



**GPU Nuclear**  
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TELEX 136-482  
Writer's Direct Dial Number:

June 23, 1983

Mr. Dennis M. Crutchfield, Chief  
Operating Reactors Branch #5  
Division of Licensing  
U.S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Dear Mr. Crutchfield:

Subject: Oyster Creek Nuclear Generating Station  
Docket No. 50-219  
Environmental Qualification of Safety-Related  
Electrical Equipment (10 CFR 50.49)

In accordance with 10 CFR 50.49(g) GPUN is supplying the following information to "identify the electrical equipment important to safety within the scope of Section 50.49(b) that is already qualified, and to submit schedules for either the qualification or replacement of the remaining equipment that is important to safety as defined in 10 CFR 50.49(b)." 10 CFR 50.49(g) requires each holder of an operating license issued prior to February 22, 1983 to respond by May 20, 1983. On May 18, 1983 in our phone conversation with the NRC Project Manager for Oyster Creek Nuclear Generating Station, we requested an extension of our response.

1) Safety Related Electrical Equipment

GPUN report dated November 1, 1980 which was transmitted to you in response to IE Bulletin 79-01B, lists the safety related electrical equipment already qualified or requiring environmental qualification at Oyster Creek Nuclear Generating Station. Justification for Continued Operation (JCO) with unqualified equipment was also transmitted by the November 1, 1980 letter. Subsequently, an updated JCO was submitted by our March 16, 1983 letter. Our letter dated October 23, 1981 concerning the subject matter also lists electrical equipment relative to backfit or modification in compliance with NUREG-0737 sections.

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We have recently added the torus vacuum relief transmitters (PT-52 & IP-12) and differential pressure switches (DPS 66 A & B) to the equipment qualification list. System Component Evaluation Work (SCEW) sheets along with justification for continued operation of these items are attached. As it was indicated in our letter dated March 16, 1983, GPUNC plans to complete replacement or qualification of unqualified equipment or subcomponents by the end of the Cycle 11 refueling outage (the second refueling outage after March 31, 1982). Installation of the environmentally qualified equipment, as required by NUREG 0737 will also be completed by the end of the cycle 11 outage.

Also attached are the SCEW sheets for the following NUREG 0737 items which have already been installed:

II.D.3        Direct Indication of Relief and Safety Valve  
Position

II.E.4.2      Containment Isolation Dependability

We are in the process of modifying the Standby Gas Treatment System. SCEW sheets for electrical equipment in this system will be transmitted to you prior to the modification becoming operational.

2) Non Safety Related Electrical Equipment

JCP&L/GPU letter dated October 5, 1979 in response to IE Information Notice 79-22 states that our evaluation of interactions between non-safety systems and safety systems did not identify any adverse impact which would increase the consequences of any accidents analyzed in the FDSAR.

In addition, GPUN plans to conduct verification of proper selective coordination of protective devices or circuit breakers and fuses on vital buses to ensure that an electrical fault developed in non-safety system due to harsh environment will not be transmitted to the safe shutdown systems. This work will be conducted as part of the evaluation for the Fire Protection Program (10 CFR 50 Appendix R).

Isolation of the reactor protection system from non-safety systems was also reviewed by the NRC staff during Systematic Evaluation Program (SEP) for Oyster Creek Nuclear Generating Station (SEP Topic No. VII-1A).

3) Certain Post Accident Monitoring Equipment (R.G. 1.97 Rev. 2)

As described in our October 23, 1981 letter, four new isolation valves will be installed to meet the Post Accident Sampling capability requirement. These are solenoid valves to be supplied by Valcor Engineering Corporation. Installation of these valves will be completed within nine months following the Cycle 10 refueling outage. Qualification information will be incorporated into the SCEW sheet at that time.

4) Proprietary Information

Your letter dated March 30, 1983 requested GPUN to indicate if any portions of the previously submitted information require proprietary protection. As we indicated in our March 16, 1983 letter, review of our previously submitted information indicates that none is classified as proprietary.

