4	Test	None
Model Number: XM 54852	Relative Humidity (%)	100	100	1	4	Test	None
Function: WATER LEVEL MONITOR	Chemical Spray (PH)	9.5	9.5	2	4	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	1×10^8	3	4	Test	None
Service: R.B "A" Channel FLOOD LEVEL MONITOR	Aging (°F/Years)	100/40	122/40	2	4	Test & Analysis	None
Location: CONTAINMENT EL. 289' @ 200'	Submergence	N/A	N/A	-	-	-	None
Flood Level Elev: 286.66 ft. Above Flood Level: Yes							

Documentation References:

1. TMI-1 FSAR Chapter 14
2. Plant Records
3. IEB 79-01B
4. Wyle EQ Report 45102-1

Notes:

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 HARSH - LESSONS LEARNED

System Component Evaluation Work Sheet

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Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: A A M E Plant ID No. LT-807	Operating Time	Duration of Accident	Continuous	1	4	Test	None
Component: LEVEL TRANSMITTER	Temperature (°F)	See Accident Profile #1	381	1	4	Test	None
Manufacture: DELAVAL (GEM)	Pressure (PSIA)	See Accident Profile #2	69	1	4	Test	None
Model Number: XM 54852	Relative Humidity (%)	100	100	1	4	Test	None
Function: WATER LEVEL MONITOR	Chemical Spray (PH)	9.5	9.5	2	4	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	1×10^8	3	4	Test	None
Service: R.B. "B" CHANNEL FLOOD LEVEL MONITOR	Aging (°F/Years)	100/40	122/40	2	4	Test & Analysis	None
Location: CONTAINMENT E. 289' @ 200'	Submergence	N/A	N/A	-	-	-	None
Flood Level Elev: 286.66 ft. Above Flood Level: Yes							

Documentation References:

1. TMI-1 FSAR CHAPTER 14
2. Plant Records
3. IEB 79-01B
4. Wyle E.Q. Report 45102-1

Notes:

MASTER LIST

Three Mile Island
Unit 1

NUREG 0737 ITEM II.F.2
HARSH - LESSONS LEARNED

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Sheet i of 13

Docket No. 50-289

(Class IE Electrical Equipment Required to
Function Under Postulated Accident
Conditions)

System:

INADEQUATE
core Cooling Monitor

COMPONENTS				
Plant Identification Number	Generic Name	LOCATION		See 79-01B RPT Volume 1
		Inside Primary Containment	Outside Primary Containment	
52 Units	Incore Detector Assv.	X	(Incore thermocouples)	
52 Units	Electrical Connectors	X	"	"
AR149A to 199A	Cable	X	"	"
TE-952A	RTD	X	"	"
TE-952C	RTD	X	"	"
TE-953A	RTD	X	"	"
TE-953C	RTD	X	"	"
TE-954A	RTD	X	"	"
TE-954C	RTD	X	"	"
TE-955A	RTD	X	"	"
TE-955C	RTD	X	"	"
	RTD			
PT-963	PRESS TRANSMITTER	X	Sat Margin Monitor	
PT-949	PRESS TRANSMITTER	X	"	

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 HARSH - LESSONS LEARNED
System Component Evaluation Work Sheet

Sheet 1 of 13

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: <i>INADEQUATE</i> core Cooling Monitor Plant ID No. _____	Operating Time	Duration of Accident	Continuous	1	Note A	Analysis	None
Component: Incore Detector Assy. 52 Assemblies	Temperature (°F)	See Accident Profile #1	275	1	Note A	Analysis	None
Manufacture: B&W	Pressure (PSIA)	See Accident Profile #2	65.3	2	Note A	Analysis	None
Model Number: DA7L-1B-1T-1C-128 Dwg. 163368E (RK-1A)	Relative Humidity (%)	100	100	2	Note A	Analysis	None
Function: Incore Monitor	Chemical Spray (PH)	9.5	9.5	3	Note A	Analysis	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	2×10^7	4	Note A	Analysis	None
Service: Incore flux/temperature Detectors	Aging (°F/Years)	125/40	125/40	2,3	Note A	Analysis	None
Location: Containment Bendix Connector El. 346' @ 155°	Submergence	N/A	N/A	-	-	-	None
Flood Level Elev: 286.66 Ft Above Flood Level: yes							

Documentation References:

1. NUREG 0737 Item II.F.2
2. B&W Spec. 1134/NSS-5/1270
3. Plant Data
4. IEB 79-01B

Notes:

- A) See component material evaluation evaluation work sheet

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COMPONENT MATERIALS EVALUATION SHEET

INADEQUATE

CORE COOLING MONITOR

Plant I.D. No.: -

Manufacturer: B&W

Component: Incore Detector Assy

Model No.: DA7L-1B-1T-1C-128

PARTS LIST	MATERIALS LIST	THERMAL AGING		RADIATION	
		QUALIFICATION	REFERENCE	QUALIFICATION	REFERENCE
Incorel Tubes	-	N/A	-	N/A	-
Tube Insulator	Aluminum Oxide	N/A	-	$1 \times 10^{12}R$	EPRI NP 1558
Bendix Connector	Model JT07A	$125^{\circ}F/54$ yr.	Refer to Scew Sheet # 2	2×10^7R	Refer to Scew Sheet #2
Tube/Connector Epoxy	Hysol R9-2039 A6-3615 (hardner)	$180^{\circ}C$	Hysol Spec.	3×10^8R	EPRI RP 1707-3
Tube/Connector Sleeve	Thermofit (Polyolefin)	$> 125^{\circ}F/40$ yr.	FRC#F-C4033-3	1.5×10^8R	FRC#F-C4033-3

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System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: INADEQUATE core Cooling Monitor Plant ID No.	Operating Time	Duration of Accident	Continuous	1	5	Test	None
Component: Connector	Temperature (°F)	See Accident Profile #1	351	2	5	Test	None
Manufacture: Bendix	Pressure (PSIA)	See Accident Profile #2	65.3	2	Note A	Analysis	None
Model Number: Type JT07A-14P-SR (MS 27336)	Relative Humidity (%)	100	100	2	5	Test	None
Function: Elec. Connector	Chemical Spray (PH)	9.5	9.5	3	Note A Note B	Analysis	None
Accuracy: Spec: Demon:	Radiation (RAD)	2 x 10 ⁷	2 x 10 ⁷	4	Note A	Analysis	None
Service: Mating Connector to B&W Incore Detector Assy Model DA7L-1B-1T-1C-128	Aging (°F/Years)	125/40	150/42	3	Note A	Analysis	None
Location: Containment EL. 346' @ 155°	Submergence	N/A	N/A	-	-	-	None
Flood Level Elev: 286.66 ft. Above Flood Level: Yes							

Documentation References:

1. NUREG 0737 Item II.F.2
2. TMI-1 FSAR Chapter 14
3. Plant Data
4. IEB 79-01B
5. MIL-C-27599A Procurement Specification

Notes:

- A) See component materials evaluation work sheet
- B) ORNL-TM-2412 Chemical Spray Testing

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COMPONENT MATERIALS EVALUATION SHEET

INADEQUATE

CORE COOLING MONITOR

Plant I.D. No.: N/A

Component: Elec. Connector

Manufacturer: Bendix

Model No.: JT07A

PARTS LIST	MATERIALS LIST	THERMAL AGING		RADIATION	
		QUALIFICATION	REFERENCE	QUALIFICATION	REFERENCE
Shell	Aluminum-Nickel Plated-Cadmium Finish	N/A		N/A	
Insert	Epoxy/Glass Epiall BX-1288	150°F/42 yr	GPUN 1101X-5350-61	3 x 10 ⁸ R	EPRI RP 1707-3
Filler Compound	RTV-112	125°F/54 yr	GPUN 1101X-5350-77	1 x 10 ¹¹ R	EPRI RP 1707-3
Gasket	Fluorosilicone Rubber	> 527°F Oper.	Apple Rubber Products	2 x 10 ⁷ R	Academic Press 1963

