

SEP 27 1974

DOCKET NOS: 50-275 AND 50-323

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

FACILITY: DIABLO CANYON, UNITS 1 AND 2

SUMMARY OF ACRS SUBCOMMITTEE MEETING HELD ON SEPTEMBER 12, 1974

An ACRS Subcommittee Meeting regarding the Diablo Canyon Nuclear Power Station was held in Washington, D. C. on September 12, 1974. The purpose of the meeting was to provide the ACRS and their consultants with an early review of the Diablo Canyon operating license application, with emphases on geology and seismology and ECCS - Appendix K evaluation. A complete list of attendees is given in Enclosure No. 1.

After opening remarks by the Subcommittee Chairman and a summary of the status of the Regulatory staff review, PG&E and Westinghouse presented a summary of the ECCS - Appendix K calculations for the Diablo Canyon Units. These calculations have been documented in Amendment 15 of the FSAR (submitted on August 5, 1974). The applicant first reviewed the evolution of the ECCS development from the time of the construction permit review on Unit 1 (1967). At that time the ACRS recommended that further work be done on improved passive failure protection, evaluation of blowdown forces on the reactor internals, and verification regarding the ability of the ECCS to perform in preventing fuel clad melting in the presence of failed fuel. PG&E also reviewed some of the considerations which led to their decision to change the fuel design from the then existing 15 x 15 configuration to the present 17 x 17 design.

Westinghouse then presented the results of the Appendix K analysis of the Diablo Canyon reactors. For comparison purposes, results of some previous analyses, based on the interim acceptance criteria (IAC), were presented for both 15 x 15 and 17 x 17 fuel designs. The Appendix K calculations utilized a total peaking factor of 2.32, and resulted in lower peak power and lower clad temperatures than those calculations performed using the IAC. Several reactor parameters, e.g., peak clad temperature, pressure, core flow, were presented as a function of break size, discharge coefficient and time following the accident. The limiting break was defined as the double-ended, cold-leg guillotine, with a discharge coefficient of 0.6. After numerous questions from the Subcommittee members, the staff summarized the review schedule for Appendix K calculations. The generic review of the Westinghouse model with regard

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to Appendix K calculations will be completed by October 10, 1974, and a report will be issued. A supplement to the Diablo Canyon safety evaluation report covering the specific Diablo Canyon calculations will be issued around the end of October. The staff indicated that the ACRS Subcommittee on ECCS plans to meet on September 28, 1974, and that a complete status report of our review of the Westinghouse model will be given at that time.

As a final issue with regard to the Westinghouse 17 x 17 fuel design, the staff commented on each of the remaining outstanding items in the generic review of the 17 x 17 fuel design. These outstanding items were documented in a letter to R. Salvatori of Westinghouse dated July 26, 1974, and include the following: 1. Fuel performance surveillance program and schedule for that program; 2. Details of the technical specification procedures for maintaining the peaking factor within limits, including the alarms to be provided; 3. Design value of the criticality factor for the core during refueling and for the fuel storage pool; 4. A dynamic analysis of the reactor vessel internals; 5. The results of the planned DNB tests using non-uniform axial heat flux which must be used to verify the 17 x 17 DNB correlation and the DNBR that corresponds to the 95/95 criterion; and 6. The effects of bowing on the 17 x 17 fuel. The staff responded individually to each of these items, and indicated that each one would have to be resolved on the Diablo Canyon docket.

The majority of the remaining portion of the meeting was devoted to a detailed presentation by PG&E's consultants on the geology and seismology of the central California Coastal region, including both onshore and offshore areas. The presentation was handled chiefly by D. H. Hamilton of Earth Sciences Associates. Hamilton first discussed the regional geologic setting within which the Diablo Canyon site is located. In this discussion he utilized a USGS geologic map which had been supplemented with some additional lines indicating the location of major offshore faults. The presentation included the details of all known faults in the area, and a description of the age of these faults, their composition, etc. The ACRS and their consultants asked numerous questions regarding the material that was presented.

Dr. Stewart Smith, PG&E's seismic consultant, then made a brief presentation on the location of various earthquake epicenters in the area. Dr. Smith has been involved with the seismic analysis of the area for almost 10 years. Smith indicated that the earthquake epicenter maps available in 1966 showed only a few scattered epicenters in the range magnitude of



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of 4 to 4 1/2 within about 20 miles of the site. As a result of this, PG&E was not really able to rely on the seismic history of the area because the time sample was short and the seismographic coverage was poor because the area lies midway between the Berkeley and Cal Tech seismic networks. PG&E therefore chose the approach of looking more at the geologic evidence for faulting and associating earthquakes with faults. In addition, the concept of an unassociated earthquake (not associated with a known fault) close to the site was introduced. This procedure reflected the basic uncertainties in where earthquakes would take place in the future, and at the same time attempted to take into account what might occur in the way of aftershocks from a great earthquake on the San Andreas Fault. Dr. Smith's presentation also included a description of the methods used in arriving at the design acceleration values for the plant structures. As before, the ACRS and their consultants asked a number of questions regarding the presentation.

The formal agenda for the meeting was concluded with brief presentations by PG&E on their tsunamic analysis for waves caused by near-shore generators, and a description of the tornado capability analysis performed for safety-related structures and components.

As a final point on geology and seismology, PG&E stated that their final report would be submitted to the staff sometime in early October of 1974. The ACRS indicated that they would require another Full Subcommittee meeting on geology and seismology, and that this meeting should be held after the staff's (and USGS) evaluation of these areas has been completed.

Thomas J. Hirons

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 Light Water Reactors
 Project Branch 1-3
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Enclosure:
 Attendance List

- cc: Mr. P. A. Crane
- Mr. W. J. Lindblad
- Andrew J. Skaff, Esq.
- Ms. Elizabeth E. Apfelberg
- Ms. Sandra A. Silver
- Mr. John Forster
- Mr. Lonnie Valentine
- Mr. Frederick Eissler
- Mr. William P. Cornwell

OFFICE	Mr. J. W. Dorrycott	L:LWR 1-3		
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DATE		9/ /74		



ENCLOSURE NO. 1

ATTENDANCE LIST

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Dr. M. Trifunac
Dr. G. Thompson

ACRS STAFF

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W. J. Lindblad
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PG&E CONSULTANTS

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Dr. S. W. Smith (University of Washington)

WESTINGHOUSE

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S. Kopelic
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T. Zordan

USGS

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F. Hauser
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M. S. Dunenfeld
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