July 21, 1970

D. J. Skovholt, Assistant Director for Reactor Operations, DRL

PACIFIC GAS AND ELECTRIC COMPANY (HUMBOLDT BAY) - DOCKET NO. 50-133
LOSS OF ELECTRICAL POWER OCCURRENCE ON JULY 17, 1970

The enclosure to this memorandum summarizes the technical issues relating to the subject incident that are considered by Compliance to be outstanding as of 5:00 p.m., July 20, 1970. This information confirms the verbal report given by Compliance to members of your staff at the DRL/CO meeting held at 9:00 a.m. on July 20, 1970. I will keep you informed of significant developments at the site.

R. H. Engelken, Assistant Director
for Inspection and Enforcement
Division of Compliance

Enclosure:
Summary List of Outstanding
Technical Issues - PG&E

cc w/encl:
C. K. Beck, DR
M. M. Mann, DR
S. H. Hanauer, DR
P. A. Morris, DRL
E. G. Case, DRS
L. D. Low, CO
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L. Kornblith, CO
D. L. Ziemann, DRL
G. S. Spencer, CO:V

OFFICE ▶	CO	CO				
SURNAME ▶	JKeppler:ej	JPO'Reilly	RHEngelken			
DATE ▶	7/21/70	7/21/70	7/21/70			

Enclosure

SUMMARY LIST OF OUTSTANDING TECHNICAL ISSUES

Pacific Gas and Electric Company (Humboldt Bay)

Based on verbal information obtained from Compliance inspectors at the Humboldt Bay site, the following significant issues are considered to be outstanding as of 5:00 p.m. on July 20, 1970:

1. The reactor should not have scrammed on the loss of offsite power. The modification made to the generator, following the loss of power incident in December 1968, failed to prevent the reactor from scramming due to an equipment malfunction.

2. In addition to the above failure, a circuit breaker failure located between the 60 kv bus and the 60 kv auxiliary bus at Unit No. 2 prevented the transfer of electrical power from Unit No. 2 to Unit No. 3.

3. The emergency condenser failed to operate in accordance with design because of the failure of a valve to open.

4. The instrumentation available to operators in the control room to evaluate a loss of coolant incident is inadequate. In addition, important process parameters are not recorded because recorders are not on emergency power.

5. The effects of the pressure and temperature transients on the core, core internals and pressure vessel are not understood by Compliance. No documentation was available to Compliance inspectors (the reactor pressure decreased from 1200 psig to 200 psig in one-to-two minutes; the vessel metal temperature at the bottom of the reactor vessel dropped from 550° F. to 295° F. in one hour).

6. The introduction of approximately 1000 gallons of impure water raised the chloride concentration above the maximum Technical Specifications operating limit of 0.5 ppm for 14 hours. The maximum chloride concentration in the primary coolant system was reported to be 7.5 ppm.

7. The drop in actual reactor water level is not known. Calculations by GE, not available to Compliance, indicate that the water level may have dropped to as low as six inches above the core.

8. The adequacy of the loss of coolant emergency procedures remains an open question. The most serious safety question relates to the fact that the operator terminated operation of the automatic blowdown system prior to completion of blowdown and without substantive information on reactor status.

OFFICE ▶						
SURNAME ▶						
DATE ▶						