

B10/02/78

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)  
DISTRIBUTION FOR INCOMING MATERIAL

50-275/323

REC: STOLZ J F  
NRC

ORG: CRANE P A  
PACIFIC GAS & ELEC

DOC DATE: 09/22/78  
DATE RCVD: 10/01/78

DOCTYPE: LETTER NOTARIZED: NO

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LTR 1 ENCL 0

SUBJECT: FORWARDING REVISION TO TABLE ENTITLED; "ENVIRON QUALIFICATION OF CLASS IE EQUIPMENT WITH POTENTIAL FOR EXPOSURE TO A SEVERE ENVIRONMENT.

PLANT NAME: DIABLO CANYON -- UNIT 1  
DIABLO CANYON - UNIT 2

REVIEWER INITIAL: XJM  
DISTRIBUTER INITIAL: *SB*

\*\*\*\*\* DISTRIBUTION OF THIS MATERIAL IS AS FOLLOWS \*\*\*\*\*

NOTES:  
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CORRESPONDENCE RE ENVIRONMENTAL QUALIFICATION METHODOLOGY  
(DISTRIBUTION CODE B017)

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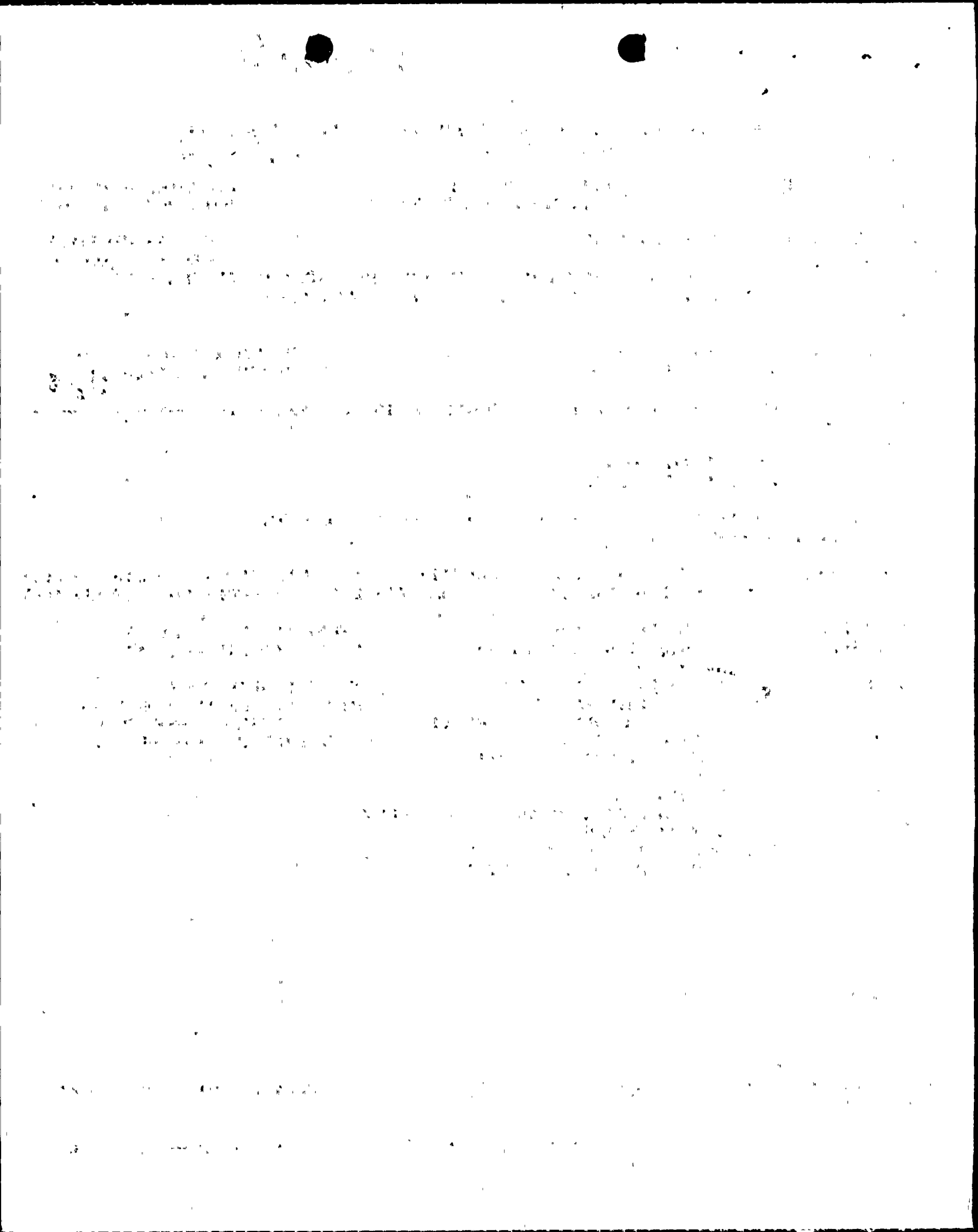
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**REGULATORY DOCKET FILE 888V**