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NUREG 0737 ITEM II.F.2
 HARSH - LESSONS LEARNED

System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: <i>INADEQUATE</i> core Cooling Monitor Plant ID No. AR-149A thru 199A	Operating Time	Duration of Accident	Continuous	1	Note A	Test and Analysis	None
Component: Cable	Temperature (°F)	See Accident Profile #1	356	2	Note A	Material Test	None
Manufacture: Continental Wire	Pressure (PSIA)	See Accident Profile #2	65.3	2	Note A	Analysis	None
Model Number: GAI B/M EK15L	Relative Humidity (%)	100	100	2	Note A	Material Test	None
Function: Thermocouple Signal	Chemical Spray (PH)	9.5	9.5	3	Note A	Material Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	2×10^7	4	Note A	Test and Analysis	None
Service: Incore Thermocouples	Aging (°F/Years)	125/40	125/40	3	Note A	Test and Analysis	None
Location: Containment EL. 346' @ 155°	Submergence	N/A	N/A	-	-	-	None
Flood Level Elev: 286.66 ft. Above Flood Level: Yes							

Documentation References:

1. NUREG 0737 Item II.F.2
2. TMI-1 FSAR Chapter 14
3. Plant Data
4. IEB 79-01B

Notes:

- A) See Component material evaluation sheet attached.

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COMPONENT MATERIALS EVALUATION SHEET

INADEQUATE

Core Cooling Monitor

Plant I.D. No.: AR-149A thru 199A

Component: Cable

Manufacturer: Continental Wire and Cable Co. Model No.: GAI B/M EK-15L

Nine pair special instrumentation cable EK-15D except one pair chrome1 (yellow) alumel (red)

PARTS LIST	MATERIALS LIST	THERMAL AGING		RADIATION	
		QUALIFICATION	REFERENCE	QUALIFICATION	REFERENCE
Wire Insulation	Teflon	300 ⁰ F/42 yr.	GPUN 1101X-5350-75	*3 x 10 ⁴ R	EPRI NP 1558
Pair Wrapping	Aluminum/Mylar	221 ⁰ F/40 yr.	General Electric Co.	1 x 10 ⁸ R	EPRI RP 1707-3
Jacket	Teflon	300 ⁰ F/42 yr.	GPUN 1101X-5350-75	*3 x 10 ⁴ R	EPRI NP 1558

*Tensile strength is largely unchanged, elongation is diminished, stiffness increases, insulation decreases, Dupont Report E 31301-1 Flex Life of 1000 cycle at 5 x 10⁴ Rads Gamma and room temperature

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 Unit: 1 DATE: 12/31/82
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 HARSH - LESSONS LEARNED
System Component Evaluation Work Sheet

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Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
INADEQUATE System: CORE COOLING MONITOR Plant ID No. TE-952A Component: RTD Manufacture: ROSEMOUNT Model Number: 139 U Function: TEMP. MONITOR Accuracy: Spec: Demon: Service: INCORE THERMOCOUPLE PENETRATION 201 TEMP. Location: CONTAINMENT EL. 294' @ 179° Flood Level Elev: 286.66 ft. Above Flood Level: YES	Operating Time	DURATION OF ACCIDENT	CONTINUOUS	1	4, 5	TEST	NONE
	Temperature (°F)	SEE ACCIDENT PROFILE #1	428	1	4, 5	TEST	NONE
	Pressure (PSIA)	SEE ACCIDENT PROFILE #2	65.3	1	4, 5	ANALYSIS	NONE
	Relative Humidity (%)	100	100	1	4, 5	TEST	NONE
	Chemical Spray (PH)	9.5	9.5	2	5, 6	ANALYSIS	NONE
	Radiation (RAD)	2x10 ⁷	2x10 ⁷ NOTE A	3	4	ANALYSIS	NONE
	Aging (°F/Years)	100/40	100/40 NOTE A	2	4	TEST ANALYSIS	NONE
	Submergence	N/A	N/A	2	-	-	NONE

Documentation References:

1. TMI-1 FSAR CHAPTER 14
2. PLANT DATA
3. IEB 79-01B
4. SPEC. DWG 139U
5. MIL STD 8110C PER 507.1 PER LTR ROSEMOUNT TO P.E.B. 12/20/82.
6. ORNL-TM-2412 SPRAY TESTING

Notes:

- A) SEE COMPONENT MATERIAL EVAL. SHEET ATTACHED.

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COMPONENT MATERIALS EVALUATION SHEET

INADEQUATE
CORE COOLING MONITOR

Plant I.D. No.: TE-952A
Manufacturer: ROSEMOUNT

Component: RTD
Model No.: 139 U

PARTS LIST	*MATERIALS LIST	THERMAL AGING		RADIATION	
		QUALIFICATION	REFERENCE	QUALIFICATION	REFERENCE
	GLASS INSULATION	> 350°F	DOR GUIDELINE	N/A	DOR GUIDELINE
	QUARTZ FIBER (Q-FELT)	> 350°F	↓	N/A	↓
	FIBERGLASS TUBING (VAR GLASS)	> 350°F		N/A	
	PBX (CERAMIC CEMENT)	> 350°F		N/A	

*REFER TO ROSEMOUNT LTR TO P.E.B. 12/20/82.

Facility: TMI REV. 7
 Unit: 1 DATE 12/31/82
 Docket: 50-289

NUREG 0737 ITEM II.F.2
 HARSH - LESSONS LEARNED
System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
<p><i>INADEQUATE</i></p> System: CORE COOLING MONITOR Plant ID No. TE 952C Component: RTD Manufacture: WEED INST. CO. Model Number: 1AOD/611-1B-C-4-C-2-A2-0 Function: TEMP. MONITOR Accuracy: Spec: Demon: Service: BACKUP INCORE T/C PEN. 201 TEMPERATURE Location: CONTAINMENT EL. 294' @ 179°	Operating Time	DURATION OF ACCIDENT	CONTINUOUS	1	4 <i>NOTE A</i>	TEST	NONE
	Temperature (°F)	SEE ACCIDENT PROFILE #1	485	1	4	TEST	NONE
	Pressure (PSIA)	SEE ACCIDENT PROFILE #2	70	1	4	TEST	NONE
	Relative Humidity (%)	100	100	1	4	TEST	NONE
	Chemical Spray (PH)	9.5	9.5	2	4	TEST	NONE
	Radiation (RAD)	2x10 ⁷	3x10 ⁸	3	4	TEST	NONE
	Aging (°F/Years)	100/40	130/46	2	4, 5	TEST & ANALYSIS	NONE
	Flood Level Elev: 286.66 Above Flood Level: YES	Submergence	N/A	N/A	2	-	-

Documentation References:

1. TMI-1 FSAR CHAPTER 14
2. PLANT DATA
3. IEB 79-01B
4. WEED INST. CO. REPORT 548-8354-2
5. GPUN CACL. 1101x-5350-66

Notes:

- A) NATIONAL TECHNICAL SYSTEMS SEISMIC TESTS 548-8854-2-D/548-8854-3-D

Facility: TMI REV. 7
 Unit: 1 DATE: 12/31/82
 Docket: 50-289

NUREG 0737 ITEM II.F.2
 HARSH - LESSONS LEARNED
System Component Evaluation Work Sheet

