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Docket No. 50-312

Mr. J. J. Mattimoe
 Assistant General Manager and
 Chief Engineer
 Sacramento Municipal Utility
 District
 6201 S Street
 P. O. Box 15830
 Sacramento, California 95813

Dear Mr. Mattimoe:

SUBJECT: NUREG-0737, ITEMS II.E.1.2.1 AND II.E.1.2.2 - AUXILIARY
 FEEDWATER (AFW) AUTOMATIC INITIATION AND FLOW INDICATION

In your November 19, 1979, November 17, 1980 and September 8, 1981
 submittals, you described your proposed safety grade AFW automatic
 initiation and flow indication systems designs, and indicated that
 these modifications would be completed during the next refueling
 outage, presently scheduled to begin in January 1983.

We have completed our review of your proposed designs, and we conclude
 that your proposed AFW automatic initiation and flow indication systems
 designs are acceptable to the staff. Analogous to other NUREG-0737
 items, we will be forwarding to you model Technical Specifications
 for these systems in the near future.

Accordingly, items II.E.1.2.1 and II.E.1.2.2 will be considered
 complete for the Rancho Seco facility upon installation of these
 systems in accordance with the NRC approved design.

Sincerely,

"ORIGINAL SIGNED BY
 JOHN F. STOLZ"

John F. Stolz, Chief
 Operating Reactors Branch #4
 Division of Licensing

8209280275 820907
 PDR ADOCK 05000312
 P PDR

Enclosure:
 Safety Evaluation

cc w/enclosure:
 See next page

OFFICE	ORB#4:DL	C-ORB#4:DL				
SURNAME	MPadovan:cf	JStolz				
DATE	9/7/82	9/1/82				

Sacramento Municipal Utility
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Rancho Seco, Docket No. 50-312

cc w/enclosure(s):

David S. Kaplan, Secretary and
General Counsel
Sacramento Municipal Utility
District
6201 S Street
P. O. Box 15830
Sacramento, California 95813

Sacramento County
Board of Supervisors
827 7th Street, Room 424
Sacramento, California 95814

Business and Municipal Department
Sacramento City-County Library
828 I Street
Sacramento, California 95814

Regional Radiation Representative
EPA Region IX
215 Fremont Street
San Francisco, California 94111

Mr. Robert B. Borsum
Babcock & Wilcox
Nuclear Power Generation Division
Suite 220, 7910 Woodmont Avenue
Bethesda, Maryland 20814

Thomas Baxter, Esq.
Shaw, Pittman, Potts & Trowbridge
1800 M Street, N.W.
Washington, D. C. 20036

Herbert H. Brown, Esq.
Lawrence Coe Lanpher, Esq.
Hill, Christopher and Phillips, P.C.
1900 M Street, N.W.
Washington, D. C. 20036

Helen Hubbard
P. O. Box 63
Sunol, California 94586

Christopher Ellison, Esq.
Dian Gruevich, Esq.
California Energy Commission
1111 Howe Avenue
Sacramento, California 95825

Ms. Eleanor Schwartz
California State Office
600 Pennsylvania Avenue, S.E., Rm. 201
Washington, D. C. 20003

Docketing and Service Section
Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Resident Inspector/Rancho Seco
c/o U. S. N. R. C.
14410 Twin Cities Road
Herald, CA 95638

Dr. Richard F. Cole
Atomic Safety & Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Mr. Frederick J. Shon
Atomic Safety and Licensing Board
Panel
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Elizabeth S. Bowers, Esq.
Chairman, Atomic Safety and
Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Atomic Safety and Licensing Board
Panel
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Sacramento Municipal Utility
District

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Atomic Safety and Licensing Appeal
Board Panel
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Mr. Robert H. Engelken, Regional Administrator
U. S. Nuclear Regulatory Commission, Region V
1450 Maria Lane, Suite 210
Walnut Creek, California 94596

Alan S. Rosenthal, Chairman
Atomic Safety and Licensing
Appeal Board
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dr. John H. Buck
Atomic Safety and Licensing
Appeal Board
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Christine W. Kohl
Atomic Safety and Licensing
Appeal Board
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

California Department of Health
ATTN: Chief, Environmental
Radiation Control Unit
Radiological Health Section
714 P Street, Room 498
Sacramento, California 95814

SAFETY EVALUATION
RANCHO SECO - AUXILIARY FEEDWATER
AUTOMATIC INITIATION AND FLOW INDICATION
TMI ACTION PLAN ITEM II.E.1.2

INTRODUCTION AND SUMMARY

To improve the reliability of Auxiliary Feedwater Systems (AFWS) at pressurized water reactor (PWR) facilities, the staff is requiring licensees to upgrade the system where necessary to ensure safety grade automatic initiation and flow indication. The criteria for this upgrading are contained in NUREG-0737 (Clarifications of TMI Action Plan Requirements), Section II.E.1.2.

The evaluation of the Rancho Seco AFWS design was performed for the NRC by Franklin Research Center (FRC) as part of a technical assistance contract program. The results of the FRC evaluation are reported in the attached Technical Evaluation Report (TER - C5257 - 303).

Based on our review of the FRC TER and subsequent conversations with the licensee, we conclude that AFWS automatic initiation and flow indication designs are acceptable.

EVALUATION

The attached TER provides a technical evaluation of the electrical, instrumentation, and control aspects of the Rancho Seco AFWS with

regard to automatic initiation and flow indication. The TER notes that the design complies with the requirements of NUREG-0578, Sections 2.1.7.a and 2.1.7.b, and NUREG-0737, Section II.E.1.2, with the following exceptions:

- 1) No annunciation is provided for the override of the AFW system automatic initiation.
- 2) The present AFW flow indication system needs to be upgraded and a second safety-grade system needs to be installed in order to meet the requirements established for Babcock and Wilcox plants.

Subsequent to the Franklin Review, the Sacramento Municipal Utility District has indicated in letters both dated July 27, 1982 that control room annunciation will be provided when the AFW system automatic initiation is being overridden and that two distinct and separate safety-grade flow indication systems will be installed at the Rancho Seco plant. We find that the licensee's commitments to these design modifications provide an acceptable resolution to the concerns identified in the FRC TER. The apparent discrepancy in Section 3.4 of the FRC TER between the description of the number of wide-range and narrow-range level instrumentation and the number listed in the table is due to inclusion into the table of present and proposed instrumentation while the description includes only the proposed modifications.

The environmental qualification of safety related systems including AFWS circuits and components is being reviewed by the NRC Environmental Qualification Branch as part of their review of licensee responses to "Guidelines for Evaluating Environmental Qualification of Class 1E Electrical Equipment in Operating Reactors," issued to the licensee in IRR Letter dated March 5, 1980. In order to adequately determine from the control room the performance of the AFWS, steam generator level instrumentation is used, in addition to flow indication. The requirements for this steam generator level instrumentation are specified in Regulatory Guide 1.97 Revision 2 (R.G. 1.97 - "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident"). The steam generator level instrumentation at Rancho Seco will be in conformance with these requirements.

CONCLUSION

Based on our review of the Franklin Research Center TER, we conclude that the Rancho Seco AFWS automatic initiation and flow indication system's proposed design will comply with the staff's long-term safety grade requirements.

Technical Specifications, that include periodic testing of automatic initiation of the AFWS, will be requested from the licensee at a later date.

Dated: September 7, 1982

The following NRC personnel have contributed to this Safety Evaluation: M. Wigdor, M. Padovan.