**PACIFIC GAS AND ELECTRIC COMPANY**

**PG&E** + 77 BEALE STREET, 31ST FLOOR • SAN FRANCISCO, CALIFORNIA 94106 • (415) 781-4211

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VICE PRESIDENT AND GENERAL COUNSEL

September 22, 1978

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Mr. John F. Stolz, Chief  
Light Water Reactors Branch No. 1  
Division of Project Management  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Re: Docket No. 50-275-OL  
Docket No. 50-323-OL  
Diablo Canyon Units 1 & 2

DIS. SERVICES

1978 Oct 1 AM 8 15

RECEIVED DISTRIBUTION

Dear Mr. Stolz:

Enclosed are 40 copies of a revision of the table entitled "Environmental Qualification of Class IE Equipment with Potential for Exposure to a Severe Environment." Earlier versions of this table were enclosed with our letters of May 3, 1978 and July 28, 1978. This revision addresses additional informal Staff questions on environmental qualification of equipment, and relates to open Item (3), Page 7-7, Section 7.8 of SER Supplement 7.

Five copies of this submittal have been sent directly to Mr. Dennis Allison.

Kindly acknowledge receipt of the above material on the enclosed copy of this letter and return it to me in the enclosed addressed envelope.

Very truly yours,

*Philip A. Crane, Jr.*

Enclosures  
CC w/enc.: Mr. Dennis Allison  
Service List

781600260

8017/ES \*  
1/40



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TABLE 3.11-1A

ENVIRONMENTAL QUALIFICATION  
OF  
CLASS IE EQUIPMENT  
WITH  
POTENTIAL FOR EXPOSURE TO A SEVERE ENVIRONMENT

Sheet 1 of 3

## Class IE Equipment Inside Containment - Subject to LOCA

<u>Equipment</u>	<u>Manufacturer</u>	<u>Type (Model No.)</u>	<u>Qualification Citation</u>
1. Pressure and Differential Transmitters			
a. Pressurizer Pressure*	Rosemount	1152	Rosemount Report #117415
b. Pressurizer Level	ITT Barton	764	FSAR Paragraph 3.11.3-7
c. Containment Sump Level	ITT Barton	764	FSAR Paragraph 3.11.3-7
d. Reactor Coolant System Wide Range Pressure	ITT Barton	763	FSAR Paragraph 3.11.3-7
e. Narrow Range Steam Generator Level	ITT Barton	764	FSAR Paragraph 3.11.3-7
f. Steam Flow*	Rosemount	1152	Rosemount Report #117415
g. Sensor for Containment Pressure	Barton	351	PG&E Letter to NRC 9-21-78
2. Resistance Temperature Detector			
a. Reactor Coolant System Temperature	Sostman	11834B-1	PG&E Letter to NRC 9-21-78
3. Valve Motor Operators	Limitorque	SMB-0, 00, 000	FSAR Paragraph 3.11.3-7
4. Containment Fan Cooler	Westinghouse	300/100 h.p.	FSAR Paragraph 3.11.3 WCAP 7829 - Fan Cooler Motor Test PG&E letters to NRC 2-10-78 and 1/19/78

\*Required for Initiation Only

(September 1978)

Amendment 69



<u>Equipment</u>	<u>Manufacturer</u>	<u>Type (Model-No.)</u>	<u>Qualification Citation</u>
5. Electrical Penetrations	General Electric	NS02/03/04	Record Numbers 663081-18, 19 & 20 FSAR Paragraph 3.11.3-6
6. Electrical Cables	Continental	Silicon/Silicon	Continental Test Report CC-21935 (3/71)
	Boston	Silicon/Hypalon	Record Number 663359-20
	Raychem	Stilan	Raychem memo on LOCA Testing at Franklin Institute Labs (2/10/75)
	Okonite	Tefzel	Record Number 663359-69
	Boston	Silicon Glass Briad/ Kapton/Hypalon	PG&E Engineering Research Test Report LSS-1586 (3/5/71)
7. Electrical Terminations	Raychem	Sealed Splice	Franklin Institute Report #F-C 4033-3 (1/75) FSAR Paragraph 3.11.3-5
8. Stem Mounted Limit Switches	Namco	EA180	Acme Cleveland Report (3/3/78)
9. Containment Isolation Solenoid Valves	ASCO	8300 8302 8316* 8321*	FSAR Paragraph 3.11.3-3
Class IE Equipment Outside Containment - Subject to High Energy Line Break			
1. Electrical Cables	Raychem	Flamtrol	Raychem Test Report EM 1030 (9/24/74)
	Okonite	EPR/Okolan (Hypalon)	Okonite Test Report (10/14/74)
2. Feedwater Flow Sensors	Fischer and Porter	10B2496PBBA	7410-L
3. Main Steam Line Pressure	Fischer and Porter	50EP1041BCX	WCAP 7410-L
4. Aux. Feedwater Isolation Valve Motor Operators	Limitorque	SMC-04	

\*Special valves with all plastic parts replaced with stainless steel or brass parts to withstand higher temperatures.





