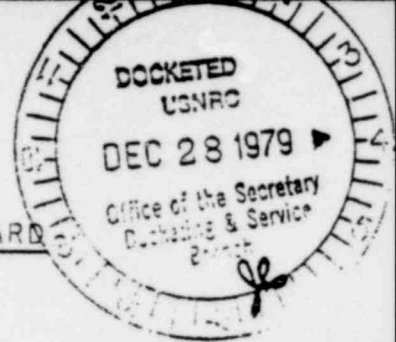


UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION



BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:)

SACRAMENTO MUNICIPAL UTILITY DISTRICT)

(Rancho Seco Nuclear Generating Station))

) Docket No. 50-312

CALIFORNIA ENERGY COMMISSION RESPONSES TO
LICENSEE'S FIRST SET OF INTERROGATORIES

Pursuant to 10 C.F.R. (§ 2.740(b), the California Energy Commission ("CEC") responds to the Licensee's First Set of Interrogatories, dated December 4, 1979.

Interrogatory 1. Provide responses to the questions and requests for information contained in the document "First Set of NRC Staff Interrogatories to the California Energy Commission (CEC)" dated November 9, 1979.

Response. Responses to the NRC Staff Interrogatories have been served on SMUD.

Interrogatory 2. Following the substantive response to each of Interrogatories 3 through 19 below, identify by name and affiliation each individual who has knowledge which served as the basis for that interrogatory.

Response. Mr. Clifford Webb of the CEC staff was the technical person who provided information for each response contained below.

Interrogatory 3. Define "increased challenges to safety systems." Does this refer to increased frequency of actuation and/or operation of safety systems?

Response. The increased challenges to safety systems mean the use of safety systems whose intended function was not to mitigate

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the consequences of a routine occurrence of a feedwater transient. This involves the use of safety systems not required to operate during normal plant operating conditions but are required at Rancho Seco in order to mitigate the consequences of a feedwater transient. Specifically included in this definition are the increased frequency of actuation or operation of safety systems that under normal transient conditions would have not been required unless an abnormal occurrence had occurred resulting from operator error, the misalignment of normally available systems and/or unexpected failures in normally available systems. Also included are those challenges to fuel rod integrity and/or the primary pressure boundary created by the use of a safety system to mitigate the consequences of an expected feedwater transient.

Interrogatory 4. Does "increase challenges to safety systems" have the same meaning as in CEC's answer to Interrogatory 3 above? If not, explain.

Response. Yes.

Interrogatory 5. Is it CEC's assertion that there may be poor understanding of natural convection in the Rancho Seco system? If so, explain the basis for this assertion.

Response. The basis for CEC's concern about an adequate understanding of natural circulation is the sequence of events and known operator actions which occurred at TMI during the accident of March 1979 where natural circulation failed to perform when expected, and fuel damage occurred. Specific documents which reference the poor understanding of natural convection (circulation)

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are NUREG-0560, NUREG-0600 and NUREG-0578. In addition, the CEC is concerned regarding this issue because we understand that some Rancho Seco operators did not show a clear understanding of natural convection when they were initially tested by the NRC Staff in connection with the training required by the May 7 Order. CEC is conducting discovery on this issue for the purpose of determining whether Rancho Seco personnel have an adequate understanding of natural convection (circulation) and whether a routine dependence on natural circulation is acceptable particularly under a spectrum of off-normal plant conditions.

Interrogatory 6. Identify the individual(s), by name or job description, who CEC alleges to have a poor understanding of natural convection in the Rancho Seco system.

Response. As stated above, pending further discovery the CEC does not at this time contend that any Rancho Seco personnel do or do not have an adequate understanding of natural convection. However, with respect to this issue the CEC is primarily concerned with the understanding of those who may be called upon to recognize whether adequate natural circulation cooling is occurring and to respond if it is not. The CEC understands that these responsibilities are principally given to plant operators.

Interrogatory 7. For each person or category identified in your answer to Interrogatory 6, explain in what respect(s) their understanding is considered to be inadequate and describe in detail the basis for your opinion that the understanding is inadequate.

Response. See response to Interrogatories 5 and 6.

Interrogatory 8. Describe, for each person or category identified in your answer to Interrogatory 6, the resulting "situation" referred to in this issue and the scenario or sequence of events which leads to the "situation", keeping in mind the modifications of subparagraphs a-e. Explain how each "situation" described might lead to adequate cooling.