Very truly yours,



Peter B. Fiedler  
Vice President and  
Director Oyster Creek

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cc: Administrator  
Region I  
U.S. Nuclear Regulatory Commission  
631 Park Avenue  
King of Prussia, Pa. 19406

NRC Resident Inspector  
Oyster Creek Nuclear Generating Station  
Forked River, NJ 08731

Addendum 1 to Chapter 7 of March 16, 1983 Submittal  
(Justification For Continued Operation)

51. Torus Vacuum Relief System

- a. Pressure Transmitters IP-12\* and PT-52\*. Both transmitters provide diverse torus pressure indication to the control room. They are installed in different locations outside the drywell/torus area. Also, these transmitters do not perform any automatic safety function.
- b. Pressure Switches DPS-66A\* and B\*. These switches are used to control the air-operated Reactor Building to Torus Vacuum Breaker valves V-26-16 and 18, respectively. If these switches should fail, the control room operator can manually operate the valves by a control switch at the 11F panel. Both V-26-16 and 18 will fail open upon loss of either power and/or air, and regardless of the control switch position.

52. Direct Indication of Relief and Safety Valve Position

The basis for the qualification of the valve position indication systems will be the results of the Owner's Group Valve Monitoring Systems Tests. It is expected that the environmental qualification requirements of NUREG 0737, Item II.D.3 will be met. These systems are not required for a large LOCA.

If a system should fail, there are other indications available to the operator to determine that a valve has lifted. In the case of a relief valve lifting, this would be indicated by an increase in the torus water level. For a safety valve lifting, the indications would be an increase in the containment sump level and an increase in drywell pressure.

- \* Equipment that is not required to mitigate the consequences of an accident outside of containment or to achieve a safe shutdown for that accident. For a break inside containment, asterisked items are needed to mitigate the accident; however, the environmental conditions for these asterisked items would be normal ambient conditions.

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# SYSTEM COMPONENT EVALUATION WORK SHEET

Sheet 5.55

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Torus Vacuum Relief Plant ID No. PT52* (Formerly PT-1P12) Component: Pressure Transmitter Manufacture: GE/MAC Model Number: 553 Function: Torus-Drywell Pressure Accuracy: Spec: Demon: Service: Pressure Indication Location: R3-R4xRA El. 23'-6" Rx Bldg  Flood Level Elev: Above Flood Level: Yes	Operating Time	30 Days	Duration	Note C	3	Test Summary	
	Temperature (°F)	77	184	1	3	Test Summary	
	Pressure (PSIA)	15	15	1	3	Test Summary	
	Relative Humidity (%)	Ambient	95	1	3	Test Summary	
	Chemical Spray	Not Applicable	Not Required	-----	Not Required	-----	
	Radiation (Rads.)	3.28x10 <sup>5</sup>	Note A	1	Note B		Note B
	Aging (Yrs.)	40	Note A	1	Note B		Note B
	Submergence	Negligible	Not Required	2	Not Required	Analysis	

## Documentation References:

1. EDS Nuclear Report No. 02-0370-1045.
2. EDS Nuclear Letter No. 0370-024-NY-013 dated 10/24/80.
3. G.E. letter #G-EN-O-163 dated 10/16/80

## Notes:

- A. Not available at this time
- B. This transmitter will be replaced.
- C. Oyster Creek FDSAR Amend. 68

\* Indicates that equipment is not required to mitigate the consequences of the accident outside of containment or to achieve a safe shutdown for that accident. For a break inside containment, asterisked items are needed to mitigate the accident, however, the environmental conditions for these asterisked items would be normal ambient conditions.

