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RECIP.NAME RECIPIENT AFFILIATION
MIRAGLIA,F.J. Licensing Branch 3

SUBJECT: Forwards review of design,qualification & installation of plant instruments to determine changes necessary for compliance w/Reg Guide 1.97,Revision 2 requirements. Work will be completed prior to June 1983.

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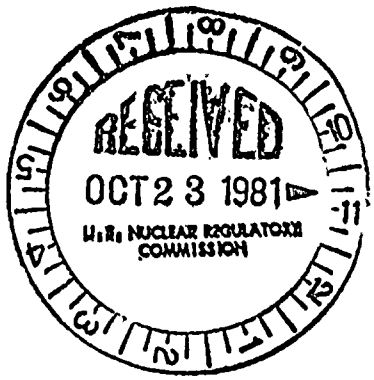
ATTORNEYS

October 22, 1981

Mr. Frank J. Miraglia, Jr., Chief,
Licensing Branch No. 3
Division of Licensing
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555



Re: Docket No. 50-275
Diablo Canyon Unit 1
License No. DPR-76
License Condition-Compliance with R/G 1.97

Dear Mr. Miraglia:

Pursuant to Item 2.C(7) of the License we have reviewed the design, qualification and installation of instruments at the Diablo Canyon Power Plant to determine what changes are needed to comply with the Regulatory Guide 1.97, Revision 2. The Regulatory Guide lists 69 separate variables which need to be reviewed. (Some variables are listed more than once in the Regulatory Guide.)

PGandE's review of these items is summarized in Tables 1 through 5 attached. Table 1 lists the 48 variables which comply with the Regulatory Guide. The work required to bring 21 remaining variables into compliance has been categorized as follows:

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Table 2: Eleven variables which require qualification of the existing equipment.

Table 3: Four variables which require changing the ranges.

Table 4: One variable which requires upgrading of the indication loop.

Table 5: Five variables which require new indication loops.

We will complete this work prior to the June, 1983 implementation date established in the Regulatory Guide.

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

Very truly yours,

Douglas A. Ogilvy

for Philip A. Crane, Jr.

Enclosure

cc(w/enc.): Service List

TABLE 1

VARIABLE	FUNCTION	CORRECTIVE ACTION
1) Control Rod Position	1) Reactivity Control Type B, Category 3	None.
2) RCS Soluble Boron Concentration	1) Reactivity Control Type B, Category 3	None.
3) RCS Pressure	1) Core Cooling Type B, Category 1	None.
	2) Maintaining Reactor Coolant System Integrity Type B, Category 1	
	3) Reactor Coolant Pressure Boundary Type C, Category 1	
	4) Containment Type C, Category 1	
4) Core Exit Temperature	1) Core Cooling Type B, Category 3	None.
	2) Fuel Cladding Type C, Category 1	
5) Coolant Level in Reactor	1) Core Cooling Type B, Category 1	None.
6) Degrees of Subcooling	1) Core Cooling Type B, Category 2	None.
7) Containment Sump Water Level	1) Maintaining Reactor Coolant System Integrity Type B, Category 2(NR) Category 1 (WR)	None.
	2) Reactor Coolant Pressure Boundary Type C, Category 2(NR) Category 1(WR)	

TABLE 1 (Cont'd.)

	VARIABLE		FUNCTION	CORRECTIVE ACTION
8)	Containment Pressure	1)	Maintaining Reactor Coolant System Integrity Type B, Category 1	None.
		2)	Maintaining Containment Integrity Type B, Category 1	
		3)	Reactor Coolant Pressure Boundary Type C, Category 1	
		4)	Containment Type C, Category 1	
9)	Containment Isolation Valve Position	1)	Maintaining Containment Integrity Type B, Category 1	None.
10)	Analysis of Primary Coolant (Gamma Spectrum)	1)	Fuel Cladding Type C, Category 3	None.
11)	Containment Area Radiation	1)	Reactor Coolant Pressure Boundary Type C, Category 3	None.
		2)	Containment Radiation, Type E, Category 1	
12)	Effluent Radioactivity Noble Gas Effluent from Condenser Air Removal System Exhaust	1)	Reactor Coolant Pressure Boundary Type C, Category 3	None.
13)	Containment Hydrogen Concentration	1)	Containment Type C, Category 1	None.
14)	Containment Effluent Radioactivity - Noble Gases from Identified Release Points	1)	Containment Type C, Category 2	None.