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Response. See responses to Interrogatories 5 and 6.

Interrogatory 9. For each safety and/or relief valve in the primary system, what unsafe conditions do you consider might occur as a result of failure of such valve? Taking into account the modifications and actions of subparagraphs a-e, describe the basis for any allegation that each such alleged unsafe condition would occur as a result of valve failure.

Response. At TMI, failure of a PORV led to rapid pressure and volume reduction in the primary system. The valve failure, in combination with other actions, led to severe core damage and the long-term shutdown of an important electrical power source. It appears to CEC that despite the modifications and actions of subparagraphs a-e, future failure of valves is possible, and unsafe conditions of primary system voiding and the loss of radioactive primary coolant into containment may result. We are conducting discovery to test the adequacy of the changes.

Interrogatory 10. State in detail the basis for the proposition, implicit in this issue [Board Question CEC 1-6], that the Rancho Seco auxiliary feedwater system was in a condition of low reliability prior to the modifications of subparagraphs a-e. Identify any actual Rancho Seco operating experience upon which CEC relies.

Response. Pending further discovery, the CEC does not at this time contend that the Rancho Seco auxiliary feedwater system was in a condition of low reliability prior to these modifications. To the extent that such a contention is implied in this issue, it is due to the phrasing of the Board, not CEC. However, we note a similar implication in the NRR April 25, 1979, Staff Report and the May 7, 1979 Order of the NRC, both of which apparently sought to improve the reliability and availability of the auxiliary feedwater system.

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Interrogatory 11. Describe in detail the basis for CEC's concern that, despite the modifications of subparagraphs a-e, the Rancho Seco auxiliary feedwater system might be in a state of low reliability. Specify any particular subsystem(s) or component(s) which CEC considers may contribute to insufficient reliability. For each such subsystem or component, provide the basis for CEC's concern that a lack of reliability may exist.

Response. CEC does not contend at this time that the Rancho Seco auxiliary feedwater system is in a state of low reliability. However, we are concerned with this issue because of the failure of the TMI auxiliary feedwater system to respond promptly. In this regard, CEC is mainly interested in the alignment and operation of valves in the auxiliary feedwater system as well as the ability of operators to remotely check their position or operate them.

In addition, the CEC is concerned that despite administration and individual component reliability, the auxiliary feedwater system may be susceptible to failures occurring from fires, explosions, water supply, and seismic events. Lastly, CEC is concerned that the use of the auxiliary feedwater system for other than severe and unexpected occurrences may increase challenges to other integral plant systems and features and thereby increase the chances that such systems or features will fail to respond adequately to a feedwater transient.

Interrogatory 12. What is CEC's understanding of those operator training actions responding to subparagraph (d) of subparagraphs a-e which have already occurred or are planned at Rancho Seco.

Response. CEC cannot respond to this interrogatory because it does not comprehend what is meant by "understanding of these operator training actions. . . ." We will respond if clarification is provided. We do note, however, that our knowledge of operator

training at Rancho Seco is derived primarily from SMUD's and NRC's responses to CEC's discovery requests and, accordingly, CEC's "understanding" is based upon materials made available by parties to this proceeding. CEC expects to derive substantial knowledge in the future from review of SMUD documents (produced December 20, 1979 and from possible depositions of Rancho Seco operators).

Interrogatory 13. What is CEC's understanding of the attention already given to appropriate analytical bases for operator actions, in the training referred to in Interrogatory 12 above?

Response. Pending a thorough review of responses to interrogatories, CEC's understanding of attention already given to appropriate analytical bases for operator actions is limited to that documented by NUREG-0578 (pgs. A-42 thru A-45) which states that "substantive short-term improvement can be made through a combination of analyses, improved procedures, and improved training." CEC is unaware at this time of the degree of analytical bases provided to operators or the degree to which subsequent training since TMI has improved operator understanding of the analytical bases for procedures.

Interrogatory 14. Identify each operator action for which you consider that inadequate analytical bases have been provided in training. For each such action, identify the analytical bases which CEC believes are required for safety to be included in the training, describe the reasons why providing such analytical bases is considered to be necessary for safety, and describe the changes to operator training actions CEC believes are indicated in order to give "sufficient" attention to analytical bases.

Response. Pending further discovery, particularly careful review of SMUD documents produced on December 20, 1979, the CEC cannot answer this Interrogatory. An appropriate supplement will be provided at a later date.