Sheet 6 of 13

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: INADEQUATE CORE COOLING MONITOR Plant ID No. TE-953A Component: RTD Manufacture: ROSEMOUNT Model Number: 139 U Function: TEMP. MONITOR Accuracy: Spec: Demon: Service: INCORE THERMOCOUPLE PENETRATION 202 TEMP. Location: CONTAINMENT EL. 294' @ 179° Flood Level Elev: 286.66 ft. Above Flood Level: YES	Operating Time	DURATION OF ACCIDENT	CONTINUOUS	1	4, 5	TEST	NONE
	Temperature (°F)	SEE ACCIDENT PROFILE #1	428	1	4, 5	TEST	NONE
	Pressure (PSIA)	SEE ACCIDENT PROFILE #2	65.3	1	4, 5	ANALYSIS	NONE
	Relative Humidity (%)	100	100	1	4, 5	TEST	NONE
	Chemical Spray (PH)	9.5	9.5	2	5, 6	ANALYSIS	NONE
	Radiation (RAD)	2x10 ⁷	2x10 ⁷ NOTE A	3	4	ANALYSIS	NONE
	Aging (°F/Years)	100/40	100/40 NOTE A	2	4	TEST ANALYSIS	NONE
	Submergence	N/A	N/A	2	-	-	NONE

Documentation References:

1. TMI-1 FSAR CHAPTER 14
2. PLANT DATA
3. IEB 79-01B
4. SPEC. DWG 139 U
5. MIL STD 8110C PER 507.1 PER LTR ROSEMOUNT TO P.E.B. 12/20/82
6. ORNL-TM-2412 SPRAY TESTING

Notes:

- A) SEE COMPONENT MATERIAL EVAL. SHEET ATTACHED.

Revision: 7
Date: 12/31/82

Sheet 6 A of 13

COMPONENT MATERIALS EVALUATION SHEET

~~INADEQUATE~~
CORE COOLING MONITOR

Plant I.D. No.: TE 953A
Manufacturer: ROSEMOUNT

Component: RTD
Model No.: 139U

PARTS LIST	*MATERIALS LIST	THERMAL AGING		RADIATION	
		QUALIFICATION	REFERENCE	QUALIFICATION	REFERENCE
	GLASS INSULATION	> 350°F	DOR GUIDELINE	N/A	DOR GUIDELINE
	QUARTZ FIBER (Q-FELT)	> 350°F	↓	N/A	↓
	FIBERGLASS TUBING (VAR GLASS)	> 350°F		N/A	
	PBX (CERAMIC CEMENT)	> 350°F		N/A	

*REFER TO ROSEMOUNT LTR TO P.E.B. 12/20/82.

Facility: TMI REV. 7
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NUREG 0737 ITEM II.F.2
 HARSH - LESSONS LEARNED

System Component Evaluation Work Sheet

Sheet 7 of 13

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: <i>INADEQUATE</i> CORE COOLING MONITOR Plant ID No. TE 953C	Operating Time	DURATION OF ACCIDENT	CONTINUOUS	1	4 <i>NOTE A</i>	TEST	NONE
Component: RTD	Temperature (°F)	SEE ACCIDENT PROFILE #1	485	1	4	TEST	NONE
Manufacture: WEED INST. CO.	Pressure (PSIA)	SEE ACCIDENT PROFILE #2	70	1	4	TEST	NONE
Model Number: 1AOD/611-1B-C-4-C-2-A2-0	Relative Humidity (%)	100	100	1	4	TEST	NONE
Function: TEMP. MONITOR	Chemical Spray (PH)	9.5	9.5	2	4	TEST	NONE
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	3×10^8	3	4	TEST	NONE
Service: BACKUP INCORE T/C PEN. 202 TEMPERATURE	Aging (°F/Years)	100/40	130/46	2	4, 5	TEST & ANALYSIS	NONE
Location: CONTAINMENT EL. 294' @ 179°	Submergence	N/A	N/A	2	-	-	NONE
Flood Level Elev: 286.66 Above Flood Level: YES							

Documentation References:

1. TMI-1 FEAR CHAPTER 14
2. PLANT DATA
3. IEB 77-01B
4. WEED INST. CO. REPORT 548-8854-2
5. GPUN CACL. 1101x-5350-66

Notes:

- A) NATIONAL TECHNICAL SYSTEMS SEISMIC TESTS 548-8854-2-D/548-8854-3-D

Facility: TMI REV. 7
 Unit: 1 DATE: 12/31/82
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NUREG 0737 ITEM II.F.2
 HARSH - LESSONS LEARNED
System Component Evaluation Work Sheet

Sheet 8 of 13

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: INADEQUATE CORE COOLING MONITOR Plant ID No. TE-954A	Operating Time	DURATION OF ACCIDENT	CONTINUOUS	1	4, 5	TEST	NONE
Component: RTD	Temperature (°F)	SEE ACCIDENT PROFILE #1	428	1	4, 5	TEST	NONE
Manufacture: ROSEMOUNT	Pressure (PSIA)	SEE ACCIDENT PROFILE #2	65.3	1	4, 5	ANALYSIS	NONE
Model Number: 139 U	Relative Humidity (%)	100	100	1	4, 5	TEST	NONE
Function: TEMP. MONITOR	Chemical Spray (PH)	9.5	9.5	2	5, 6	ANALYSIS	NONE
Accuracy: Spec: Demon:	Radiation (RAD)	2x10 ⁷	2x10 ⁷ NOTE A	3	4	ANALYSIS	NONE
Service: INCORE THERMOCOUPLE PENETRATION 311 TEMP.	Aging (°F/Years)	100/40	100/40 NOTF A	2	4	TEST ANALYSIS	NONE
Location: CONTAINMENT EL.294' @ 179°	Submergence	N/A	N/A	2	-	-	NONE
Flood Level Elev: 286.66 ft. Above Flood Level: YES							

Documentation References:

1. TMI-1 FSAR CHAPTER 14
2. PLANT DATA
3. IEB 79-01B
4. SPEC. DWG 139U
5. MIL STD 8110C PER 507.1 PER LTR ROSEMOUNT TO P.E.B. 12/20/82
6. ORNL-TM-2412 SPRAY TESTING

Notes:

- A) SEE COMPONENT MATERIAL EVAL. SHEET ATTACHED.

Revision: 7
Date: 12/31/82

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COMPONENT MATERIALS EVALUATION SHEET

INADEQUATE
CORE COOLING MONITOR

Plant I.D. No.: TE 954A
Manufacturer: ROSEMOUNT

Component: RTD
Model No.: 139U

PARTS LIST	*MATERIALS LIST	THERMAL AGING		RADIATION	
		QUALIFICATION	REFERENCE	QUALIFICATION	REFERENCE
	GLASS INSULATION	> 350°F	DOR GUIDELINE	N/A	DOR GUIDELINE
	QUARTZ FIBER (Q-FELT)	> 350°F	↓	N/A	↓
	FIBERGLASS TUBING (VAR GLASS)	> 350°F		N/A	
	PBX (CERAMIC CEMENT)	> 350°F		N/A	

*REFER TO ROSEMOUNT LTR TO P.E.B. 12/20/82

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NUREG 0737 ITEM II.F.2
 HARSH - LESSONS LEARNED
System Component Evaluation Work Sheet

Sheet 9 of 13

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: INADEQUATE CORE COOLING MONITOR Plant ID No. TE 954C Component: RTD Manufacture: WEED INST. CO. Model Number: 1A0D/611-1B-C-4-C-2-A2-0 Function: TEMP. MONITOR Accuracy: Spec: Demon: Service: BACKUP INCORE T/C PEN. 311 TEMPERATURE Location: CONTAINMENT EL. 294' @ 179° Flood Level Elev: 286.66 Above Flood Level: YES	Operating Time	DURATION OF ACCIDENT	CONTINUOUS	1	4 NOTE A	TEST	NONE
	Temperature (°F)	SEE ACCIDENT PROFILE #1	485	1	4	TEST	NONE
	Pressure (PSIA)	SEE ACCIDENT PROFILE #2	70	1	4	TEST	NONE
	Relative Humidity (%)	100	100	1	4	TEST	NONE
	Chemical Spray (PH)	9.5	9.5	2	4	TEST	NONE
	Radiation (RAD)	2×10^7	3×10^8	3	4	TEST	NONE
	Aging (°F/Years)	100/40	130/46	2	4, 5	TEST & ANALYSIS	NONE
	Submergence	N/A	N/A	2	-	-	NONE