<u>Equipment</u>	<u>Manufacturer</u>	<u>Type (Model No.)</u>	<u>Qualification Citation</u>
Class IE Equipment not required to Function in a Severe Environment			
1. Reactor Coolant Flow	Fischer and Porter	10B2496PBBA	WCAP 7410-L (Radiation only)
2. Containment Pressure	ITT Barton	332	N/A



NOTES FOR TABLE 3.11-1A  
(Provided in Response to Informal Staff Request  
During July 31 - August 11, 1978 Meetings)

Justification for the Exclusion  
of the Auxiliary Feedwater Level Control Valves  
From the Severe Environment Exposure List

Auxiliary feedwater is supplied to the steam generators by one turbine driven and two motor driven auxiliary feedwater pumps. The turbine driven pump has sufficient capacity to supply emergency feedwater to four steam generators. Each motor driven pump has sufficient capacity to supply emergency feedwater to two steam generators.

The turbine driven pump isolation valves are manually positioned motor operated valves (MOV). The motor driven pump's steam generator level control valves are automatic, electro-hydraulically operated valves (E-H) with manual override.

Two turbine driven pump level control valves and the two E-H level control valves for one motor driven pump are located in plant area F pipeway near the main steam and main feedwater containment penetrations for steam generators 1 and 2. The other two turbine driven pump level control valves and the two E-H level control valves for the second motor driven pump are located in plant area GE, elevation 115'-0", near the main steam and main feedwater containment penetrations for steam generators 3 and 4. Plant areas F and GE are diametrically opposite on the containment structure. Plant area F is outdoors and area GE is inside the Auxiliary Building.

If a main steam line break were to occur in either plant area, two MOV isolation valves and two E-H control valves would be subjected to an environmental temperature that rises to a maximum of 212°F for 300 seconds and stabilizes at 200°F. The MOV's are environmentally qualified and are shown on the severe environment list. The E-H's have not been tested for this type of environment.

If this condition caused a failure of the E-H actuators, the motor driven pump to these valves could be shut off. Since they feed the steam generator which would be feeding the break, this is not only acceptable, it is desirable. The MOV to the affected steam generator could be closed, and the turbine driven pump could supply the 3 unaffected steam generators. As a backup, the motor driven pump to the unaffected E-H valves could supply the two unaffected steam generators on the other side.

Therefore, the auxiliary feedwater level control valves are not required to be qualified for a severe environment.



A 10/6/78

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)  
DISTRIBUTION FOR INCOMING MATERIAL

50-275/323

REC: STOLZ J F  
NRC

ORG: CRANE P A  
PACIFIC GAS & ELEC

DOC DATE: 09/21/78  
DATE RCVD: 10/03/78

DOCTYPE: LETTER NOTARIZED: NO

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SUBJECT: REQUESTING WITHHOLDING PURSUANT TO 2.790 INFO... RESPONSE TO NRC REQUEST OF 09/04/78... FORWARDING PROPRIETARY INFO RELATIVE TO THE ENVIRON QUALIFICATION OF EQUIPMENT AT SUBJECT FACILITY, AND IN SUPPORT OF APPLICANT'S OPERATING LIC APPL ~~W/ATT NON-PROP V~~

TRANS PROP RESPONSE TO OUR 8-4-78 Memo concerning Seismic Qualifications, APPL FOR WITHHOLDING 9-22-78, AND NON-PROP PROP INFO RELATIVE TO ENVIRONMENTAL QUALIFICATIONS REQUESTED AT 8-3-78  
PLANT NAME: DIABLO CANYON - UNIT 1 MEETING. REVIEWER INITIAL: XJM  
DIABLO CANYON - UNIT 2 DISTRIBUTER INITIAL: DL

NON PROP VERSION OF SEISMIC QUALIFICATIONS TRANS N/9-22-78 SUBMITTAL  
\*\*\*\*\* DISTRIBUTION OF THIS MATERIAL IS AS FOLLOWS \*\*\*\*\*

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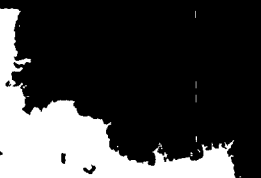
- ① Ltr 9-21-78
- ② Application for withholding 9-22-78
- ③ Non-Prop Version of Info RELATIVE TO ENVIRO QUALIFICATIONS
- ④ PROP VERSION OF ENVIRO QUALIFICATION & PROP VERSION SEISMIC QUALIFICATION

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SEE PROP FOLDER IN REPORT FILE

Clp  
Thuc App 2



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