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Interrogatory 15. What is CEC's understanding of the phrase "unsafe accumulation of steam or other gases"? Identify what "other gases" are referred to. Describe where in the primary system such unsafe accumulation would occur.

Response. CEC's understanding of the phrase "unsafe accumulation of steam or other gases" is (a) that accumulation which may inhibit natural circulation on primary coolant pump operation, or (b) that accumulation of hydrogen and oxygen which could create an explosion. It is CEC's understanding that these gases will migrate to hydraulic high points within the reactor vessel where vents are not available to remove these gases and for which licensing analyses have not been performed considering the accumulation and effects of these conditions.

Interrogatory 16. What is CEC's criterion for determining what quantity of steam or other gases would be considered unsafe?

Interrogatory 17. Describe in physical terms how such unsafe accumulation of steam or other gases might come about, despite the modifications and actions of subparagraphs a-e.

Interrogatory 18. Identify precisely what aspects of the physical configuration of the Rancho Seco primary system are considered to contribute to the alleged unsafe accumulation of steam or other gases in spite of the modifications and actions of subparagraphs a-e.

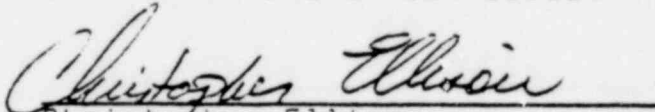
Response. CEC, at this time, has not determined precisely the quantity of steam or other gases which would be considered unsafe. Generally, however, any quantity which would affect core cooling processes would be deemed unsafe. These quantities could vary depending upon the responses made by operators. CEC understands that new modifications are being required to remove unsafe accumulations of gases. However, CEC does not yet understand exactly what the modifications or changes in procedures will be or when they will be

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made. Accordingly, CEC is conducting discovery on this issue.
Until completion of discovery, CEC can not describe precisely the
quantities or locations of steam or other gases which may be unsafe.

Respectfully submitted,

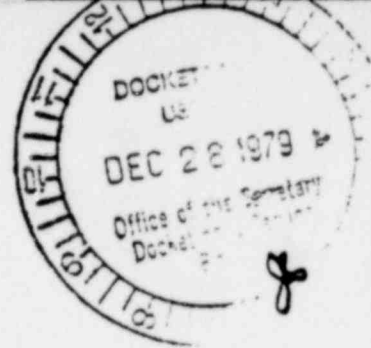
CALIFORNIA ENERGY COMMISSION


Christopher Ellison


Lawrence Coe Lanpher

Attorneys for the California Energy
Commission

Dated: December 24, 1979.



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NUCLEAR REGULATORY COMMISSION

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In the Matter of)	
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SACRAMENTO MUNICIPAL UTILITY)	Docket No. 50-312 (SP)
DISTRICT)	
(Rancho Seco Nuclear Generating)	
Station))	
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DECLARATION OF CLIFFORD M. WEBB

I, Clifford M. Webb, have consulted in and reviewed the attached California Energy Commission Responses to the First Set of Interrogatories of the Licensee. To the best of my knowledge, the answers set forth therein are true and correct.

Dated: December 24, 1979

Clifford M. Webb

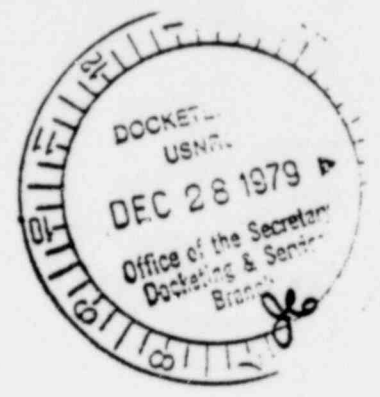
 CLIFFORD M. WEBB

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:)
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SACRAMENTO MUNICIPAL UTILITY)
DISTRICT)
)
Rancho Seco Nuclear)
Generating Station)
)

Docket No. 50-312



PROOF OF SERVICE

I, Debbie Jones, declare that on December 24, 1979, I deposited copies of the attached California Energy Commission's Responses to Licensees First Set of Interrogatories in the United States mail at Sacramento, California, with first class postage thereon fully prepaid and addressed to the following:

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Washington, D.C. 20555

I am and was at the time of the service of the attached paper over the age of 18 years and not a party to the proceeding involved.

I declare under penalty of perjury that the foregoing is true and correct.



Debbie Jones

Attachment

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