

Docket Nos. 50-275✓
and 50-323

MAR 24 1975

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DIABLO CANYON PRE ACRS SER SUPPLEMENTS

We are preparing to issue SER supplement(s) on Diablo Canyon prior to the next ACRS Subcommittee meeting. The supplement(s) will address questions raised at the last Subcommittee meeting as well as open items previously listed in the SER.

We received a great many questions from the ACRS Subcommittee at the last meeting on February 18-19. These questions are listed in Enclosure No. 1 along with references to their locations in the transcript and the meeting summary. The ACRS Subcommittee Chairman requested that we respond in writing to as many of these items as practical prior to the next Subcommittee meeting.

The actions requested from the TR/RL review branches are listed. The appropriate branches to respond are listed in each case, based on our preliminary evaluation of the questions. You may conclude that different branches should respond in some cases. Copies of the transcript and meeting summary will be delivered to the appropriate review branches to aid you in this determination and to minimize possible misinterpretations.

While the Subcommittee Chairman requested that we respond in writing to as many items as possible, he did not specify which items should have a written response. This approach will expedite the next meeting and yet gives us the opportunity of choosing the best method of response in each case. The written responses will be included in an SER Supplement. For the others we will make a verbal response at the next meeting. In addition to the recent questions from ACRS there are several open items identified in the SER. These items and their status are listed in Enclosure No. 2.

The critical path item in this review is resolving the design basis earthquake issues. The latest schedule change request, which is in the approval chain, leads to a July full committee meeting in the following manner:

SER Supplement Input to LPM	05/16/75*
SER Supplement Published	05/30/75
ACRS Subcommittee Meeting	Mid-June
ACRS Full Committee Meeting	07/11/75

*This is not scheduled, but is necessary to meet the schedule. It is recognized that the geology/seismology input cannot be ready until later.

Ed Case has requested that we attempt to minimize the impact on fuel loading by requesting the ACRS to consider the Diablo Canyon application less the seismology/geology issues one month earlier than the schedule described above. We plan to request the ACRS, at the next meeting, to consider this request. In order to support the earlier ACRS meeting, we will need to meet, approximately, the following schedule for those items which can be resolved prior to resolution of the design basis earthquake issues:

SER Supplement Input to LPM	04/18/75
SER Supplement Published	05/04/75
ACRS Subcommittee Meeting	Mid-May
ACRS Full Committee Meeting	06/06/75

We plan to move forward with a 5/4/75 SER Supplement less geology/seismology and be prepared to meet with the ACRS in June. To this end, we request that you review the items in Enclosures 1 & 2 and determine which items can be responded to in the supplement.

Enclosure signed by R. C. DeYoung

R. C. DeYoung, Assistant Director
for Light Water Reactors Group 1
Division of Reactor Licensing

Enclosures:

1. Diablo Canyon Open Items
Resulting From ACRS Subcommittee
Meeting of February 18 & 19, 1975
2. Diablo Canyon Open Items From
Safety Evaluation

OFFICE ➤	RL:LWR 1-3	RL:LWR 1-3	RL:AD/PWR 1			
SURNAME ➤	DPallison:cls	ODParr	RCDeYoung			
DATE ➤	3/24/75	3/24/75	3/24/75			

F. Schroeder
D. J. Skovholt

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cc: W. McDonald, OPS
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ENCLOSURE NO. 1

DIABLO CANYON OPEN ITEMS

RESULTING FROM ACRS SUBCOMMITTEE

MEETING OF FEBRUARY 18 & 19, 1975

Enclosure

ITEM	TRANSCRIPT PAGE	MEETING SUMMARY PAGE	DESCRIPTION	ADDRESSED TO	ACTION REQUESTED
1.	160-161	10	Will the turbine valves close reliably on loss of power during an earthquake.	Applicant	APCSB informal comment to LPM
2.	162	10	Justify in detail 0.4g in light of apparent discrepancies.	Applicant & Staff	SAB response
3.	162	10	What would be peak accelerations with other current methods.	Applicant & Staff	SAB response
4.	162	10	What would be the effect on the plant of a small magnitude earthquake with high accelerations.	Applicant & Staff	SAB & SIB response
5.	163	10	When the peak acceleration has been determined would it be possible to derive a confidence level for it.	Applicant & Staff	SAB response
6.	163	10	What are the maximum observed and predicted intensities at this site and the peak acceleration resulting from these.	Applicant & Staff	SAB response
7.	164	10	Provide USGS open file report 74-272 to ACRS.	Applicant & Staff	SAB provide to LPM
8.	165	-	If any additional interpretations of data exist provide and/or describe to ACRS.	Applicant & Staff	SAB response

