

50-206

Southern California Edison Company



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June 7, 1983

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J. G. HAYNES  
MANAGER OF NUCLEAR OPERATIONS

Mr. John B. Martin  
U. S. Nuclear Regulatory Commission  
Region V  
1450 Maria Lane, Suite 210  
Walnut Creek, California 94596-5368

Dear Mr. Martin:

Subject: NRC IE Bulletin 83-03,  
Check Valve Failures In Raw Water  
Cooling Systems of Diesel Generators  
San Onofre Unit 1

This relates to NRC IE Bulletin No. 83-03, dated March 10, 1983, regarding testing of check valves in the diesel generator cooling water system for the San Onofre Nuclear Generating Station, Unit 1. The following information is in response to action items 1 through 6 of Bulletin 83-03.

- 1. San Onofre Unit 1 has two diesel generators. The enclosed P&ID's 5169252-0 and 5169262-0 illustrate the configuration of the diesel generator cooling water system. Four check valves have been identified to be in the flow path of cooling water to the diesel generators:

Discharge check valves DWS-309 and DWN-309 for the cooling water pumps DWS-G-16 and DWN-G-18, respectively.

Discharge check valves DWS-306 and DWN-306 for the keep warm pumps DWS-G-22 and DWN-G-24, respectively.

All four valves will be included in the in-service testing program required by the ASME Code. None of these valves has a previous history of failure.

- 2. San Onofre Unit 1 Technical Specification 4.4.B.1 requires an operability test for each diesel generator once every 31 days. To meet this specification, the diesel generator is run at  $\geq 4422$  kW (75% of rated load) for at least 60 minutes. The discharge check

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valve for the cooling water pump is forward flow tested monthly during the performance of the diesel generator test. The system configuration does not permit a back flow test on this valve.

3. The function of the keep warm pump is to maintain the cooling water system warm by circulating heated water stored in the jacket water standpipe, so that the diesel generators do not have to start from cold. This is a non-safety related function, and requires that the keep warm pump discharge check valve remain open all the time, except when the diesel generator is running. When the diesel generator has started running, the keep warm pump automatically shuts off, and the discharge valve is then required to be closed. This closed position is safety-related, since with the discharge valve still open, reverse flow could occur, causing the lube oil cooler to be by-passed, and lube oil temperature to increase. As part of the monthly diesel generator operability test, the lube oil temperatures are verified to be within limits, which provides indirect indication that the check valve is closed.
4. San Onofre Unit 1 is currently on an extended shutdown. To confirm the integrity of the valve internals, the following actions will be completed before the end of the outage. Both check valves in one diesel generator train will be disassembled and inspected for excessive abrasive and corrosive wear. If any abnormal conditions are discovered, then the two valves in the other diesel generator train will be disassembled and inspected. Any valves that show gross failure indications will be repaired or replaced, as necessary. However, if no abnormal conditions are detected during the current outage inspections, then the two check valves for each diesel generator train will be disassembled and inspected during every other refueling outage.
5. Unit 1 has a closed loop, chemically treated diesel generator cooling water system, as opposed to the raw water cooling water system described in Bulletin 83-03. A hydrazine-based corrosion inhibitor is added to maintain a pH of 7.4 to 9.5. As a result, the subject check valves are less susceptible to corrosive failure mode than the valves referenced in the bulletin. Therefore, the inspections proposed in 4. above are considered adequate to confirm valve integrity.

6. As required by IE Bulletin 83-03, the results of the initial inspection will be submitted to the NRC within 90 days of completion of the inspection and its results.

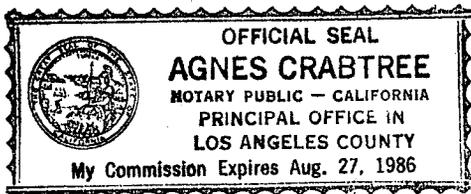
Should you have any questions or need further information, please call me.

Subscribed on this 7 day of June, 1983.

Respectfully submitted,

SOUTHERN CALIFORNIA EDISON COMPANY

By: J. G. Haynes  
J. G. Haynes  
Manager of Nuclear Operations



Subscribed and sworn to before me this 7<sup>th</sup> day of June, 1983.

Agnes Crabtree  
Notary Public in and for the County of  
Los Angeles, State of California

cc: U.S. Nuclear Regulatory Commission (Original)  
Document Control Desk  
Washington, DC 20555

L. F. Miller, USNRC  
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