

May 2, 2001

Mr. Harold B. Ray  
Executive Vice President  
Southern California Edison Company  
San Onofre Nuclear Generating Station  
P.O. Box 128  
San Clemente, CA 92674-0128

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION RE: LICENSE AMENDMENT  
REQUEST TO INCREASE REACTOR POWER FROM 3390 MWt TO 3438 MWt  
SAN ONOFRE NUCLEAR GENERATING STATION (SONGS) UNITS 2 AND 3

Dear Mr. Ray:

By letter dated April 3, 2001, you proposed changes to the SONGS Units 2 and 3 Technical Specifications. The purpose of the proposed changes is to obtain a power uprate on the basis of plant modifications that would result in improved accuracy of feedwater (FW) flow rate measurement, which is used to calculate reactor thermal power. The improved instrumentation will allow the licensee to operate the power plants with a reduced margin of 0.58 percent for instrumentation uncertainty and an increased power level of 1.42 percent of the licensed thermal power.

To complete its review of the proposed license changes, the Nuclear Regulatory Commission (NRC) staff requests the following additional information.

1. In Section 3.1 of your submittal, you indicated that the key design parameters for this amendment request fall at or between the current operating conditions (reduced Tcold) and the original plant design. In support of the stated bounding conditions, please provide a comparison of the key design parameters [Reactor Coolant System (RCS) pressure, RCS hot leg and cold leg temperatures, steam generator (SG) pressure, and SG outlet temperature, FW temperature and flow rate] for the proposed power uprate, the current operating (reduced Tcold), and the original plant design conditions.
2. In Section 3.3.3, you evaluated the reactor internals and stated that with little or no increase in thermal design flow and changes in the RCS temperatures there will be little or no changes in the boundary conditions experienced by the reactor internals components. You also indicated that increases in core thermal power will slightly increase nuclear heating rates in the reactor vessel internals, but the internals remain within the design capability of the system analysis. Please provide a summary of your evaluation to show that the flow and temperature increase in the reactor internals are bounded by the current design basis analysis of the reactor internals. Also, please confirm that there is no increase in the potential for the flow induced vibration for the reactor internal components.

3. In Section 3.4.2, you evaluated the structural integrity of the SGs and indicated that the existing structural and fatigue analysis of the SGs in SONGS Units 2 and 3 was reviewed by comparing the uprate condition to the current design basis analysis of record to determine if the analysis of record remain bounding. Please provide a summary of comparison for each of the design parameters (i.e., the primary and secondary system pressures and pressure differentials) between the current design basis and the power uprate condition. Also, please confirm that there is no increase in the potential for the flow induced vibration and fatigue usage for the U-bend tubes for the power uprate.
4. Please provide a summary of evaluations for the reactor vessel, pressurizer, and nuclear steam supply system piping. The information should include the existing minimum margin in stress and core uplift forces which will accommodate the slight changes for the 1.42 percent power uprate or to show that the component design basis temperatures or temperature differentials are bounding for the power uprate condition.
5. In Section 3.6.6 of your submittal, you indicated that the motor-operator valve (MOV) program at SONGS was set up in such a way that setpoints were established and MOVs were tested to demonstrate its capability to perform its safety-related function. MOV setpoint evaluations include several conservatisms, and small changes in the system operating pressure are not expected to impact the operation of these MOVs. You also indicated that the proposed increase in flow rate has no significant impact on the operation of gate and globe MOVs since the expected changes in the differential pressure are insignificant and that a small increase in flow rate would increase the valve sizing coefficients slightly for butterfly valves. Please confirm that the existing design basis analysis bounds the 1.42 percent power uprate condition associated with the system pressure, temperature, flow rate, and pressure and temperature differentials. Also, please confirm that there will be no impact on the plant safety-related valves including air-operated and MOVs and Generic Letter (GL) 89-10 MOV program, and that there are no changes in the post loss-of-coolant-accident conditions associated with GL 95-07 and GL 96-06, following the 1.42 percent power uprate.

On April 30, 2001, the NRC staff discussed its request with your staff who agreed to provide your response by May 18, 2001. If for some reason, you are unable to meet this date, please write or call me at (301) 415-1471.

Sincerely,

*/RA/*

L. Raghavan, Senior Project Manager, Section 2  
Project Directorate IV & Decommissioning  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-361 and 50-362

cc: See next page

3. In Section 3.4.2, you evaluated the structural integrity of the SGs and indicated that the existing structural and fatigue analysis of the SGs in SONGS Units 2 and 3 was reviewed by comparing the uprate condition to the current design basis analysis of record to determine if the analysis of record remain bounding. Please provide a summary of comparison for each of the design parameters (i.e., the primary and secondary system pressures and pressure differentials) between the current design basis and the power uprate condition. Also, please confirm that there is no increase in the potential for the flow induced vibration and fatigue usage for the U-bend tubes for the power uprate.
4. Please provide a summary of evaluations for the reactor vessel, pressurizer, and nuclear steam supply system piping. The information should include the existing minimum margin in stress and core uplift forces which will accommodate the slight changes for the 1.42 percent power uprate or to show that the component design basis temperatures or temperature differentials are bounding for the power uprate condition.
5. In Section 3.6.6 of your submittal, you indicated that the motor-operator valve (MOV) program at SONGS was set up in such a way that setpoints were established and MOVs were tested to demonstrate its capability to perform its safety-related function. MOV setpoint evaluations include several conservatisms, and small changes in the system operating pressure are not expected to impact the operation of these MOVs. You also indicated that the proposed increase in flow rate has no significant impact on the operation of gate and globe MOVs since the expected changes in the differential pressure are insignificant and that a small increase in flow rate would increase the valve sizing coefficients slightly for butterfly valves. Please confirm that the existing design basis analysis bounds the 1.42 percent power uprate condition associated with the system pressure, temperature, flow rate, and pressure and temperature differentials. Also, please confirm that there will be no impact on the plant safety-related valves including air-operated and MOVs and Generic Letter (GL) 89-10 MOV program, and that there are no changes in the post loss-of-coolant-accident conditions associated with GL 95-07 and GL 96-06, following the 1.42 percent power uprate.

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L. Raghavan, Senior Project Manager, Section 2  
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Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-361 and 50-362

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