

RELATE... DENCE

DOCKETED
USNRC

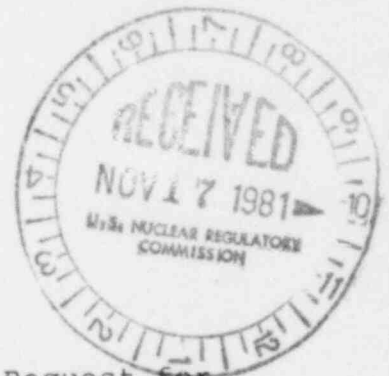
UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

'81 NOV -2 P12:02

In the Matter of
PACIFIC GAS AND ELECTRIC COMPANY
(Diablo Canyon Nuclear Power
Plant, Units 1 and 2)

Docket Nos. 50-275 O.L.
50-323 O.L.

JOINT INTERVENORS' RESPONSE TO
NRC STAFF'S REQUEST FOR ADMISSIONS



Joint Intervenors' responses to the NRC Staff's Request for
Admissions which were served on October 14, 1981, are as follows:

PRESSURIZER HEATERS

Admission A-1:

Loss of Diablo Canyon's pressurizer heaters from normal
operating conditions would cause the reactor system to slowly
depressurize.

Response A-1:

It is not possible to determine the answer to this
as not enough of the conditions of this hypothetical
event have been specified. This is generally true as-
suming continuation of power operation and no alternate

DS03
50/1

operator actions. If, however, a trip from full power is assumed, the operation of auxiliary feedwater, coolant pumps, high pressure injection, and other systems capable of affecting the heat balance, as well as the decay heat generation rate, would have to be known to answer the request more completely.

Admission A-2:

The reactor system must be depressurized to bring the Diablo Canyon Nuclear Power Plant to a cold shutdown condition.

Response A-2:

Admitted.

Admission A-3:

Depressurizing Diablo Canyon's reactor system from a hot standby condition to a cold shutdown condition can be accomplished without the pressurizer heaters.

Response A-3:

This is true, but it is not in accordance with normal procedure nor is it a desirable method of operation.^{1/}

Admission A-4:

Diablo Canyon's pressurizer heaters are not required to maintain the reactor system in a cold shutdown condition.

Response A-4:

Admitted.

^{1/} PG&E Answer to J. I. Interrogatory 45, October 26, 1981.

Admission A-5:

In the July 29, 1980 letter to Al Schwencer (NRC) from L.M. Mills (TVA) transmitting the July 28, 1980 Sequoyah Nuclear Power Plant Unit 1 Special Startup Test Report, Test #3 concerning natural circulation with loss of pressurizer heaters demonstrated that natural circulation occurred with the pressurizer heaters de-energized.

Response A-5:

This letter is not in our possession.

Admission A-6:

Operation of the pressurizer heaters is not assumed in the analysis of design basis events in the Diablo Canyon FSAR.

Response A-6:

This is not a true statement as the FSAR clearly identifies pressurizer heater operation in a number of the accidents analyzed. For example, the LOFTRAN model description states that pressurizer heaters are considered.^{1/} Analyses of loss of electrical load and/or turbine trip events typically assume pressurizer heater operation.^{2/} Further, PG&E's Emergency Operating Procedures include the use of pressurizer heaters.^{3/}

^{1/} FSAR, 15.1-17, Amendment 10.

^{2/} FSAR, 15.2-33, Amendment 5.

^{3/} Answer to J. I. Interrogatory 45, October 26, 1981.

Admission A-7:

Operation of Diablo Canyon's Pressurizer heaters is not required to maintain the reactor coolant pressure boundary.

Response A-7:

If the definition of operation is strictly limited to the function of adding thermal energy to the coolant system, this is true. The pressurizer heaters must also maintain physical integrity for the reactor coolant pressure boundary to be maintained.

Admission A-8:

Operation of Diablo Canyon's pressurizer heaters is not required for plant safety.

Response A-8:

Denied. Plant safety may be affected by many things, not the least of which is to minimize the number of challenges to the total system integrity and to optimize the operability and controllability of systems used in the mitigation or control of abnormal events. The NRR Lessons Learned Task Force found that "maintenance of natural circulation capability is important to safety."^{1/} Pressurizer heaters are needed for this capability. Substantiating this view was the NRC's TMI-2 investigation team which recommended the following:

^{1/} NUREG-0578, page A-2.

"The pressurizer heater system should be classified as safety grade which would assure emergency power availability and protection from failures due to environmental conditions." 1/

1/ Memorandum for J.M. Allan, NRC, from R.D. Martin, NRC, "Operations Team Recommendations", October 10, 1979, pg. 23.

PORV'S AND BLOCK VALVES

Admission B-1:

Proper operation of block valves is not assumed in the analysis of any design basis event in the Diablo Canyon FSAR.

