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CONTROL NO: 10217
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FROM: Pacific Gas And Electric San Francisco, Calif. FT Searls		DATE OF DOC 10-1-74	DATE REC'D 10-3-74	LTR XXX	TWX	RPT	OTHER
TO: Mr Giambusso		ORIG 1 signed	CC	OTHER	SENT AEC PDR <u>XX</u> SENT LOCAL PDR <u>XX</u>		
CLASS	UNCLASS XXXXX	PROP INFO	INPUT	NO CYS REC'D 1	DOCKET NO: 50-275/323		

DESCRIPTION:
Ltr re our 10-9-73 ltr....furn info concern
analysis of ATWS.....

PLANT NAME: Diablo Canyon 1 & 2

ENCLOSURES:

DO NOT REMOVE
ACKNOWLEDGED

FOR ACTION/INFORMATION 10-4-74 ehf

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REGULATORY DOCKET FILE COPY

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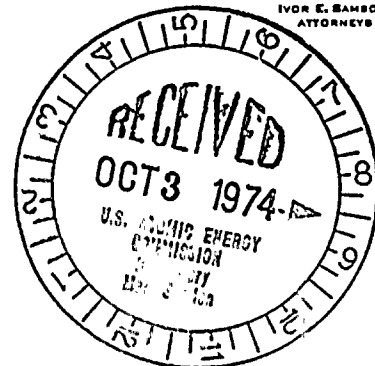
October 1, 1974

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Mr. Angelo Giambusso
Deputy Director for Reactor Projects
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Re: Dockets 50-275-OL
50-323-OL

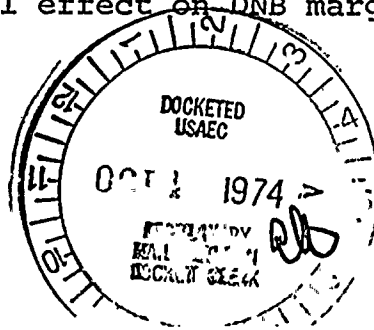


Dear Mr. Giambusso:

Your letter dated October 10, 1973 requested we provide you with an analysis in compliance with WASH-1270, "Technical Report on Anticipated Transients Without Scram for Water-Cooled Power Reactors," dated September 1973. We wish to advise you that for both Diablo Canyon Unit 1 (Docket 50-275), and Diablo Canyon Unit 2 (Docket 50-323), the implementation of WASH-1270 was done in accordance with its Appendix A, Section II.B. Assigning Diablo Canyon Unit 1 for implementation under Section II.B. is more stringent than required, but the design of Unit 1 is superior to that required for a Position I.C. plant.

In accordance with Appendix A, Section II.B.1., we reference Westinghouse topical report, WCAP-8330, "Westinghouse ATWT Analysis," dated August 1974, as the calculation of consequences for Diablo Canyon Units 1 and 2. We have reviewed this report and have determined that the models and parameters used in the analysis conservatively bound the Diablo Canyon units.

Attachment 1 tabulates the key parameters for the Diablo Canyon units which are important in the analysis. A comparison of these parameters with Table 2-1, page 2-3 of WCAP 8330 relative to the individual transients, shows the latter to be conservative. Sensitivity studies of the parameters shown in Table 2-1 have been performed in WCAP-8330 and show minimal effect on DNB margin or on reactor coolant system peak pressure.



10217



[The text in this section is extremely faint and illegible due to low contrast and noise. It appears to be a large block of text, possibly a list or a series of paragraphs, but the individual characters and words cannot be discerned.]

Mr. Angelo Giambusso
Deputy Director for Reactor Projects
U. S. Atomic Energy Commission

October 1, 1974

Page 2

As recommended in WASH-1270, the evaluation techniques used are shown in WCAP-8330, Sections 2 and 3.

Appendix A, Section II.B.3. of WASH-1270 recommended that a review of the reactor protection system be made, providing an analysis of the system vulnerability to common mode failure. This has been performed by Westinghouse and is documented in WCAP-7706, "An Evaluation of Solid State Logic Reactor Protection in Anticipated Transients."