Documentation References:

1. TMI-1 FSAR CHAPTER 14
2. PLANT DATA
3. IEB 79-01B
4. WEED INST. CO. REPORT 548-8854-2
5. GPUN CACL. 1101x-5350-66

Notes:

A) NATIONAL TECHNICAL SYSTEMS SEISMIC TESTS 548-8854-2-D/548-8854-3-D

Facility: TMI REV. 7
 Unit: 1 DATE: 12/31/82
 Docket: 50-289

NUREG 0737 ITEM III.F.2
 HARSH - LESSONS LEARNED
System Component Evaluation Work Sheet

Sheet 10 of 13

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: INADEQUATE CORE COOLING MONITOR Plant ID No. TE-955A	Operating Time	DURATION OF ACCIDENT	CONTINUOUS	1	4, 5	TEST	NONE
Component: RTD	Temperature (°F)	SEE ACCIDENT PROFILE #1	428	1	4, 5	TEST	NONE
Manufacture: ROSEMOUNT	Pressure (PSIA)	SEE ACCIDENT PROFILE #2	65.3	1	4, 5	ANALYSIS	NONE
Model Number: 139U	Relative Humidity (%)	100	100	1	4, 5	TEST	NONE
Function: TEMP. MONITOR	Chemical Spray (PH)	9.5	9.5	2	5, 6	ANALYSIS	NONE
Accuracy: Spec: Demon:	Radiation (RAD)	2x10 ⁷	2 x 10 ⁷ NOTE A	3	4	ANALYSIS	NONE
Service: INCORE THERMOCOUPLE PENETRATION 312 TEMP.	Aging (°F/Years)	100/40	100/40 NOTE A	2	4	TEST ANALYSIS	NONE
Location: CONTAINMENT EL. 294' @ 179°	Submergence	N/A	N/A	2	-	-	NONE
Flood Level Elev: 286.66 ft. Above Flood Level: YES							

Documentation References:

1. TMI-1 FSAR CHAPTER 14
2. PLANT DATA
3. IEB 79-01B
4. SPEC. DWG 139U
5. MIL STD 8110C PER 507.1 PER LTR ROSEMOUNT TO P.E.B. 12/20/82
6. ORNL-TM-2412 Spray Testing

Notes:

- A) SEE COMPONENT MATERIAL EVAL. SHEET ATTACHED.

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Date: 12/31/82

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COMPONENT MATERIALS EVALUATION SHEET

INADAPL476
CORE COOLING MONITOR

Plant I.D. No.: TE 955A
Manufacturer: ROSEMOUNT

Component: RTD
Model No.: 139U

PARTS LIST	*MATERIALS LIST	THERMAL AGING		RADIATION	
		QUALIFICATION	REFERENCE	QUALIFICATION	REFERENCE
	GLASS INSULATION	> 350°F	DOR GUIDELINE	N/A	DOR GUIDELINE
	QUARTZ FIBER (Q-FELT)	> 350°F	↓	N/A	↓
	FIBERGLASS TUBING (VAR GLASS)	> 350°F		N/A	
	PBX (CERAMIC CEMENT)	> 350°F		N/A	

*REFER TO ROSEMOUNT LTR TO P.E.B. 12/20/82.

Facility: TMI REV. 7
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NUREG 0737 ITEM II.F.2
 HARSH - LESSONS LEARNED
System Component Evaluation Work Sheet

Sheet 11 of 13

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: <i>INADEQUATE</i> CORE COOLING MONITOR Plant ID No. TE-955C Component: RTD Manufacture: WEED INST. CO. Model Number: IAOD/611-1B-C-4-C-2-A2-0 Function: TEMP MONITOR Accuracy: Spec: Demon: Service: BACKUP INCORE T/C PEN. 312 TEMPERATURE Location: CONTAINMENT EL. 294' @ 179° Flood Level Elev: 286.66 Above Flood Level: YES	Operating Time	DURATION OF ACCIDENT	CONTINUOUS	1	4 <i>NOTE A</i>	TEST	NONE
	Temperature (°F)	SEE ACCIDENT PROFILE #1	485	1	4	TEST	NONE
	Pressure (PSIA)	SEE ACCIDENT PROFILE #2	70	1	4	TEST	NONE
	Relative Humidity (%)	100	100	1	4	TEST	NONE
	Chemical Spray (PH)	9.5	9.5	2	4	TEST	NONE
	Radiation (RAD)	2x10 ⁷	3x10 ⁸	3	4	TEST	NONE
	Aging (°F/Years)	100/40	130/46	2	4, 5	TEST & ANALYSIS	NONE
	Submergence	N/A	N/A	2	-	-	NONE

Documentation References:

1. TMI-1 FSAR CHAPTER 14
2. PLANT DATA
3. IEB 79-01B
4. WEED INST. CO. REPORT 548-8854-2
5. GPUN CACL. 1101x-5350-66

Notes:

A) NATIONAL TECHNICAL SYSTEMS SEISMIC TESTS 548-8854-2-D/548-8854-3-D

Facility: TMI Rev. 7
 Unit: 1 Date 12/31/82
 Docket: 50-289

System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: INADEQUATE core cooling monitor Plant ID No. PT- 963	Operating Time	Duration of Accident	Continuous	1	3	Sequential Test	None
Component: Press Transmitter	Temperature (°F)	See Accident Profile #1	350	2	3	"	None
Manufacture: Rosemount	Pressure (PSIA)	See Accident Profile #2	60	2	3	"	None
Model Number: 1153 G D 9 S/N 315569	Relative Humidity (%)	100	100	2	3	"	None
Function: Sat. Temp. Margin Press Monitor	Chemical Spray (PH)	9.5	9.5	4	3	"	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	5×10^7	5	3	"	None
Service: R. C. Wide Range Pressure (Red Channel)	Aging (°F/Years)	120/40	120/ 10	4	3	Test & Analysis	None
Location: Containment EI 346' @ 160°	Submergence	N/A	N/A	-	-	-	None
Flood Level Elev: 286.66 Ft. Above Flood Level: Yes							

Documentation References:

1. NUREG 0737 ITEM II.F.2
2. TMI-1 FSAR
3. Utility Transmitter Qualification Group Test
4. Plant Data
5. IEB 79-01B

Notes:

Facility: TMI Rev. 7
 Unit: 1 Date 12/31/82
 Docket: 50-289

System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: INADEQUATE core cooling monitor Plant ID No. PT- 949	Operating Time	Duration of Accident	Continuous	1	3	Sequential Test	None
Component: Press Transmitter	Temperature (°F)	See Accident Profile #1	350	2	3	"	None
Manufacture: Rosemount	Pressure (PSIA)	See Accident Profile #2	60	2	3	"	None
Model Number: 1153 G D 9 S/N 312479	Relative Humidity (%)	100	100	2	3	"	None
Function: Sat. Temp. Margin Press Monitor	Chemical Spray (PH)	9.5	9.5	4	3	"	None
Accuracy: Spec: Demon:	Radiation (RAD)	2 x 10 ⁷	5 x 10 ⁷	5	3	"	None
Service: R. C. Wide Range Pressure (Green Channel)	Aging (°F/Years)	120/40	120/10	4	3	Test & Analysis	None
Location: Containment El 346' @ 290°	Submergence	N/A	N/A	-	-	-	None
Flood Level Elev: 286.66 Ft. Above Flood Level: Yes							