Response B-1:

This request is insufficiently precise to permit a direct response. The approach used in the FSAR analysis is not to assume or evaluate proper operation of the block valves but to assume certain accident conditions and calculate the theoretical results. For example, a block valve failure to close when the PORV sticks open can create a small LOCA (one of the design basis events). In the FSAR a small LOCA is simply assumed without identifying its cause or its mitigation. In the instant example of a PORV stuck open, mitigation of the small LOCA may be accomplished by closing the associated block valve.

Admission B-2:

Diablo Canyon's block valves are not relied upon to provide overpressure protection of the reactor system for low temperature operation.

Response B-2:

This cannot be admitted since there are sequences where failures of the block valves would prevent operation of the PORV's. Thus, block valve failure could prevent the

use of PORV's as a means of overpressure protection during low temperature operation. The Applicant's response to NUREG-0578 (TMI Lessons Learned) refers to both block valves and PORV's in regard to low temperature overpressurization protection. (PG&E response to Short Term Lessons Learned, February 29, 1980, page III-B-13).

Admission B-3:

Operation of Diablo Canyon's block valves are not relied upon to shut down the reactor and maintain it in a safe shutdown condition.

Response B-3:

Although the normal procedures do not appear to call for use of the block valves or PORV's in this mode, there are conditions where they may be called upon to assist in maintaining the plant in a safe shutdown condition. The TMI-2 accident and post-accident mitigation is such an example. Thus, the above statement cannot be admitted under all circumstances.

Admission B-4:

Proper operation of the PORV's is not assumed in the analysis of any design basis event in the Diablo Canyon FSAR.

Response B-4:

See response B-1.

Admission B-5:

Diablo Canyon's PORV's are not relied upon to provide overpressure protection of the reactor system for low temperature operation.

Response B-5:

See response B-2.

Admission B-6:

Operation of Diablo Canyon's PORV's are not relied upon to shut down the reactor and maintain it in a safe shutdown condition.

Response B-6:

See response B-3.

Admission B-7:

Failure of a PORV to close coupled with the failure of the block valve to be closed by the operator would not result in core damage provided the emergency coolant systems and auxiliary feedwater system functioned as designed at the Diablo Canyon Nuclear Power Plant.

Response B-7:

Westinghouse alleges this to be the case. However, there was probably a similar confidence in the benign impact of PORV's and block valve at TMI-2 prior to the accident. The statement may be true if all systems operate exactly as prescribed and there are no severe accident

conditions or multiple failures or operator errors occurring.

Admission B-8:

The scenario in Admission #7 would result in offsite doses much less than the guidelines of 10 C.F.R. 100 provided that the containment isolation system functioned as designed at the Diablo Canyon Nuclear Power Plant.

Response B-8:

Assuming the isolation system works as designed and is not overridden by operators, then this is admitted. See response B-7.

Admission B-9:

Failure of a PORV and block valve would not significantly affect the consequences of a large-break LOCA at the Diablo Canyon Nuclear Power Plant.

Response B-9:

Admitted.

Admission B-10:

Failure of a PORV and block valve would not significantly affect the consequences of a spectrum of small-break LOCA events already analyzed by the Applicant for the Diablo Canyon Nuclear Power Plant.

Response B-10:

This cannot be admitted since there is the possibility of erroneous behavior of the pressurizer function,

pressurizer level indication, and vessel level indication during a small break LOCA where there is also a PORV/block valve failure. Operator action and, thus, system behavior in the light of such possibly misleading information cannot be predicted with certainty.

Admission B-11:

Diablo Canyon's PORV's have successfully completed the EPRI test program

Response B-11:

Whereas samples of the PORV's used at Diablo have completed some parts of the testing successfully, data have not yet been provided or reviewed on the final results of the EPRI tests and the results of analyses of Diablo-specific piping, supports, instrumentation, and mounting configuration have also not been provided. Thus, this statement cannot be admitted

Admission B-12:

Two of the three PORV's and the associated block valves are connected to redundant emergency power supplies at Diablo Canyon.

Response B-12:

Admitted.

Admission B-13:

Diablo Canyon's PORV's and the associated block valves have been qualified as seismic Class 1 components.

Response B-13:

The FSAR is vague on this point (FSAR section 3.2, Table 3.2-4, sheet 25 of 38), stating that parts of the relief valve piping are design Class I but that Reactor Coolant System Valves may be Design Class I or II. PG&E has stated in the low power hearing that the valves are seismic Class I.

Admission B-14:

Diablo Canyon's block valves associated with the PORV's have been qualified as Seismic Class I components.

Response B-14:

See response B-13.

Admission B-15:

Diablo Canyon's PORV's have been environmentally qualified.

Response B-15:

This statement is ambiguous in that the term "environmentally qualified" is not defined.