The analyses presented in WCAP-8330 and 7706 demonstrate that no modifications are required for Diablo Canyon Units 1 or 2 to mitigate the consequences of anticipated transients without trip.

Very truly yours,

F. T. Searls

Attachment



1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that this is crucial for ensuring the integrity of the financial statements and for providing a clear audit trail. The text notes that any discrepancies or errors in the records can lead to significant financial losses and legal complications.

2. The second part of the document outlines the various methods used to collect and analyze data. It describes the use of both traditional and modern techniques, including the application of statistical models and the use of specialized software. The text highlights the need for a systematic approach to data collection and analysis to ensure that the results are reliable and valid.

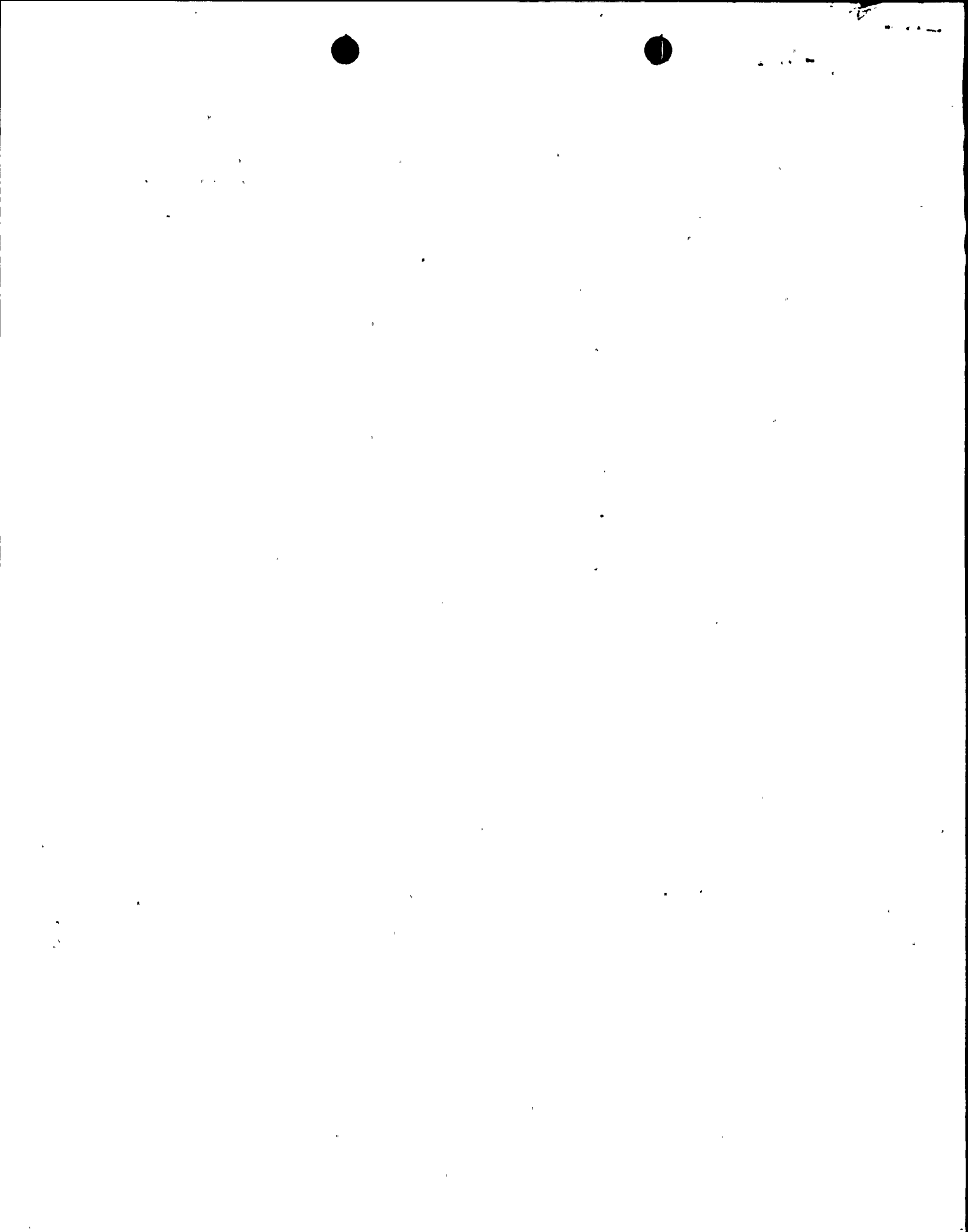
3. The third part of the document focuses on the interpretation of the data and the drawing of conclusions. It discusses the various factors that can influence the results and the importance of considering these factors when making decisions. The text also notes that the interpretation of the data should be based on a thorough understanding of the underlying theory and the specific context of the study.

