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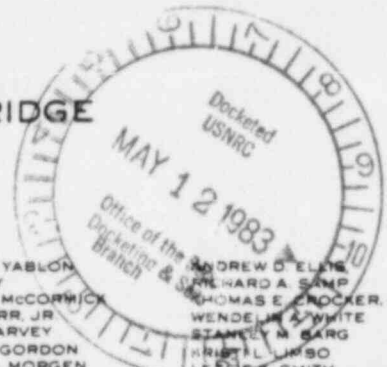
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WRITER'S DIRECT DIAL NUMBER

May 11, 1983

822-1090

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Dr. John H. Buck  
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Christine N. Kohl, Esquire  
Atomic Safety and Licensing Appeal  
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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

Administrative Judges Rosenthal, Buck and Kohl:

Please find enclosed, for your information, a copy of a letter from Licensee to the NRC Staff, dated April 28, 1983, and entitled "Emergency Feedwater Instrumentation and Control (EFIC) System; Upgraded Auxiliary Feedwater System (AFWS) NUREG 0737 Items II.E.1.2 and II.K.2.10." This letter provides new information with respect to the schedule for completing modifications at the Rancho Seco plant.

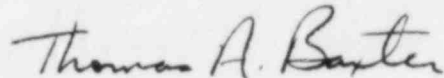
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Alan S. Rosenthal, Esquire  
Dr. John H. Buck  
Christine N. Kohl, Esquire  
May 11, 1983  
Page Two

I have also enclosed a letter from Licensee to the NRC Staff, dated May 2, 1983, and entitled "Auxiliary Feedwater System (AFWS) Upgrade Review NUREG 0737 Item II.E.1.1." This letter provides additional information in support of the Staff's review of auxiliary feedwater system reliability.

Respectfully submitted,



Thomas A. Baxter  
Counsel for Licensee

TAB:jah

Enclosures

cc: Service List attached

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of )  
)  
SACRAMENTO MUNICIPAL UTILITY DISTRICT ) Docket No. 50-312  
)  
(Rancho Seco Nuclear Generating )  
Station) )

SERVICE LIST

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**SMUD**

SACRAMENTO MUNICIPAL UTILITY DISTRICT □ 6201 S Street, Box 15830, Sacramento, California 95813; (916) 452-3211

April 28, 1983

DIRECTOR OF NUCLEAR REACTOR REGULATION  
ATTENTION JOHN F STOLZ CHIEF  
OPERATING REACTORS BRANCH 4  
U S NUCLEAR REGULATORY COMMISSION  
WASHINGTON D C 20555

DOCKET 50-312  
RANCHO SECO NUCLEAR GENERATING STATION  
UNIT NO 1  
EMERGENCY FEEDWATER INSTRUMENTATION AND CONTROL (EFIC)  
SYSTEM; UPGRADED AUXILIARY FEEDWATER SYSTEM (AFWS)  
NUREG 0737 ITEMS II.E.1.2 AND II.K.2.10

Your November 15, 1982 letter, requested that the Sacramento Municipal Utility District submit detailed electrical schematic diagrams showing the automatic initiation circuitry and pump and valve control circuits. Accordingly, we are submitting the items detailed in Enclosure 1 which should provide adequate information for your review. The descriptions provided reflect changes to the "generic" EFIC design which were necessitated by Rancho Seco plant specifics. It should be noted that some additional minor modifications can be expected as detailed engineering work progresses. Should any changes affect the automatic initiation or pump/valve control logic, you will be informed of the details of the modification.

Regarding the schedule for installation and placing the upgraded AFWS in service, I would like to confirm our telephone conversation of March 28, 1983, and augment schedule information supplied to you in our April 15, 1983 submittal, regarding NUREG 0737, Supplement 1.

During that conversation, I and members of my staff informed you of the District's problem with installation of the EFIC/AFWS upgrade during the next refueling outage (which had previously been our plan). The problem centers around the main control room console(s) for indication and control of the EFIC/AFWS. The Rancho Seco control room is very compact and significant additions to the instrument and control requirements quickly escalate into major control room console changes. Due to cable pulling and termination requirements for console changes, qualification requirements for new consoles, instruments, indicators, etc., such changes require long outages for installation preceded by lengthy periods for hardware procurement. The current design of the Rancho Seco EFIC indicates that the necessary control room changes are of sufficient magnitude that we anticipate a very long outage to

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accommodate them. This situation becomes untenable when it is realized that the detailed control room design review (DCRDR) and Regulatory Guide 1.97 requirements of NUREG 0737, Supplement 1 also can cause modifications of a similar magnitude. Due to the length of time required to perform DCRDR and Reg. Guide 1.97 review plus design changes, hardware procurement, etc., it is not possible to plan to implement changes earlier than two refuelings beyond the current outage. Consequently, the District considers that installation of the EFIC control room consoles during the next refueling outage would require one extremely long outage and the results of the DCRDR and Reg. Guide 1.97 reviews would require a subsequent long outage which potentially could require redoing the same consoles modified for EFIC. Because of this situation, the District believes it to be impractical to implement EFIC prior to the startup of cycle 8. This is not to imply that no modifications will be made until the refueling outage prior to cycle 8. Following delivery and checkout, equipment can and will be installed during plant operation (where practical) and during planned and unplanned outages of sufficient duration (where an outage is required).