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# SYSTEM COMPONENT EVALUATION WORK SHEET

Sheet 5.56

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Torus Vacuum Relief Plant ID No. IP-12*	Operating Time	30 Days	Duration	Note C	3	Test Summary	
Component: Pressure Transmitter	Temperature (°F)	77	184	1	3	Test Summary	
Manufacture: GE/MAC	Pressure (PSIA)	15	15	1	3	Test Summary	
Model Number: 553	Relative Humidity (%)	Ambient	95	1	3	Test Summary	
Function: Reactor Bldg. - Torus Pressure	Chemical Spray	Not Applicable	Not Required	-----	Not Required	-----	
Accuracy: Spec: Demon:	Radiation (Rads.)	6.26x10 <sup>5</sup>	Note A	1	Note B		Note B
Service: Pressure Indication	Aging (Yrs.)	40	Note A	1	Note B		Note B
Location: R2-R3xRF El. 23'-6" Rx Bldg.							
Flood Level Elev: Above Flood Level: Yes	Submergence	Negligible	Not Required	2	Not Required	Analysis	

## Documentation References:

1. EDS Nuclear Report No. 02-0370-1045.
2. EDS Nuclear Letter No. 0370-024-NY-013 dated 10/24/80.
3. GE letter #G-EN-O-163 dated 10/16/80

## Notes:

- A. Not available at this time.
- B. This transmitter will be replaced.
- C. Oyster Creek FDSAR Amend. 68

\*Indicates that equipment is not required to mitigate the consequences of the accident outside of containment or to achieve a safe shutdown for that accident. For a break inside containment, asterisked items are needed to mitigate the accident, however, the environmental conditions for these asterisked items would be normal ambient conditions.



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# SYSTEM COMPONENT EVALUATION WORK SHEET

Sheet 5.57

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
System: Torus Vacuum Relief Plant ID No. DPS-66 A*&B* Component: Pressure Switch Manufacture: ITT Barton Model Number: 277 (W/Snap Acting Sw.) Function: Torus Vacuum Valve Breaker Accuracy: Spec: N/A Demon: N/A Service: Signal to Pressure Transmitter Location: R3-R4xRA El. 23'-6" Rx Bldg.	Operating Time	30 Days	Note B	Note A	Note C		Note C
	Temperature (°F)	77	Note B	1	Note C		Note C
	Pressure (PSIA)	15	Note B	1	Note C		Note C
	Relative Humidity (%)	Ambient	Note B	1	Note C		Note C
	Chemical Spray	Not Applicable	Not Required	-----	Not Required	-----	
	Radiation (Rads.)	$6.26 \times 10^5$	Note B	1	Note C		Note C
	Aging (Yrs.)	40	Note B	1	Note C		Note C
	Submergence	Negligible	Not Required	2	Not Required	Analysis	
Flood Level Elev. Above Flood Level: Yes							

## Documentation References:

1. EDS Nuclear Report No. 02-0370-1045.
2. EDS Nuclear Letter No. 0370-024-NY-013 dated 10/24/80.

## Notes:

- A. Oyster Creek FDSAR Amend. 68
- B. Not Available at this time.
- C. This switch will be replaced.

\*Indicates that equipment is not required to mitigate the consequences of the accident outside of containment or to achieve a safe shutdown for that accident. For a break inside containment, asterisked items are needed to mitigate the accident, however, the environmental condition for these asterisked items would be normal ambient conditions.

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# SYSTEM COMPONENT EVALUATION WORK SHEET

Sheet 10.01

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
Direct Indication of System: Relief and Safety Plant ID No. MS-VE-1 thru 21 Component: Accelerometer Manufacture: Endevco Model Number: 2273AM20 Function: Safety/Relief Valve Monitoring Accuracy: Spec: N/A Demon: N/A Service: Valve Position Indication Location: Inside Containment	Operating Time	4 Hours	Note C	See Note B	Note C		Note C
	Temperature (°F)	600	Note C	4	Note C		Note C
	Pressure (PSIA)	68	Note C	4	Note C		Note C
	Relative Humidity (%)	100	Note C	4	Note C		Note C
	Chemical Spray	Not Applicable					
	Radiation (Rads.)	5x10 <sup>6</sup>	Note C	4	Note C		Note C
	Aging (Yrs.)	40	Note C	4	Note C		Note C
Flood Level Elev: Above Flood Level: Yes	Submergence	Negligible	Not Required	2	Not Required	Analysis	None

## Documentation References:

1. GPE Memo GP.00380C dated 4/10/80.
2. CRO Penetration Package Calculation by Ken Goddard.
3. JCP&L L...ector NRR dated 3/15/78.
4. Oyster...urement Specification No. 398-2.