Documentation References:

1. NUREG 0737 ITEM II.F.2
2. TMI-1 FSAR
3. Utility Transmitter Qualification Group Test
4. Plant Data
5. IEB 79-01B

Notes:

Facility: TMI Rev. 7
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NUREG 0737 ITEM II E.4.1
 HOT SHUTDOWN - HARSH
System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Hydrogen Recomb. Plant ID No. HR-V22A Component: Solenoid Manufacture: Target Rock Model Number 80Z -14-003 Function: Flow Shut00ff To H ₂ Recomb. Accuracy: Spec: Demon: Service: R.B. Iso. Channel A (Red) Location: Containment El. 311' @ 315°	Operating Time	Duration of Accident	Continuous	1	4	Test	None
	Temperature (°F)	See Accident Profile #1	350	1	4	Test	None
	Pressure (PSIA)	See Accident Profile #2	60	1	4	Test	None
	Relative Humidity (%)	100	100	1	4	Test	None
	Chemical Spray (PH)	9.5	8.6 to 10	1	4	Test	None
	Radiation (RAD)	2 x 10 ⁷	1 x 10 ⁸	3	4	Test	None
	Aging (°F/Years)	120/40	130/40	2	4, 5	Test & Analysis	None
	Flood Level Elev: 286.66 ft. Above Flood Level: Yes	Submergence	N/A	N/A	2	-	-

Documentation References:

1. TMI-1 FSAR Chapter 14
2. Plant Data
3. IEB-79-01B
4. Target Rock Corp. Ltr. to D.G. Slear dated 4/15/80
5. Limiting non-metallic material (Silicon) Calc. 1101X-5350-77

Notes:

Facility: TMI
 Unit: 1
 Docket: 50-289

Rev. 7
 Date: 12/31/82

NUREG 0737 ITEM II.E.4.1
 HARSH - HOT SHUTDOWN
System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Hydrogen Recomb. Plant ID No. LS11-V22A-SA	Operating Time	Duration of Accident	Continuous	1	4	Test	None
Component: Position Ind. Switch	Temperature (°F)	See Accident Profile #1	350	1	4	Test	None
Manufacture: Target Rock	Pressure (PSIA)	See Accident Profile #2	60	1	4	Test	None
Model Number: P/N 100967-1 (Solenoid 80Z-14-003)	Relative Humidity (%)	100	100	1	4	Test	None
Function: Indicated Valve Open Position	Chemical Spray (PH)	9.5	8.6 to 10	1	4	Test	None
Accuracy: Spec: Red PL-3A Demon:	Radiation (RAD)	2×10^7	1×10^8	3	4	Test	None
Service: R.B. Iso. Channel A (Red)	Aging (°F/Years)	120/40	130/40	2	4, 5	Test and Analysis	None
Location: Containment El. 311' @315	Submergence	N/A	N/A	2	-		None
Flood Level Elev: 286.66 ft. Above Flood Level: Yes							

Documentation References:

Notes:

1. TMI-1 FSAR Chapter 14
2. Plant Data
3. IEB-79-01B
4. Target Rock Corp. Report 2375D dated 9/26/79
5. Limiting non-metallic material (Silicon) Calc. 1101X-5350-77

Facility: TMI
 Unit: 1
 Docket: 50-289

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NUREG 0737 ITEM II.E.4.1

HARSH - HOT SHUTDOWN

System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Hydrogen Recomb. Plant ID No. LS12V22A-SA	Operating Time	Duration of Accident	Continuous	1	4	Test	None
Component: Position Ind. Switch	Temperature (°F)	See Accident Profile #1	350	1	4	Test	None
Manufacture: Target Rock	Pressure (PSIA)	See Accident Profile #2	60	1	4	Test	None
Model Number: P/N 100967-1 (Solenoid 80Z-14-003)	Relative Humidity (%)	100	100	1	4	Test	None
Function: Indicates Valve Closed Position Green PL-4A	Chemical Spray (PH)	9.5	8.6 to 10	1	4	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	1×10^8	3	4	Test	None
Service: R.B. Iso. Channel A (Red)	Aging (°F/Years)	120/40	130/40	2	4, 5	Test and Analysis	None
Location: Containment El. 311' @ 315°	Submergence	N/A	N/A	2	-		None
Flood Level Elev: 286.66 ft. Above Flood Level: Yes							

Documentation References:

1. TMI-1 FSAR Chapter 14
2. Plant Data
3. IEB-79-01B
4. Target Rock Corp. Report 2375D dated 9/26/79
5. Limiting non-metallic material (Silicon) Calc. 1101X-5350-77

Notes:

Facility: TMI Rev. 7
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NUREG 0737 ITEM II.E.4.1

HOT SHUTDOWN - HARSH

System Component Evaluation Work Sheet

Sheet 4 of 12

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Hydrogen Recomb. Plant ID No. HR-V22B	Operating Time	Duration of Accident	Continuous	1	4	Test	None
Component: Solenoid	Temperature (°F)	See Accident Profile #1	350	1	4	Test	None
Manufacture: Target Rock	Pressure (PSIA)	See Accident Profile #2	60	1	4	Test	None
Model Number: 80Z-14-003	Relative Humidity (%)	100	100	1	4	Test	None
Function: Flow Shut-Off To H ₂ Recomb.	Chemical Spray (PH)	9.5	8.6 to 10	1	4	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	1×10^8	3	4	Test	None
Service: R.B. Iso. (Green) SW#2 CHANNEL B	Aging (°F/Years)	120/40	130/40	2	4, 5	Test and Analysis	None
Location: Containment EL. 311' @ 315°	Submergence	N/A	N/A	2	-	-	None
Flood Level Elev: 286.66 ft. Above Flood Level: Yes							

Documentation References:

Notes:

1. TMI-1 FSAR Chapter 14
2. Plant Data
3. IEB-79-01B
4. Target Rock Corp. Ltr. to D. G. Slear dated 4/15/80
5. Limiting Non-metallic material (Silicon) Cal. 1101X-5350-77

System Component Evaluation Work Sheet

Facility: TMI

Rev. 7

Unit: 1

Date: 12/31/82

Docket: 50-289

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Hydrogen Recomb. Plant ID No. LS11-V22B-5 B	Operating Time	Duration of Accident	Continuous	1	4	Test	None
Component: Position Ind. Switch	Temperature (°F)	See Accident Profile #1	350	1	4	Test	None
Manufacture: Target Rock	Pressure (PSIA)	See Accident Profile #2	60	1	4	Test	None
Model Number: P/N 100967-1 (Solenoid 807-14-003)	Relative Humidity (%)	100	100	1	4	Test	None
Function: Indicates Valve Open Position (Red) PL-3B	Chemical Spray (PH)	9.5	8.6 to 10	1	4	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2 x 10 ⁷	1 x 10 ⁸	3	4	Test	None
Service: E.B. Iso. Channel B (Green)	Aging (°F/Years)	120/40	130/40	2	4, 5	Test and Analysis	None
Location: Containment El. 311' @ 315°	Submergence	N/A	N/A	2	-		None
Flood Level Elev: 286.66 ft. Above Flood Level: Yes							

Documentation References:

1. TMI-1 FSAR Chapter 14
2. Plant Data
3. IEB-79-01B
4. Target Rock Corp. Report 2375D dated 9/26/79
5. Limiting non-metallic material (Silicon) Calc. 1101X-5350-77

Notes:

