



**SMUD**

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

October 5, 1982

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  
LOADING OF AUXILIARY FEEDWATER PUMP ONTO A DIESEL GENERATOR-POWERED BUS

The District moved the diesel generator room supply and exhaust fans to block 3 of the loading sequence to improve transient motor starting voltages. At the time, the nuclear service raw water pump was the only load in block 3. Since then, the commitment to automatically load the auxiliary feedwater pump on the diesel and establish flow to the steam generator within 50 seconds has dictated that we sequence the auxiliary feedwater pump onto the bus at 35 seconds. To resolve the concerns stated in your letter, we are moving the diesel generator room supply and exhaust fans to block 4. These motors will be sequenced on the bus at 45 seconds, 10 seconds after the start of the auxiliary feedwater pump. Previously, the reactor building spray pump, starting at 300 seconds, was the only load in block 4. See proposed loading sequence (Table 8-2-2) attached.

In our letter (Mattimoe to Stolz) dated July 21, 1982, we provided test results on block 3 loading that showed that the voltage recovered to 3744 volts (90% of 4160V) in 52 cycles and that the frequency dipped to only 59.2 Hz (98.67% of 60 Hz). This gives us a 246% margin of satisfying the voltage and frequency excursion limits permitted by Regulatory Guide 1.9 within the required 3 second time interval (60% of 5 seconds). In addition, the frequency has reached steady state at 2.5 seconds and the voltage at 4 seconds.

The District's position is that the data provided adequately demonstrates that the diesel generator and its loads will not be adversely affected by the addition of the auxiliary feedwater pump to the diesel generator automatic loading sequence, and that Regulatory Guide 1.9 limits are not

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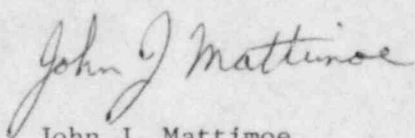
John F. Stolz

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exceeded. Another test of the sequential loading of the diesel will not provide any more information than we have already provided. For this reason, we believe that the retest is unnecessary. Therefore, the District does not commit to perform a sequential loading test of the diesel generator as requested.

If we can provide any further clarification in this matter, please advise.



John J. Mattimoe  
General Manager

TABLE 8.2-2  
NUCLEAR SERVICE BUS (EACH) LOADING SEQUENCE

Loading Sequence	Quantity	Description	Acc. Time Sec.	Nameplate Rating hp (Total)	Expected Load## (Total)	Starting Load VA
Block 1 - Energize at:	1	Decay heat pump (low pressure inj.)	0.9	350	347 hp	2030
A. 0 + 15 sec						
B. 10 sec after loss	2	Reactor Building upper dome air circulators	5.3	60	60 hp	416
C. 0 + 0 sec	1	Motor control center (miscellaneous load)	1	120*	120 hp*	995
A. 0 + 18 sec**						
B. 13 sec after loss*	1	Makeup pump (high-pressure inj.)	0.7	700	790#	3990
C. 0 + 3 sec**						
Block 2 - Energize at:	1	Reactor Building emergency air cooler	4.2	100	100 hp	588
A. 0 + 25 sec	1	Reactor Build. emerg. air cooler	5.8	75	75 hp	450
B. 20 sec after loss	1	Nuclear service cooling water pump	0.6	250	232 hp	1037
C. 0 + 16 sec						
Block 3 - Energize at:	1	Nuclear service raw water pump	0.6	420	410 hp	1900
A. 0 + 35 sec						
B. 30 sec after loss						
C. 0 + 26 sec						
Block 4 - Energize at:	1	Auxiliary Feedwater Pump	2.5	1000 hp	980 hp	5093
A. 0 + 40 sec						
B. 35 sec after loss						
C. 0 + 31 sec						
Block 5 - Energize at:	2	Diesel room ventilator fans	5.3	120	120 hp	840
A. 0 + 50 sec						
B. 45 sec after loss						
C. 0 + 36 sec						
Block 6 - Energize at:	1	Reactor Building spray system, including pump, or pressurizer heaters (manual control)	0.5	300	285 hp	1309
A. 0 + 300 sec						
B. 30 sec after loss or 300 sec after safety features actuation						
C. 0 + 300 sec						

\* Initial load is 220 hp decreasing to 120 hp after 90 seconds.

\*\* Startup of the make-up pump (high pressure inj.) is delayed 3 seconds to allow its bearing lube oil flow to get started.