

August 18, 1982

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Washington, D.C. 20555

In the Matter of  
Sacramento Municipal Utility District  
(Rancho Seco Nuclear Generating Station)  
Docket No. 50-312 (SP)

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Dear Members of the Appeal Board:

This letter is to summarize and confirm the NRC Staff's response to the Appeal Board's questions posed in the August 13, 1982, telephone conference call. The conference call was placed by the Appeal Board in an attempt to resolve the outstanding items in its sua sponte review of the Atomic Safety and Licensing Board's Initial Decision, LBP-81-12, 13 N.R.C. 557 (1981).

NRC Staff participants in the conference were: John F. Stolz, Chief, Operating Reactors Branch No. 4, Division of Licensing; Warren Hazelton, Chief, Materials Engineering Branch, Division of Engineering; Mark L. Padovan, Licensing Project Manager for Rancho Seco; Martin R. Hum, Senior Materials Engineer, Materials Engineering Branch; Shou-nien Hou, Principal Mechanical Engineer, Mechanical Engineering Branch, Division of Engineering; Y. Hsii, Core Performance Branch, Division of Systems Integration; and the undersigned.

In the first question, it was noted that the Staff's "Affidavit of Ernest D. Sylvester," submitted on December 11, 1981 to the Appeal Board indicated that a revised reliability analysis was scheduled to be submitted by SMUD in

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January 1982, and was to be reviewed by the Staff. Affidavit, pg. 3. The Appeal Board inquired whether that analysis was submitted by SMUD and reviewed by the Staff. The Staff indicated that the revised reliability study of the Rancho Seco auxiliary feedwater (AFW) system was submitted by SMUD on January 18, 1982. This study has been contracted out for review by the NRC Staff to Brookhaven National Laboratory. Brookhaven's review is scheduled to be completed by September 30, 1982. Final Staff review of the reliability study will be completed before SMUD installs its proposed modifications to the AFW system which is currently scheduled for the refueling outage of January 1983. Since the revised reliability study pertains to the modified AFW system, completion of the Staff review is not necessary at this time.

With respect to the third question pertaining to the Staff's high pressure injection (HPI) nozzle analysis of thermal cycles, please refer to the attached affidavit of Shon-nien Hou. In addition, attached is the affidavit of Mark L. Padovan which supplies supplemental information in response to the Appeal Board's Memorandum and Order, dated April 15, 1982, concerning the problems associated with the missing thermal sleeve. The Staff's review of the thermal sleeve problem is incorporated in the safety evaluation report (SER) attached to Mr. Padovan's affidavit.

The Staff affidavits provide the following summary information relative to the HPI nozzle and sleeve problems which should prove useful to the Appeal Board. Rancho Seco has four HPI nozzles -- A, B, C and D. Upon inspection required by the Staff in April 1982, nozzle A was found to be cracked and the sleeve was missing. No cracking was found in nozzles B, C and D, but sleeve B was found to be loose. During the shut-down, SMUD replaced the A and B nozzle safe-ends, and the A and B thermal sleeves. The new thermal sleeves incorporated a new design to better secure the thermal sleeves inside the nozzle. Additionally, the licensee has committed to conduct ultrasonic and radiographic examinations of the four HPI nozzles during the next refueling outage. The Staff has found these actions to be acceptable. The Staff has also concluded that interim reactor operation with a thermal sleeve in the reactor vessel is acceptable until the next refueling outage (January 1983) when the sleeve will be removed. Finally, with respect to the Staff's analysis of the maximum allowable number of thermal cycles on the HPI nozzles, the Staff has determined that, based on a review that is approximately fifty percent complete, there is a significant margin between the number of fatigue cycles likely over the design lifetime of the plant and the allowable design limits. I trust that the information supplied in the affidavits, the submittal memoranda, and the SER will be fully responsive to your outstanding review concerns.

The Staff also indicated in the telephone conference that further information was needed from SMUD relative to the steam generator internal auxiliary feed-

water header problem. The satisfactory resolution of this remaining matter is required prior to the Staff's authorization of full power operation of the facility.

Sincerely,

Richard L. Black  
Counsel for NRC Staff

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