TABLE 1 (Cont'd.)

	VARIABLE		FUNCTION	CORRECTIVE ACTION
15)	Effluent Radioactivity Noble Gases (inside buildings or areas)	1)	Containment Type C, Category 2.	None.
16)	Accumulator Isolation Valve Position	1)	Safety Injection System Type D, Category 2	None.
17)	Refueling Water Storage Tank Level	1)	Safety Injection System Type D, Category 2	None.
18)	Reactor Coolant Pump Status	1)	Primary Coolant System, Type D, Category 3	None.
19)	Primary System Safety Relief Valve Positioners (including PORV and code valves) or flow through or pressure in Relief Valve Lines	1)	Primary Coolant System, Type D, Category 2	None.
20)	Pressurizer Level	1)	Primary Coolant System, Type D, Category 1	None.
21)	Pressurizer Heater Status	1)	Primary Coolant System, Type D, Category 2	None.
22)	Quench Tank Level	1)	Primary Coolant System, Type D, Category 3	None.
23)	Quench Tank Pressure	1)	Primary Coolant System, Type D, Category 3	None.
24)	Steam Generator Level	1)	Secondary System Type D, Category 1	None.

TABLE 1 (Cont'd.)

	VARIABLE		FUNCTION	CORRECTIVE ACTION
25)	Safety/Relief Valve Positions on Main Steam Flow	1)	Secondary System Type D, Category 2	None.
26)	Main Feedwater Flow	1)	Secondary System Type D, Category 3	None.
27)	Auxiliary or Emergency Feedwater Flow	1)	Auxiliary Feedwater Type D, Category 2	None.
28)	Condensate Storage Tank Water Level	1)	Auxiliary Feedwater Type D, Category 1	None.
29)	Component Cooling Water Temperature to ESF System	1)	Cooling Water System Type D, Category 2	None.
30)	Component Cooling Water Flow to ESF System	1)	Cooling Water System Type D, Category 2	None.
31)	High-Level Radioactive Liquid Tank Level	1)	Radwaste System Type D, Category 3	None.
32)	Radioactive Gas Hold-Up Tank Pressure	1)	Radwaste System Type D, Category 3	None.
33)	Emergency Ventilation Damper Position	1)	Ventilation System Type D, Category 2	None.
34)	Status of Standby and other Energy Sources Important to Safety (hydraulic, pneumatic)	1)	Power Supplies Type D, Category 2	None.
35)	Radiation Exposure Rate (inside buildings on areas where access is required to service equipment important to safety)	1)	Area Radiation Type E, Category 2	None.
36)	Noble Gases and Vent Flow Rate (Common Plant Vent Discharging Any of Above Releases if containment purge is included,	1)	Airborne Radioactive Materials Released from Plants Type E, Category 2	None.

TABLE 1 (Cont'd.)

	VARIABLE		FUNCTION	CORRECTIVE ACTION
37)	Noble Gases and Vent Flow Rate (Vent from Steam Generator Safety Relief Valves or Atmospheric Dump Valves)	1)	Airborne Radioactive Materials Released from Plants Type E, Category 2	None.
38)	Noble Gases and Vent Flow Rate (All other Identified Release Points)	1)	Airborne Radioactive Materials Released from Plants Type E, Category 2	None.
39)	Radiation Exposure Meters (continuous indication at fixed locations)	1)	Environs Radiation and Radioactivity Type E	None.
40)	Airborne Radiohalogens and Particulates (portable sampling with onsite analysis capability)	1)	Environs Radiation and Radioactivity Type E, Category 3	None.
41)	Plant and Environs Radiation (portable instrumentation)	1)	Environs Radiation and Radioactivity Type E, Category 3	None.
42)	Plant and Environs Radioactivity (portable instrumentation)	1)	Environs Radiation and Radioactivity Type E, Category 3	None.
43)	Wind Direction	1)	Meteorology Type E, Category 3	None.
44)	Wind Speed	1)	Meteorology Type E, Category 3	None.
45)	Estimation of Atmospheric Stability	1)	Meteorology Type B, Category 3	None.
46)	Primary Coolant and Sump	1)	Accident Sampling Capability (Analysis capability on Site) Type E, Category 3	None.