## Notes:

- A.
- B. Technical Specification 3.3
- C. Will be qualified by B&W VMS Owner's Test Program.



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SYSTEM COMPONENT EVALUATION WORK SHEET

Sheet 10.02

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
Direct Indication of System: Relief and Safety Plant ID No. Valve Position  Component: Line Driver  Manufacture: Unholtz Dickie  Model Number: U-D 22 CA-2TR  Function: Safety/Relief Valve Monitoring  Accuracy: Spec: N/A Demon: N/A  Service: Valve Position Indication  Location: Inside Containment	Operating Time	4 Hours	Note C	See Note B	Note C		Note C
	Temperature (°F)	281	Note C	4	Note C		Note C
	Pressure (PSIA)	68	Note C	4	Note C		Note C
	Relative Humidity (%)	100	Note C	4	Note C		Note C
	Chemical Spray	Not Applicable					
	Radiation (Rads.)	5x10 <sup>6</sup>	Note C	4	Note C		Note C
	Aging (Yrs.)	40	Note C	4	Note C		Note C
	Submergence	Negligible	Not Required	2	Not Required	Analysis	None

Documentation References:

1. GPU Memo GP.00380C dated 4/10/80.
2. CRD Penetration Leakage Calculation by Ken Goddard.
3. JCP&L Letter to Director NRR dated 3/15/78.
4. Oyster Creek's Procurement Specification No. 398-2.

Notes:

- A.
- B. Technical Specification 3.3
- C. Will be qualified by B&W  
VMS Owner's Test Program

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## SYSTEM COMPONENT EVALUATION WORK SHEET

Sheet 10.03

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
Direct Indication of System: Relief and Safety Plant ID No. Valve Position Component: Common Hard line Cable Manufacture: (Coaxial) Endevco Model Number: 3075M6 Safety/Relief Valve Function: Monitoring Accuracy: Spec: N/A Demon: N/A Service: Valve Position Indication Location: Inside Containment Flood Level Elev: Above Flood Level: Yes	Operating Time	4 Hours	Note C	See Note B	Note C		Note C
	Temperature (°F)	600	Note C	4	Note C		Note C
	Pressure (PSIA)	68	Note C	4	Note C		Note C
	Relative Humidity (%)	100	Note C	4	Note C		Note C
	Chemical Spray	Not Applicable					
	Radiation (Rads.)	5x10 <sup>6</sup>	Note C	4	Note C		Note C
	Aging (Yrs.)	40	Note C	4	Note C		Note C
	Submergence	Negligible	Not Required	2	Not Required	Analysis	

Documentation References:

1. GPI Memo GP.00380C dated 4/10/80.
2. CRD Penetration Leakage Calculation by Ken Goddard.
3. JCPSL Letter to Director NRR dated 3/15/78.
4. Oyster Creek's Procurement Specification No. 398-2.

Notes:

- A.
- B. Technical Specification 3.3
- C. Will be qualified by B&W VMS Owners Test Program.

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SYSTEM COMPONENT EVALUATION WORK SHEET

Sheet 10.04

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
Direct Indication of System: Relief and Safety Plant ID No. Valve Position Component: TB-NR-108A-E TB-NR-28A-H, J-N Manufacture: P-R Terminal Block TRW Cinch Model Number: 3-542 Function: Safety/Relief Valve Monitoring Accuracy: Spec: N/A Demon: N/A Service: Valve Position Indication Location: Inside Containment Flood Level Elev: Above Flood Level: Yes	Operating Time	4 Hours	Note C	See Note B	Note C		Note C
	Temperature (°F)	281	Note C	4	Note C		Note C
	Pressure (PSIA)	68	Note C	4	Note C		Note C
	Relative Humidity (%)	100	Note C	4	Note C		Note C
	Chemical Spray	Not Applicable					
	Radiation (Rads.)	5x10 <sup>6</sup>	Note C	4	Note C		Note C
	Aging (Yrs.)	40	Note C	4	Note C		Note C
	Submergence	Negligible	Not Required	2	Not Required	Analysis	

Documentation References:

1. GPU Memo GP.00380C dated 4/10/80.
2. CRO Penetration Leakage Calculation by Ken Goddard.
3. JCP&L Letter to Director NRR dated 3/15/78.
4. Oyster Creek's Procurement Specification No. 398-2.