Enclosure No. 1

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ITEM	TRANSCRIPT PAGE	MEETING SUMMARY PAGE	DESCRIPTION	ADDRESSED TO	ACTION REQUESTED
9.	165	10	Consider the possibility that the newer earthquakes do more to the structure than the original design. Reservations on using Parkfield earthquake.	Applicant & Staff	SAB & SEB response
10.	165	11	What kind of errors can arise in seismic design analysis.	Applicant & Staff	SEB response
11.	166	11	What are the errors going from 1 dimensional seismic model to finite element analysis.	Applicant & Staff	SEB response
12.	166	11	Why do the two new spectra provide adequate assurance.	Applicant & Staff	SAB response
13.	166	11	How does the staff decide what constitutes an adequate audit on seismic design.	Staff	SEB response
14.	169 172 173 332	11	Response of instruments and equipment to higher accelerations at higher frequencies.	Applicant	SEB/MEB/IC/USB response
15.	196 204	12	Full scale shaking of structures.	Applicant	SEB response

Enclosure No. 1

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ITEM	TRANSCRIPT PAGE	MEETING SUMMARY PAGE	DESCRIPTION	ADDRESSED TO	ACTION REQUESTED
16.	206 208 215 219 286-288	13 14 17-#4	Seismic Scram Questions.	Applicant & Staff	Engineering, Reactor Safety & Telford Respon
17.	237 238 243	14-#1	Effect of turbine building fire on safety related switchgear and diesel generators (possibly following an earthquake)	Applicant & Staff	IC&ESB & APCSB Response
18.	243-248	14-#2	What is the sensitivity of the plant to the following type of event: a safety related service, such as component cooling water, is on line using one of the redundant trains. The train in service fails and the backup component fails to take over as it is supposed to. What are the consequences and how much time is available to correct the situation. This is not for a LOCA analysis, etc. since the backup component is assumed to work under those conditions.	Applicant	RSB, CSB IC&ESB, APCSB informal comments to LPM
19.	248-250	15-#3	Staff review applicant's analysis of the Effect of prolonged total loss of AC power.	Staff	CSB & APCSB response

Enclosure No. 1

ITEM	TRANSCRIPT PAGE	MEETING SUMMARY PAGE	DESCRIPTION	ADDRESSED TO	ACTION REQUESTED
20.	251-262 289	15-#4	Heat transfer during small LOCA.	Applicant & Staff	CSB & APCSB response
21.	262 263 268	15-#5, 6	Intake structure sump pumps capability of pumping adequately during high waves. Criteria for design of pumps.	Applicant	APCSB response
22.	263-268	15-#5	Seismic adequacy of auxiliary salt water pipes buried in ground, attached to buildings and circulating water conduit.	Staff	SEB response
23.	269-271	16-#7	Flooding qualification of cables to auxiliary salt water pumps.	NA	EI&CSB informal comments to LPM
24.	272-275	16-#8	Hot shutdown panel.	NA	EI&CSB informal comments to LPM
25.	275-283	16-#1	Effect of phosphate buildup on turbine valve closure.	Applicant & Staff	APCSB response
26.	275-283	16-#1	Availability of statistics and infor- mation on power plant equipment (especially turbine stop valves) functioning during seismic dis- turbance such as 1971 San Fernando and 1964 Alaska earthquakes.	Applicant & Staff	SEB, MFB response

Enclosure No. 1

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ITEM	TRANSCRIPT PAGE	MEETING SUMMARY PAGE	DESCRIPTION	ADDRESSED TO	ACTION REQUESTED
27.	284	17-#2	Steam generator design envelope re LOCA reaction forces and jet forces and seismic loading.	Staff	SEB & MEB response
28.	284	17-#3	Modeling of reactor coolant pump under seismic loading.	Staff	SEB & MEB response
29.	314-315	-	How many diesels are required for safe shutdown.	Staff	E, I&CSB
30.	315-318 326 327	18	Questions about reliability of electric power.	Staff	E, I&CSB response
31.	328-331	19	Vulnerability of plant to malfunctions or failures in diesel fuel oil system (seems same as Item 18 above).	Staff	APCSB response
32.	332-350	19	Lockout of power to ECCS valves.	None	EI&CSB informal comments to LPM
33.	354-355	20-#2	Degree of compliance with 1974 ASME Section XI.	Applicant	MTEB response
34.	355-359	20-#3	Overheating and loss of containment penetration integrity, perhaps due to failure in non safety related and/or non seismic electrical systems.	Applicant & Staff	EI&CSB & CSB response

