Docket Nos. 50-275
and 50-323

JAN 3 1 1974

APPLICANT: PACIFIC GAS AND ELECTRIC COMPANY (PG&E)

FACILITY: DIABLO CANYON UNITS 1 AND 2

SUMMARY OF MEETING HELD TO DISCUSS THE SAFETY CONCERNS OF THE STAFF RELATED TO THE DESIGN OF ELECTRICAL AND INSTRUMENTATION SYSTEMS PRESENTED IN THE DIABLO CANYON FSAR

A meeting between representatives of PG&E, Westinghouse, and the AEC was held in Bethesda on December 11, 1973. The purpose of the meeting was to discuss in detail certain sections of the FSAR related to Instrumentation & Controls and Electric Power. A list of attendees is given in Enclosure No. 1.

Before proceeding with the electrical discussions, PG&E and Westinghouse responded to questions regarding the submittal of revised FSAR chapters describing the new 17 x 17 fuel design to be utilized in the Diablo Canyon Units. Representatives of the Reactor Systems and Core Performance Branches indicated that Chapters 4 and 15 of the FSAR have been submitted for a 15 x 15 fuel design, and are not in the standard format. In addition, these chapters are not complete. PG&E, with the concurrence of Westinghouse, stated that revised Chapters 4 and 15 for the 17 x 17 fuel design would be submitted to the staff by March 1, 1974. This submittal will be in the standard format, Revision 1, and will contain essentially the same material as the latest revision of WCAP-8185, "Reference Core Report - 17 x 17". PG&E implied that some modifications of the information in the topical report may be made as required by differences in the Diablo Canyon design from the reference four loop plant. PG&E agreed that the review would be expedited if the staff concentrated their efforts on review of WCAP-8185, rather than on the current material in Chapters 4 and 15 of the Diablo Canyon FSAR.

The staff asked PG&E about the percentage of electrical completion on Unit 1 in regard to a future site visit. PG&E indicated that electrical work on Unit 1 was approximately 70-80% complete. The staff replied that, on this basis, a late-February or early-March site visit would probably be appropriate.

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Several areas of the FSAR related to the design of Instrumentation and Control and Electric Power Systems were then covered in detail by the staff. On some items, the staff indicated that a formal question would be asked during the first round requests for additional information. In other areas, PG&E agreed to make voluntary changes in the FSAR.

The following is a tabulation of the voluntary changes agreed to by the applicant:

1. Section 3.1: In addition to indicating conformance with AEC General Design Criteria, PG&E will also provide documentation describing how the recommendations presented in the Regulatory Guides are included in the design.

2. Criterion 24, page 3.1-24: The wording in the second paragraph will be changed to indicate that the four diesels can supply the power required to bring the second unit to shutdown while the other unit is in an accident condition.

3. Chapter 6: PG&E will provide a complete description of the auxiliary feedwater control system since auxiliary feedwater has been identified as an Engineered Safety Feature.

4. Page 7.1-11: Item b. will be clarified to indicate that the initial discharge point for the safety injection pumps is the cold leg.

5. Page 7.1-15: The Section on separation criteria for circuits entering containment will be expanded to provide more information on the penetrations, e.g., layout, circuit identification, effects of single events.

6. Pages 7.2-8 through 7.2-10: References are made to two Westinghouse topical reports (WCAP-7671 and WCAP-7669); these reports are general descriptions of instrumentation systems and do not provide detailed functional descriptions. PG&E and Westinghouse will provide more detail in this area.

7. Page 7.2-15: The reference to Figure 7.2-1 in the third paragraph should be Sheet 16, not Sheet 7.

8. Page 7.2-24: The last paragraph refers to a Westinghouse topical report, WCAP-7486. This report discusses equipment which is not included in the Diablo Canyon design. This reference will be changed to reflect an analysis which is pertinent to the solid state (rather than the relay) logic system.