This change in schedule affects certain prior District commitments to the NRC. One significant effect is upon NUREG 0737, Item II.K.2.10; Safety Grade Anticipatory Trips. The Loss of Main Feedwater portion of this modification is to be made fully safety grade by implementation of EFIC as described in our December 14, 1982 letter. We consider this to be acceptable since only one non-safety grade component (the pressure switches) will remain in the system following the current refueling outage, thus the system will be safety grade in design but will include one non-pedigreed component. However, this schedule change does affect the NRC Order dated March 14, 1983, and we request exemption from that portion. This change does not affect Item II.E.1.2; AFW Initiation and Flow Indication, as described in the Order letter. Those changes will be implemented during the current refueling outage as previously described in the references given in the Order letter.

R. J. Rodriguez  
Executive Director, Nuclear

Enc

*JRC*

## ENCLOSURE 1

## LIST OF ATTACHMENTS

| B&W DOCUMENT<br>NUMBER | DOCUMENT TITLE  |
|------------------------|---|
| 15-1120850-03          | System Description for Auxiliary Feedwater System<br>for Sacramento Municipal Utility District Rancho<br>Seco |
| 1121327D-03            | Auxiliary Feedwater System P&ID   |
| 1122924F-00            | EFIC Organization   |
| 1122923E-01            | EFIC Logic 12 Steam Generator Control   |
| 1122927C-01            | EFIC Logic 3 Steam Generator Pressure   |
| 1122928C-01            | EFIC Logic 2 Steam Generator B Level Input  |
| 1122930C-01            | EFIC Logic 1 Steam Generator A Level Input  |
| 1122922D-02            | EFIC Logic 5 Initiate Logic   |
| 1122926E-00            | Trip Logic  |
| 1122925C-00            | EFIC Logic 6 Vector Logic   |
| 1122921C-00            | EFIC Trip Test Philosophy   |
| 1121322C-02            | CM&D Equipment OTSG Level Sensing   |
| 1122920B-00            | EFIC Symbology  |

# SMUD

SACRAMENTO MUNICIPAL UTILITY DISTRICT □ 6201 S Street, Box 15830, Sacramento, California 95813; (916) 452-3211

May 2, 1983

DIRECTOR OF NUCLEAR REACTOR REGULATION  
ATTENTION JOHN F STOLZ CHIEF  
OPERATING REACTORS BRANCH 4  
US NUCLEAR REGULATORY COMMISSION  
WASHINGTON DC 20555

DOCKET 50-312  
RANCHO SECO NUCLEAR GENERATING STATION  
UNIT NO 1  
AUXILIARY FEEDWATER SYSTEM (AFWS) UPGRADE REVIEW  
NUREG 0737 ITEM II.E.1.1

Your April 7, 1983, letter informed the Sacramento Municipal Utility District that all but three of the open items on our Upgraded AFWS review which were identified in your December 8, 1982, letter have been resolved. In the April 7, 1983, letter you identified the three items as: (1) protection of the AFWS from internal missiles, (2) additional protection for the condensate storage tank, and (3) pipe break analysis for all AFWS components including the existing components, and you requested further information to aid in resolution of these items by May 2, 1983. This letter contains the information we have available today toward this purpose.

~~Regarding item (1), as described in our April 27, 1983, letter, we have asked a contractor to provide a cost estimate and proposal to perform an internally generated missile study for the upgraded AFWS. The proposal which our contractor provided exceeds the scope which we consider necessary, and further evaluation will be required before the District can commit to perform this study. However, our review does indicate that since almost all of the system outside containment is either caged/missile protected, underground, or separated by considerable distance and intervening structures; mechanically there does not appear to be any significant risk due to internally generated missiles. Also, as documented in the Updated Safety Analysis Report, Section 5.1.2, the internal missile protection inside containment is adequate. The major area requiring further evaluation is the electrical equipment associated with the AFWS. The District requires an additional month to evaluate this study and will provide its position by June 3, 1983.~~

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Director of Nuclear  
Reactor Regulation  
Attn: John F. Stolz Chief

- 2 -

May 2, 1983

In our April 27, 1983 letter, we stated that the District could submit a proposed solution for item (2), additional protection for the condensate storage tank. Our proposed solution involves the addition of motor operators on two valves, PWC-076 and PWC-079, which isolate the backup water supply from Folsom South Canal and the Reservoir. This would allow our Operators to quickly open these valves to supply AFW pump suction in the event of damage to the condensate storage tank due to wind-generated missiles. The condensate storage tank currently has a low alarm at ~ 42', a low-low alarm at ~ 29' 3", and a low-low-low alarm equivalent to ~ 30,000 gallons. These alarms provide ample warning of tank damage to the Operator and should provide well in excess of ten minutes for action before the tank is drained to the point of loss of required NPSH for the AFW pumps as a result of the design missiles. However, we have investigated the installation of the motor operators and find that the existing valves are located in such tight quarters that addition of motors will not be possible without rerouting of pipe or substantial structural modification of the pump missile protection. Due to this problem, we estimate the cost of such a modification to be in excess of \$250,000. Consequently, it is not clear that the modification is cost-beneficial. The District will require additional time to evaluate other alternatives such as missile protection for the lower portions of the tank or alternate locations for valves and remotely controlled valve operators. The District will provide its position on this item by June 3, 1983.

The third item (3), pipe break analysis, appears to be near resolution. The District has previously committed to perform a pipe break analysis for the upgraded portions of the AFWS. Our review indicates that the pipe break analysis for the existing system will prove to be adequate under current criteria. The District feels that no new high energy lines are likely to be identified which could affect both trains of AFW. However, if such lines are identified as a result of the line-break analysis, which is currently underway, ~~their effect on the AFWS will be analyzed and corrective action taken as~~ required. The District finds no problems with moderate energy line breaks and associated impingement or flooding. It should be noted that the pumps are located outside, are weather proof, and drainage is adequate to prevent flooding.

R. J. Rodriguez  
Executive Director, Nuclear

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