TABLE 1 (Cont'd.)

	VARIABLE		FUNCTION	CORRECTIVE ACTION
47)	Containment Air	1)	Accident Sampling Capability (Analysis Capability on Site) Type E, Category 3	None.
48)	Particulates and Halogens (All Identified Plant Release Points. Sampling with Onsite Analysis Capability)	1)	Airborne Radioactive Materials Released from Plant Type E, Category 3	None.

TABLE 2

	VARIABLE		FUNCTION	CORRECTIVE ACTION
1)	Neutron Flux	1)	Reactivity Control Type B, Category 1	Qualify the equipment
2)	RHR System Flow	1)	Residual Heat Removal Type D, Category 2	Qualify the transmitter
3)	RHR Heat Exchanger Outlet Temperature	1)	Residual Heat Removal Type D, Category 2	Qualify the transmitter
4)	Accumulator Tank Level	1)	Safety Injection System, Type D, Category 2	Qualify the transmitter
5)	Accumulator Tank Pressure	1)	Safety Injection System, Type D, Category 2	Qualify the transmitter
6)	Boric Acid Charging Flow	1)	Safety Injection System, Type D, Category 2	Qualify the transmitter
7)	Flow in HPl System	1)	Safety Injection System, Type D, Category 2	Qualify the transmitter
8)	Flow in LPl System	1)	Safety Injection System, Type D, Category 2	Qualify the transmitter
9)	Makeup Flow-In	1)	Chemical and Volume Control System Type D, Category 2	Qualify the transmitter
10)	Letdown Flow-Out	1)	Chemical and Volume Control System Type D, Category 2	Qualify the transmitter
11)	Volume Control Tank Level	1)	Chemical and Volume Control System Type D, Category 2	Qualify the transmitter

TABLE 3

VARIABLE	FUNCTION	CORRECTIVE ACTION
1) RCS Cold Leg Water Temperature	1) Reactivity Control Type B, Category 3 2) Core Cooling Type B, Category 1	Change the present range of 0^{o} - 700^{o}F to 50^{o} - 750^{o}F. There is no span change.
2) RCS Hot Leg Water Temperature	1) Core Cooling Type B, Category 1	Change the present range of 0^{o} - 700^{o}F to 50^{o} - 750^{o}F. There is no span change.
3) Quench Tank Temperature	1) Primary Coolant System Type D, Category 3	Change the range from 50^{o} - 300^{o}F to 50^{o} - 750^{o}F.
4) Steam Generator Pressure	1) Secondary System Type D, Category 2	Change the range from 0 - 109% of safeties to 1320 psig.

TABLE 4

VARIABLE	FUNCTION	CORRECTIVE ACTION
1) Containment Atmosphere Temperature	1) Containment Cooling System Type D, Category 2	Upgrade the indication loop. Replace the existing loop with a new one that meets the requirement.

TABLE 5

VARIABLE	FUNCTION	CORRECTIVE ACTION
1) Radioactivity Concentration on Radiation Level in Circulating Primary Coolant	1) Fuel Cladding Type C, Category 1	Add new indication loops
2) Radiation Exposure Rate (inside buildings or areas, e.g., auxiliary building, reactor shield building annulus, fuel handling building, which are in direct contact with primary containment where penetrations and hatches are located)	1) Containment Type C, Category 2	Add new indication loops (Monitors at the penetration area and the Fuel Handling Building)
3) Containment Spray Flow	1) Containment Cooling Systems Type D, Category 2	Add new indication loops
4) Containment Sump Water Temperature	1) Containment Cooling Systems Type D, Category 2	Add new indication loop
5) Heat removal by the Containment Fan Heat Removal System	1) Containment Cooling Systems Type D, Category 2	Add new indication loops