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9. Pages 7.2-36, 37: The discussion under Paragraph 6.2.2 of IEEE-336 will be modified to include a description of the design and factory testing which is the basis for reducing noise effects.

10. Page 8.1-3: IEEE-323 (1971) will be added to the list of Codes and Standards which were implemented.

11. Page 8.2-4: PG&E will provide a description of the 230 and 500 kV switchyard control systems and the power sources for these controls.

12. Page 8.3-17: PG&E will change the diesel engine low lube oil pressure shutdown function from an unconditional shutdown function to one which will provide an alarm to the operator if low oil pressure develops after an automatic start, and shutdown of the unit if low oil pressure develops after a manual start.

13. Page 8.3-26: A description will be provided of the caustic sprays which were used in the environmental qualification testing of equipment required to operate during a LOCA.

14. Page 8.3-26: Under the Section "Fill of Raceways", the wording will be changed to indicate that maximum fills for trays and conduits are 32 and 42%, respectively.

15. Page 8.3-28: The current design of the cable tray fire stops will be presented.

16. Page 8.4-1: Item 5 under d-c power systems design features will be reworded to indicate that the batteries and circuit breakers are also designed to Class IE requirements.

Other significant items discussed include the following:

1. Sizing of Transformers: PG&E agreed to check the sizing of the startup/standby transformers to define the limiting conditions of operation when one of the transformers is out of service. These limits will be defined in the Technical Specifications.

2. Transfer of Power Busses: The staff expressed concern about the delay in the transfer of the power busses, e.g., 2-3 seconds. PG&E stated that the actual transfer occurs at 25% of normal bus voltage. This item will be studied further during the drawing review.

3. [illegible]

3. CO$_2$ Fire Protection System: PG&E agreed to provide more data on the design of the CO$_2$ fire protection system, and to investigate the potential effects of CO$_2$ flooding on electrical equipment.

4. Electrical Separation Criteria: PG&E provided additional description of their separation criteria. All safety wiring, where there is more than one train in an area, is run in separate conduits with a minimum separation of one inch. The separation of this wiring in equipment racks is at least five inches. Where conduit is run through potential missile areas, the minimum separation between conduits is two feet.

5. Protection System Drawings: The staff requested that all Westinghouse solid state protection system drawings be submitted on the Diablo Canyon docket. Westinghouse said they will comply with this request.

In summary, all areas of concern to the staff were covered in the meeting. No serious problems were noted in the electrical chapters, although the area of seismic testing and qualification of equipment (to be covered with a formal question) may present some difficulties for PG&E regarding conformance with IEEE 344-1971.

Thomas J. Hirons
Light Water Reactors Group 1-3
Directorate of Licensing

Enclosure:
Attendance List

cc w/encl:
AEC PDR
Local PDR
RP Assistant Directors
RP Branch Chiefs
S. Varga
R. W. Klecker
J. M. Hendrie
TR Assistant Directors
TR Branch Chiefs
R. Cushman
L. Chandler, OGC
RO (3)
V. H. Wilson
Meeting Attendees from REG
R. Fraley, ACRS (16)

DISTRIBUTION:
Docket (2)
RP Reading
LWR 1-3 Reading

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DATE ▶	1/31/74	1/31/74				

ENCLOSURE NO. 1

ATTENDANCE LIST

PACIFIC GAS AND ELECTRIC COMPANY

J. B. Hoch
D. Nielsen
R. A. Young
L. Wilson

WESTINGHOUSE

A. J. Abels
J. W. Dorrycott
J. C. Mesmeringer

AEC - LICENSING

Projects

T. J. Hirons

Electrical Instrumentation & Control Systems Branch

D. R. Lasher*
D. McDonald
C. F. Miller
R. Scholl
L. Weintraub*

Core Performance Branch

C. E. Bailey*
P. M. Wood*

Reactor Systems Branch

C. Sullivan*

Operational Safety Branch

J. R. Sears*

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*Denotes part-time attendance

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