Notes:

- A.
- B. Technical Specification 3.3
- C. Will be qualified by B&W VMS owners test program.

Facility: Oyster Creek

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## SYSTEM COMPONENT EVALUATION WORK SHEET

Sheet 10.05

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
Direct Indication System: of Relief & Safety Plant ID No. Position Common Component: Cable-#16AWG 2/C twisted & Manufacture: shielded 600V Rockbestos  Model Number: Firewall III  Function: Safety/Relief Valve Monitoring Accuracy: Spec: N/A Demon: N/A Service: Valve Position Indication  Location: Inside Containment  Flood Level Elev: Above Flood Level: Yes	Operating Time	1 Hour	Duration	See Note B	5	Test Similarity	
	Temperature (°F)	281	346	4	5	Test Similarity	
	Pressure (PSIA)	68	130	4	5	Test Similarity	
	Relative Humidity (%)	100	100	4	5	Test Similarity	
	Chemical Spray	Not Applicable					
	Radiation (Rads.)	$5 \times 10^6$	$5 \times 10^8$	4	5	Test Similarity	
	Aging (Yrs.)	40	40	4	5	Test Similarity	
	Submergence	Negligible	Not Required	2	Not Required	Analysis	

Documentation References:

1. GPU Memo GP.00380C dated 4/10/80.
2. CRD Penetration Leakage Calculation by Ken Coddard.
3. JCRSL Letter to Director NRR dated 3/15/78.
4. Oyster Creek's Procurement Specification No. 398-2
5. Rockbestos Qualification Report QR - 1807.

Notes:

- A.
- B. Technical Specification 3.3

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## SYSTEM COMPONENT EVALUATION WORK SHEET

Sheet 11.01

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.		Qualification Method	Outstanding Items
	Parameter	Specification	Qualification	Specification	Qualification		
Containment Isolation System: Dependability Plant ID No. Component: Cable - #12AWG 600 Volt, 7 Strands Manufacture: Boston Insulated Wire Model Number: 12894-H-009 12893-H-007 Function: 12892-H-002 Accuracy: Spec: N/A Demon: N/A Service: Control Cables Location: Inside Containment Flood Level Elev: Above Flood Level: Yes	Operating Time	2 Minutes	Duration	See Note B	6	Test Simulated	
	Temperature (°F)	305	340	4 Fig. 1, P.7-2	6	Test Simulated	
	Pressure (PSIA)	38	130	4	6	Test Simulated	
	Relative Humidity (%)	100	100%	4	6	Test Simulated	
	Chemical Spray	Not Applicable					
	Radiation (Rads.)	$1.84 \times 10^7$	$2 \times 10^8$	5	6	Test Simulated	
	Aging (Yrs.)	40	40	5	6	Test Simulated	
	Submergence	Negligible	Not Required	2	Not Required	Analysis	

Documentation References:

1. GPU Memo GP.00380C dated 4/10/80.
2. CRD Penetration Leakage Calculation by Ken Goddard.
3. JCP&L Letter to Director NRR dated 3/15/78.
4. Oyster Creek Containment Temperature Profile for Environmental Qualification of Equipment prepared by GPU Service Corp. Control and Safety Analysis, Chapter 2 of 10/28/80 submittal.
5. EDS Nuclear Letter No. 0370-024-NY-015 dated 11/7/80.
6. Boston Insulated Wire & Cable Report No. B-915

Notes:

- A.
- B. Oyster Creek FDSAR Amend. '68.