4. The fourth part of the document discusses the implications of the findings and the potential for future research. It notes that the results of the study have important implications for the field and that further research is needed to explore these implications in more detail. The text also discusses the potential for the findings to be applied in other contexts and the importance of sharing the results with the wider community.

ATTACHMENT 1

DIABLO CANYON

Plant	<u>UNIT 1</u>	<u>UNIT 2</u>
Steam Generator Type	51 Series	51 Series
No. of Loops	4	4
RC Pump Type	Model 93A	Model 93A
Loop Isolation Valves	No	No
Core Power	3338 MW _t	3411 MW _t
* Nom. Pressurizer Pressure	2250 psia	2250 psia
Nom. Coolant Flow Total	350,800 gpm	354,000 gpm
Nom. Average Coolant Temperature	576.6° F	577.6° F
No-Load Coolant Temperature	547.0° F	547.0° F
Total RCS Volume Including		
Pressurizer and Surge Line	12,612 Ft. ³	12,612 Ft. ³
Pressurizer Volume		
a. Water	1080 Ft. ³	1080 Ft. ³
b. Steam	720 Ft. ³	720 Ft. ³
Number of Power Operated Relief Valves	3	3
Steam Capacity of Each Power Operated		
Relief Valve @ 2350 psia	210,000 lb/hr	210,000 lb/hr
Number of Safety Valves	3	3
ASME Rated Steam Capacity of Each Safety		
Valve @ 2,500 psia plus 3% Accumulation	420,000 lb/hr	420,000 lb/hr



DIABLO CANYON

UNIT 1UNIT 2

Best Estimate Rod Worth of Bank D at Its

Full Power Insertion Limit	0.3 % k/k	0.3 % k/4
Steam Generator Design Pressure	1100 psia	1100 psia
Steam Generator Nom. Steam Temp.	513.1° F	513.1° F
Nominal Steam Flow	4039.3 lb/sec.	4128.2 lb/sec.
Nominal Feedwater Temp.	432.1° F	432.9° F
Nominal Fluid Mass in S.G.		
a. Specific Volume of Steam	0.5701 ft ³ /lbm	0.5701 ft ³ /lbm
b. Specific Volume of Water	0.02086 ft ³ /lbm	0.02086 ft ³ /lbm
c. Volume of Steam	3775 ft ³	3704 ft ³
d. Volume of Water	1983 ft ³	2054 ft ³
e. Mass of Steam	6621.6 lbm	6497.1 lbm
f. Mass of Water	95062.3 lbm	98466.0 lbm
g. Mass of Steam, 4 SG	26,486.4 lbm	25,988.4 lbm
h. Mass of Water, 4 SG	380,249.2 lbm	393,864.0 lbm
i. Total Mass, 4 SG	406,735.6 lbm	419,852.4 lbm
Auxiliary Feedwater Temp.		
Average Ambient	55° F	55° F
Auxiliary Feedwater Available	170,000 gal	170,000 gal
Capacity of Auxiliary Feedwater Pumps	1870 gpm	1870 gpm
Volume of Line Between Aux. Feedwater Connection on Feedline and SG Inlet, Total 4 SG	297.4 ft ³	297.4 ft ³

* Nominal in this attachment refers to the nominal full rated power condition of the plant.