The Applicant has submitted a response to NUREG-0588 (NRC Staff Interim Position on Environmental Qualification) and the NRC issued SER Supplement 15 to document their review but neither document addresses the PORV and block valves. Also, there is uncertainty as to the inclusion of ATWS environment in testing and qualifications completed to date.

Admission B-16:

Diablo Canyon's block valves associated with the PORV's have been environmentally qualified.

Response B-16:

See response B-15.

Admission B-17:

The NRC Staff concluded in NUREG-0460 "that the present likelihood of severe consequences arising from an ATWS event is acceptably small and presently there is no undue risk to the public from ATWS."

Response B-17:

Although this statement may be found in NUREG-0460, it does not present their total findings, which include "the present worth of both the direct and indirect risk of such an [ATWS] accident is between \$4.5 and \$3.5 billion..." (see NUREG-0460, Vol. 1, page 92) and that PORV operation has an impact on the effects of an ATWS accident (see NUREG-0460, Vol. 4, Appendix D).

Admission B-18:

ATWS is not a design basis event for Diablo Canyon and, therefore, it does not have to be protected against solely with safety grade equipment.

Response B-18:

ATWS was not included in the Diablo Canyon FSAR as a design basis event, but the latter half of the admission

statement is an opinion of the Applicant which is not necessarily shared by the Governor and certainly is not shared by the Affiant.

Admission B-19:

Power operated relief valves of the type utilized at Diablo Canyon were tested by EPRI for both steam and water flow.

Response B-19:

Admitted with the proviso that this does not extend to an admission of the adequacy and completeness of the EPRI results and the further proviso that the EPRI program is incomplete because it does not extend to associated equipment, instrumentation, controls, and supports.

Admission B-20:

Block valves of the type utilized at Diablo Canyon were tested by EPRI at rated steam flow conditions.

Response B-20:

"Rated...flow" is ambiguous. It is not clear if the "rated steam flow conditions" in the statement includes the conditions of steam flow expected for a worst case accident, ATWS conditions, and varying conditions of steam quality (up to and including two phase flow). The statement would suffice for the dry steam flow expected at rated conditions for operation of the reactor (e.g. 2250 psia and approximately 545°F).

Admission B-21:

No inadequacy in design or performance was identified by EPRI for the PORV's utilized at Diablo Canyon

as a result of EPRI testing.

Response B-21:

This cannot be admitted until the complete results are available and the Diablo-specific analysis is complete for piping and mounting configurations as well as valve performance. The Applicant does not plan to submit these results until July, 1982 (see 2/26/81 letter, P. Crane (PG&E) to Miraglia (NRC), page 3).

Admission B-22:

No inadequacy in design or performance was identified by EPRI for the block valves utilized at Diablo Canyon as a result of EPRI testing.

Response B-22:

See response B-21.

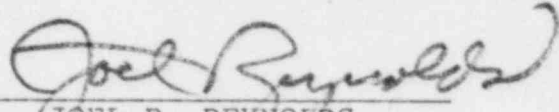
DATED: November 4, 1981

Respectfully submitted,

JOEL R. REYNOLDS, ESQ.
JOHN R. PHILLIPS, ESQ.
Center for Law in the
Public Interest
10951 W. Pico Boulevard
Los Angeles, CA 90064
(213)470-3000

DAVID S. FLEISCHAKER, ESQ.
P. O. Box 1178
Oklahoma City, OK 73101

By


JOEL R. REYNOLDS

Attorneys for Joint Inter-
venors
SAN LUIS OBISPO MOTHERS FOR
PEACE

SCENIC SHORELINE PRESERVATION
CONFERENCE, INC.

ECOLOGY ACTION CLUB
SANDRA SILVER
ELIZABETH APFELBERG
JOHN J. FORSTER

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of _____
PACIFIC GAS AND ELECTRIC COMPANY) _____
(Diablo Canyon Nuclear Power) _____
Plant, Unit Nos. 1 and 2, _____)

Docket No. 50-275 O.L.
50-323 O.L.


AFFIDAVIT OF

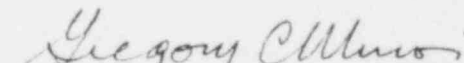
DALE G. BRIDENBAUGH, RICHARD B. HUBBARD, AND GREGORY C. MINOR

FOR JOINT INTERVENORS

DALE G. BRIDENBAUGH, RICHARD B. HUBBARD, AND GREGORY C. MINOR, being duly sworn, do say under oath that I, the undersigned have assisted in preparing and reviewing responses of Joint Intervenor to NRC Staff's Admissions Nos. A1-A8 and B1-B22. Said answers are true and correct to the best of my knowledge and belief.



Dale G. Bridenbaugh


Richard B. Hubbard


Gregory C. Minor

October 30, 1981

Subscribed and sworn to before
me this 30th day of October, 1981.


NOTARY PUBLIC

My commission expires: 10/5/84