Facility: TMI Rev. 7
 Unit: 1 Date: 12/31/82
 Docket: 50-289

NUREG 0737 ITEM II.E.4.1
 HARSH - HOT SHUTDOWN

System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Hydrogen Recomb. Plant ID No. LS12-V22B-5B	Operating Time	Duration of Accident	Continuous	1	4	Test	None
Component: Position Ind. Switch	Temperature (°F)	See Accident Profile #1	350	1	4	Test	None
Manufacture: Target Rock	Pressure (PSIA)	See Accident Profile #2	60	1	4	Test	None
Model Number: P/N 100967-1 (Solenoid 80Z-14-003)	Relative Humidity (%)	100	100	1	4	Test	None
Function: Indicates Valve Closed Position (Green) PL-4B	Chemical Spray (PH)	9.5	8.6 to 10	1	4	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	1×10^8	3	4	Test	None
Service: P.B. Iso. Channel B (Green)	Aging (°F/Years)	120/40	130/40	2	4, 5	Test and Analysis	None
Location: Containment EL. 311' @ 315°	Submergence	N/A	N/A	2	-		None
Flood Level Elev: 286.66 ft. Above Flood Level: Yes							

Documentation References:

Notes:

1. TMI-1 FSAR Chapter 14
2. Plant Data
3. IEB-79-01B
4. Target Rock Corp. Report 2375D dated 9/26/79
5. Limiting non-metallis material (Silicon) Calc. 1101X-5350-77

Facility: TMI Rev. 7
Unit: 1 Date: 12/31/82
Docket: 50-289

System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Hydrogen Recomb. Plant ID No. HR-V23A	Operating Time	Duration of Accident	Continuous	1	4	Test	None
Component: Solenoid	Temperature (°F)	See Accident Profile #1	350	1	4	Test	None
Manufacture: Target Rock	Pressure (PSIA)	See Accident Profile #2	60	1	4	Test	None
Model Number: 80Z-14-003	Relative Humidity (%)	100	100	1	4	Test	None
Function: H ₂ Recomb. Exhaust Shut-Off Back to Containment	Chemical Spray (PH)	9.5	8.6 to 10	1	4	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2 x 10 ⁷	1 x 10 ⁸	3	4	Test	None
Service: R. B. Iso. (RED) SW #12 CHANNEL A	Aging (°F/Years)	120/40	130/40	2	4, 5	Test and Analysis	None
Location: Containment El. 311' @ 315°	Submergence	N/A	N/A	2	-	-	None
Flood Level Elev: 286.66 ft. Above Flood Level: Yes							

Documentation References:

Notes:

1. TMI-1 FSAR Chapter 14
2. Plant Data
3. IEB-70-01B
4. Target Rock Corp. Ltr. to D. G. Slear dated 4/15/80
5. Limiting non-metallic material (silicon) Calc. 1101X-5350-77

Facility: TMI Rev. 7
 Unit: I Date: 12/31/82
 Docket: 50-289

NUREG 0737 ITEM II.E.4.1
 HARSH - HOT SHUTDOWN
System Component Evaluation Work Sheet

Sheet 8 of 12

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Hydrogen Recomb. Plant ID No. LS12-V23A-SA	Operating Time	Duration of Accident	Continuous	1	4	Test	None
Component: Position Ind. Switch	Temperature (°F)	See Accident Profile #1	350	1	4	Test	None
Manufacture: Target Rock	Pressure (PSIA)	See Accident Profile #2	60	1	4	Test	None
Model Number: P/N 100967-1 (Solenoid 80Z-14-003)	Relative Humidity (%)	100	100	1	4	Test	None
Function: Indicates Valve Closed Position (Green) PL-6A	Chemical Spray (PH)	9.5	8.6 to 10	1	4	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	1×10^8	3	4	Test	None
Service P.B. Iso. Channel A (Red)	Aging (°F/Years)	120/40	130/40	2	4, 5	Test and Analysis	None
Location: Containment EL. 311' @ 315'	Submergence	N/A	N/A	2	-		None
Flood Level Elev: 286.66 ft. Above Flood Level: Yes							

Documentation References:

Notes:

1. TMI-1 FSAR Chapter 14
2. Plant Data
3. IEB-79-01B
4. Target Rock Corp. Report 2375D dated 9/26/79
5. Limiting non-metallic material (Silicon) Calc. 1101X-5350-77

Facility: TMI Rev. 7
 Unit: I Date: 12/31/82
 Docket: 50-289

NUREG 0737 ITEM II.E.4.1
 HARSH - HOT SHUTDOWN

System Component Evaluation Work Sheet

Sheet 9 of 12

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Hydrogen Recomb. Plant ID No. LS11-V23A-SA	Operating Time	Duration of Accident	Continuous	1	4	Test	None
Component: Position Ind. Switch	Temperature (°F)	See Accident Profile #1	350	1	4	Test	None
Manufacture: Target Rock	Pressure (PSIA)	See Accident Profile #2	60	1	4	Test	None
Model Number: P/N 100967-1 (Solenoid 80Z-14-003)	Relative Humidity (%)	100	100	1	4	Test	None
Function: Indicates Valve Open Position (Red) PL-5A	Chemical Spray (PH)	9.5	8.6 to 10	1	4	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	1×10^8	3	4	Test	None
Service: P.B. Iso. Channel A (Red)	Aging (°F/Years)	120/40	130/40	2	4, 5	Test and Analysis	None
Location: Containment El. 311' @ 315°	Submergence	N/A	N/A	2	-		None
Flood Level Elev: 286.66 ft. Above Flood Level: Yes							

Documentation References:

Notes:

1. TMI-1 FSAR Chapter 14
2. Plant Data
3. IEB-79-01B
4. Target Rock Corp. Report 2375D dated 9/26/79
5. Limiting non-metallic material (Silicon) Calc. 1101X-5350-77

Facility: TMI Rev. 7
 Unit: I Date: 12/31/82
 Docket: 50-289

NUREG 0737 ITEM II.E.4.1
 HOT SHUTDOWN - HARSH

System Component Evaluation Work Sheet

Sheet 10 of 12

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Hydrogen Recomb. Plant ID No. HR-V23B	Operating Time	Duration of Accident	Continuous	1	4	Test	None
Component: Solenoid	Temperature (°F)	See accident Profile #1	350	1	4	Test	None
Manufacture: Target Rock	Pressure (PSIA)	See accident Profile #2	60	1	4	Test	None
Model Number: 80Z-14-003	Relative Humidity (%)	100	100	1	4	Test	None
Function: H ₂ Recomb. Exhaust Shut-off back to Containment	Chemical Spray (PH)	9.5	8.6 to 10	1	4	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2 x 10 ⁷	1 x 10 ⁸	3	4	Test	None
Service: R. B. Iso. (Green) S. W. #2 CHANNEL B	Aging (°F/Years)	120/40	130/40	2	4, 5	Test and Analysis	None
Location: Containment El. 311' @ 315°	Submergence	N/A	N/A	2	-	-	None
Flood Level Elev: 286.66 ft. Above Flood Level: Yes							

Documentation References:

1. TMI-1 FSAR Chapter 14
2. Plant Data
3. IEB-79-01B
4. Target Rock Corp. Ltr. to D. G. Slear dated 4/15/80
5. Limiting non-metallic material (Silicon) Calc. 1101X-5350-77

Notes:

Facility: TMI Rev. 7
 Unit: I Date: 12/31/82
 Docket: 50-289

NUREG 0737 ITEM II.E.4.1
 HARSH - HOT SHUTDOWN
System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Hydrogen Recomb. Plant ID No. LS12-V23B-5B	Operating Time	Duration of Accident	Continuous	1	4	Test	None
Component: Position Ind. Switch	Temperature (°F)	See accident Profile #1	350	1	4	Test	None
Manufacture: Target Rock	Pressure (PSIA)	See accident Profile #2	60	1	4	Test	None
Model Number: P/N 100967-1 (Solenoid 80Z-14-003)	Relative Humidity (%)	100	100	1	4	Test	None
Function: Indicates Valve Closed Position (Green) PL-6B	Chemical Spray (PH)	9.5	8.6 to 10	1	4	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	1×10^8	3	4	Test	None
Service: P.B. Iso. Channel B (Green)	Aging (°F/Years)	120/40	130/40	2	4, 5	Test and Analysis	None
Location: Containment El. 311' @ 315°	Submergence	N/A	N/A	2	-		None