Enclosure No. 1

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ITEM	TRANSCRIPT PAGE	MEETING SUMMARY PAGE	DESCRIPTION	ADDRESSED TO	ACTION REQUESTED
35	358-359	-	More generally, can non safety systems impair the proper functioning of safety systems (see our FSAR question 9.1).	Applicant & Staff	APCSB & EI&CSB response.
36.	360-372	21	What measures are satisfactory for diagnosing the severity and course of accidents.	Applicant & Staff	EI&CSB response
37.	376-378	22-#6	Has staff reviewed similarities and differences between Indian Point, San Onofre and Diablo Canyon and is Diablo Canyon acceptable (water hammer, feed-water rupture and containment liner bulge).	Staff	SEB, CSB, MEB, MTEB response
38.	378-379	22-#7	Does the staff feel one can rule out slug flow and/or water hammer effects for a LOCA downstream of the steam generator as concluded in a Westinghouse topical. What is the review status of the topical.	Staff	RSB response
39.	380	22-#8	Staff review of insulation used and effect on containment sump.	Staff	APCSB response

Enclosure No. 1

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ITEM	TRANSCRIPT PAGE	MEETING SUMMARY PAGE	DESCRIPTION	ADDRESSED TO	ACTION REQUESTED
40.	381	22-#9	Containment purge valve limits in Tech Specs.	NA	QAB informal comments to
41.	381	22 #9	Containment purge valve design to close under accident conditions.	NA	CSB informal comments to LPM
42.	383-384	22-#10	Possibility of Main Steam line break damaging a main steam isolation valve.	NA	APCSB informal comments to LPM

ENCLOSURE NO. 2

DIABLO CANYON OPEN ITEMS FROM SAFETY EVALUATION REPORT

Item*	Description	Status	Action Requested
1.	Meteorology	Reviewed & Accepted	SAB SER Input
2.	Tsunami	Awaiting Applicant Response (~ 4/1/75)	_____
3.	Geology/Seismology	Ongoing Problem	_____
4.	Pipe Break Outside Containment	Awaiting Applicant Response (~ 4/1/75)	_____
5.	Seismic Qualification of Category I Electrical Equipment	Ongoing Problem	_____
6.	Seven Grid Fuel Assembly Tests	Under Generic Review	_____
7.	Single Rod Burst Tests	Under Generic Review	_____
8.	Fuel Surveillance	Awaiting Applicant Commitment (~ 4/15/75)	_____
9.	Uncertainties In Thermal Hydraulic Design	Under Generic Review	_____
10.	Subcompartment Pressure Analyses	Awaiting Applicant Response (~ 4/1/75)	_____
11.	Lockout of Electric Power to ECCS Valves	Staff Position Established and Documented	Answer ACRS Questions (See Enclosure 1)
12.	ECCS Final Acceptance Criteria	Under Generic Review. Expect Applicant's Revised Analysis July '75 or later.	_____
13.	Physical & Electrical Separation In Solid State Protection System	See Item 5 Above	_____

Item#	Description	Status	Action Requested
14.	Physical Separation In Process Analog System	Reviewed and Accepted Subject To Verification On Site Visit	EICSB Verify On Site Visit And Provide SER Input
15.	ATWS	Under Generic Review	_____
16.	Environmental Qualification of Category I Electrical Equipment	See Item 5 Above	See Item 5 Above
17.	Consequences Of Fuel Cask Drop	APCSB Review Complete. AAB Review In Progress	AAB Complete Review. APCS & AAB Provide SER Input
18.	Dose Reduction In Case Of RHR Leak Following A LOCA	Review Complete & Accepted Subject To Applicant Confirming 15°F Temperature Rise. Awaiting Applicant's Confirmation. (~ 4/15/75)	AAB & ETSCB Provide SER Input
19.	QA Commitment To Recent WASH Documents	Under Review	QAB Complete Review And Provide SER Input
—	Oil Terminal	Under Informal Review By AAB To Ensure SER Conclusions Are Still Valid	AAB Complete Informal Review

*Item numbers are taken from list of open items, Diablo Canyon SER Supplement No. 1 of January 31, 1975, Section 22.