Documentation References:

1. TMI-1 FSAR Chapter 14
2. Plant Data
3. IEB-79-01B
4. Target Rock Corp. Report 2375D Dated 9/26/79
5. Limiting non-metallic material (Silicon) Calc. 1101X-5350-77

Notes:

Facility: TMI Rev. 7
 Unit: I Page: 12/31/82
 Docket: 50-289

NUREG 0737 ITEM II.E.4.1
 HARSH - HOT SHUTDOWN
System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Hydrogen Recomb. Plant ID No. LS11-V23B-5B	Operating Time	Duration of Accident	Continuous	1	4	Test	None
Component: Position Ind. Switch	Temperature (°F)	See Accident Profile #1	350	1	4	Test	None
Manufacture: Target Rock	Pressure (PSIA)	See Accident Profile #2	60	1	4	Test	None
Model Number: P/N 100967-1 (Solenoid 80Z-14-003)	Relative Humidity (%)	100	100	1	4	Test	None
Function: Indicates Valve Open (Red) Position PL-5B	Chemical Spray (PH)	9.5	8.6 to 10	1	4	Test	None
Accuracy: Spec: Demon:	Radiation (RAD)	2 x 10 ⁷	1 x 10 ⁸	3	4	Test	None
Service: R. B. Iso.	Aging (°F/Years)	120/40	130/40	2	4, 5	Test and Analysis	None
Location: Containment El. 311' @ 315°	Submergence	N/A	N/A	2	-		None
Flood Level Elev: 286.66 ft. Above Flood Level: Yes							

Documentation References:

1. TMI -1 FSAR Chapter 14
2. Plant Data
3. IEB-79-01B
4. Target Rock Corp Report 2375D dated 9/26/79
5. Limiting non-metallic material (Silicon) Calc. 1101X-5350-77

Notes:

Facility: TMI REV. 7
 Unit: 1 Date: 12/31/82
 Docket: 50-289

NUREG 0737 ITEM II D.3.
 HARSH-LESSONS LEARNED
System Component Evaluation Work Sheet

Sheet 1 of 9

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: VALVE POSITION IND. Plant ID No. DPT-921	Operating Time	DURATION OF ACCIDENT	CONTINUOUS	1	3	TEST	NONE
Component: TRANSMITTER	Temperature (°F)	SEE ACCIDENT PROFILE #1	350	1	3	TEST	NONE
Manufacture: FOXBORO	Pressure (PSIA)	SEE ACCIDENT PROFILE #2	99.7	1	3	TEST	NONE
Model Number: NE-13DM-11 HI-A	Relative Humidity (%)	100	100	1	3	TEST	NONE
Function: LINE FLOW IND.	Chemical Spray (PH)	9.5	9.5	2	3	TEST	NONE
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	5×10^7	4	3	TEST	NONE
Service: RC-MV2 PZR VALVE LINE FLOW	Aging (°F/Years)	120/40	120/10	2	3	TEST & ANALYSIS	NONE
Location: CONTAINMENT EL. 305' @ 70°	Submergence	N/A	N/A	2	-	-	NONE
Flood Level Elev: 286.66 ft. Above Flood Level: YES							

Documentation References:

1. TMI-1 FSAR CHAPTER 14
2. PLANT DATA
3. ELEC. POWER UTILITY GROUP E.Q. TEST
4. IEB 79-01B

Notes:

Facility: TMI REV. 7
 Unit: 1 Date: 12/31/82
 Docket: 50-289

NUREG 0737 ITEM II D.3.
 HARSH-LESSONS LEARNED

System Component Evaluation Work Sheet

Sheet 2 of 9

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: VALVE POSITION IND. Plant ID No. DPT-922	Operating Time	DURATION OF ACCIDENT	CONTINUOUS	1	3	TEST	NONE
Component: TRANSMITTER	Temperature (°F)	SEE ACCIDENT PROFILE #1	350	1	3	TEST	NONE
Manufacture: FOXBORO	Pressure (PSIA)	SEE ACCIDENT PROFILE #2	99.7	1	3	TEST	NONE
Model Number: NE-13DM-11 HI-A	Relative Humidity (%)	100	100	1	3	TEST	NONE
Function: LINE FLOW IND.	Chemical Spray (PH)	9.5	9.5	2	3	TEST	NONE
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	5×10^7	4	3	TEST	NONE
Service: RC-RVIA PZR VALVE LINE FLOW	Aging (°F/Years)	120/40	120/10	2	3	TEST & ANALYSIS	NONE
Location: CONTAINMENT EL. 305' @ 70°	Submergence	N/A	N/A	2	-	-	NONE
Flood Level Elev: 286.66 ft. Above Flood Level: YES							

Documentation References:

Notes:

1. TMI-1 FSAR CHAPTER 14
2. PLANT DATA
3. ELEC. POWER UTILITY GROUP E.Q. TEST
4. IEB 79-01B

Facility: TMI REV. 7
 Unit: 1 Date: 12/31/82
 Docket: 50-289

NUREG 0737 ITEM II D.3.
 HARSH-LESSONS LEARNED

System Component Evaluation Work Sheet

Sheet 3 of 9

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: VALVE POSITION IND. Plant ID No. DPT-923	Operating Time	DURATION OF ACCIDENT	CONTINUOUS	1	3	TEST	NONE
Component: TRANSMITTER	Temperature (°F)	SEE ACCIDENT PROFILE #1	350	1	3	TEST	NONE
Manufacture: FOXBORO	Pressure (PSIA)	SEE ACCIDENT PROFILE #2	99.7	1	3	TEST	NONE
Model Number: NE-13 DM-11 HI-A	Relative Humidity (%)	100	100	1	3	TEST	NONE
Function: LINE FLOW IND.	Chemical Spray (PH)	9.5	9.5	2	3	TEST	NONE
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7	5×10^7	4	3	TEST	NONE
Service: RC-RV/B PZR VALVE LINE FLOW	Aging (°F/Years)	120/40	120/10	2	3	TEST & ANALYSIS	NONE
Location: CONTAINMENT EL. 305' @ 70°	Submergence	N/A	N/A	2	-	-	NONE
Flood Level Elev: 286.66 ft. Above Flood Level: YES							

Documentation References:

1. TMI-1 FSAR CHAPTER 14
2. PLANT DATA
3. ELEC. POWER UTILITY GROUP E.Q. TEST
4. IEB 79-018

Notes:

Facility: TMI REV. 7
 Unit: i DATE: 12/31/82
 Docket: 50-289

NUREG 0737 ITEM II D.3.
 HARSH-LESSONS LEARNED
System Component Evaluation Work Sheet

Equipment Description	Environment			Document Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: VALVE POSITION IND. Plant ID No. VMS - LDI	Operating Time	DURATION OF ACCIDENT		1	NOTE A		NOTE A
Component: LINE DRIVER	Temperature (°F)	SEE ACCIDENT PROFILE #1		1	NOTE A		NOTE A
Manufacture: UN HOLTZ DICKIE	Pressure (PSIA)	SEE ACCIDENT PROFILE #2		1	NOTE A		NOTE A
Model Number: RCA-27R	Relative Humidity (%)	100		1	NOTE A		NOTE A
Function: PORY MONITOR	Chemical Spray (PH)	9.5		2	NOTE A	-	NOTE A
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7		3	NOTE A		NOTE A
Service: PZR RC-RV2 VALVE MONITOR	Aging (°F/Years)	120/40		2	NOTE A		NOTE A
Location: CONTAINMENT EL. 355' @ 70° (OUTSIDE "D")	Submergence	N/A	N/A	2	-	-	NONE
Flood Level Elev: 286.66 ft. Above Flood Level: YES							

Documentation References:

1. TMI-1 FSAR CHAPTER 14
2. PLANT DATA
3. IEB 79-01B

Notes:

- A) Will be qualified by B&W VMS OWNERS TEST PROGRAM

Facility: TMI REV. 7
 Unit: 1 DATE: 12/31/82
 Docket: 50-289

NUREG 0737 ITEM II D.3
 HARSH-LESSONS LEARNED
System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: VALVE POSITION IND. Plant ID No. VMS-LD2	Operating Time	DURATION OF ACCIDENT		1	NOTE A		NOTE A
Component: <i>LINK DRIVER</i>	Temperature (°F)	SEE ACCIDENT PROFILE #1		1	NOTE A		NOTE A
Manufacture: UNHOLTZ DICKIE	Pressure (PSIA)	SEE ACCIDENT PROFILE #2		1	NOTE A		NOTE A
Model Number: 22CA-2TR	Relative Humidity (%)	100		1	NOTE A		NOTE A
Function: PORV MONITOR	Chemical Concentration (PH)	9.5	-	2	NOTE A	-	NOTE A
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7		3	NOTE A		NOTE A
Service: PZR RC-RV2 VALVE MONITOR	Aging (°F/Years)	120/40		2	NOTE A		NOTE A
Location: CONTAINMENT EL. 355' @ 70° (OUTSIDE "D")	Submergence	N/A	N/A	2	-	-	NONE

Documentation References:

1. TMI-1 FSAR CHAPTER 14
2. PLANT DATA
3. IEB 79-01B

Notes:

A) WILL BE QUALIFIED BY B&W
 VMS OWNERS TEST PROGRAM

Facility: TMI REV. 7
 Unit: 1 DATE: 12/31/82
 Docket: 50-289

NUREG 0737 ITEM II D.3
 HARSH-LESSONS LEARNED
System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: VALVE POSITION IND. Plant ID No. VMS-ACC-1	Operating Time	DURATION OF ACCIDENT		1	NOTE A		NOTE A
Component: ACCELEROMETER	Temperature (°F)	SEE ACCIDENT PROFILE #1		1	NOTE A		NOTE A
Manufacture: ENDEVCO	Pressure (PSIA)	SEE ACCIDENT PROFILE #2		1	NOTE A		NOTE A
Model Number: 2273AM20	Relative Humidity (%)	100		1	NOTE A		NOTE A
Function: PORV MONITOR	Chemical Spray (PH)	9.5	-	2	NOTE A	-	NOTE A
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7		3	NOTE A		NOTE A
Service: PZR RC-RV2 VALVE MONITOR	Aging (°F/Years)	120/40		2	NOTE A		NOTE A
Location: CONTAINMENT EL. 355' @ 80° (INSIDE "D")	Submergence	N/A	N/A	2	-	-	NONE

Documentation References:

1. TMI-1 FSAR CHAPTER 14
2. PLANT DATA
3. IEB 79-01B

Notes:

- A) WILL BE QUALIFIED BY B&W
 VMS OWNERS TEST PROGRAM

Facility: TMI REV. 7
 Unit: 1 DATE: 12/31/82
 Docket: 50-289

NUREG 0737 ITEM II D.3
 HARSH-LESSONS LEARNED
System Component Evaluation Work Sheet

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: VALVE POSITION IND. Plant ID No. VMS-ACC-2	Operating Time	DURATION OF ACCIDENT		1	NOTE A		NOTE A
Component: ACCELEROMETER	Temperature (°F)	SEE ACCIDENT PROFILE #1		1	NOTE A		NOTE A
Manufacture: ENDEVCO	Pressure (PSIA)	SEE ACCIDENT PROFILE #2		1	NOTE A		NOTE A
Model Number: 2273AM20	Relative Humidity (%)	100		1	NOTE A		NOTE A
Function: PORV MONITOR	Chemical Spray (PH)	9.5	-	2	NOTE A	-	NOTE A
Accuracy: Spec: Demon:	Radiation (RAD)	2x10 ⁷		3	NOTE A		NOTE A
Service: PZR RC-RV2 VALVE MONITOR	Aging (°F/Years)	120/40		2	NOTE A		NOTE A
Location: CONTAINMENT EL. 355' @ 80° (INSIDE "D")	Submergence	N/A	N/A	2	-	-	NONE

Documentation References:

1. TMI-1 FSAR CHAPTER 14
2. PLANT DATA
3. IEB 79-01B

Notes:

A) WILL BE QUALIFIED BY B&W
 VMS OWNERS TEST PROGRAM

Facility: TMI-1 Rev. 7
 Unit: 1 Date 12/31/82
 Docket: 50-289

NUREG 0737 ITEM II.D.3
 HARSH - LESSONS LEARNED

System Component Evaluation Work Sheet

Sheet 8 of 9

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Valve Position Ind. Plant ID No. RK832B/C	Operating Time	DURATION OF ACCIDENT		1	Note A		NOTE A
Component: CABLE	Temperature (°F)	SEE ACCIDENT PROFILE #1		1	Note A		NOTE A
Manufacture: ENDEVCO	Pressure (PSIA)	SEE ACCIDENT PROFILE #2		1	Note A		NOTE A
Model Number: 3075M6 GAI B/M RM-10	Relative Humidity (%)	100		1	Note A		NOTE A
Function:	Chemical Spray (PH)	9.5		2	Note A		NOTE A
Accuracy: Spec: Demon:	Radiation (RAD)	2×10^7		3	Note A		NOTE A
Service: VMS-ACC-1/-2 To VMS-LD-1/-2	Aging (°F/Years)	120/40		2	Note A		NOTE A
Location: CONTAINMENT EL. 355 @ 70°	Submergence	N/A	N/A	2	-	-	None

Documentation References:

1. TMI-1 FSAR CHAPTER 14
2. Plant Data
3. IEB 79-01B

Notes:

- a) Will be qualified by B&W VMS Owners Test Program

Facility: TMI Rev. 7
 Unit: 1 Date 12/31/82
 Docket: 50-289

NUREG 0737 ITEM II.D.3
 HARSH - LESSONS LEARNED

System Component Evaluation Work Sheet

Sheet 9 of 9

Equipment Description	Environment			Documentation Ref.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: VALVE POSITION IND. Plant ID No. RK 832A	Operating Time	DURATION OF ACCIDENT		1	NOTE A		NOTE A
Component: TERMINAL BLOCK	Temperature (°F)	SEE ACCIDENT PROFILE #1		1	NOTE A		NOTE A
Manufacture: TRW CINCH	Pressure (PSIA)	SEE ACCIDENT PROFILE #2		1	NOTE A		NOTE A
Model Number: 3-542	Relative Humidity (%)	100		1	NOTE A		NOTE A
Function:	Chemical Spray (PH)	9.5		2	NOTE A		NOTE A
Accuracy: Spec: Demon:	Radiation (RAD)	2x10 ⁷		3	NOTE A		NOTE A
Service: VMS-LD-1/2 to RK 832A	Aging (°F/Years)	120/40		2	NOTE A		NOTE A
Location: CONTAINMENT EL. 355 @ 70 ⁰	Submergence	N/A	N/A	2	-	-	NONE

Documentation References:

1. TMI-1 FSAR CHAPTER 14
2. PLANT DATA
3. IEB 79-01B

Notes:

- a) Will be qualified by B&W VMS Owners test program