

Public Service  
Electric and Gas  
Company

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January 5, 1987

NLR-N86195

Director of Nuclear Reactor Regulation  
United States Nuclear Regulatory Commission  
7920 Norfolk Avenue  
Bethesda, Maryland 20814

Attention: Mr. Vincent S. Noonan, Director  
PWR Project Directorate #5  
Division of PWR Licensing A

Gentlemen:

REQUEST FOR ADDITIONAL INFORMATION  
LICENSE CHANGE REQUEST 82-16  
SALEM GENERATING STATION  
UNIT NOS. 1 AND 2  
DOCKET NOS. 50-272 AND 50-311

The attached information is being provided to confirm the content of a conversation held with Mr. Walton Jensen of your staff relative to Public Service Electric and Gas Company's (PSE&G) License Change Request (LCR) 82-16, Semi-automatic Recirculation Switchover. Mr. Jensen requested clarification on PSE&G's method to address Loss of Coolant Accidents (LOCAs) in Mode 4 (Hot Shutdown). The attached information provides a description of the procedures used to address LOCA in Mode 4.

Should you have any questions, do not hesitate to contact us.

Sincerely,



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PDR ADOCK 05000272  
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Attachment

C Mr. Donald C. Fischer  
Licensing Project Manager

Mr. Thomas J. Kenny  
Senior Resident Inspector

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" " Add: Walton Jensen  
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ATTACHMENT TO NRL

Question 1

Please provide the following information:

- a. Describe operator actions for response to a LOCA in Mode 4 including transfer from injection to recirculation.
- b. Provide a brief description of the procedure used to transfer from injection to recirculation.
- c. What indications does an operator use to determine when to transfer from safety injection to recirculation?
- d. How much time is available and how long does manual switchover take?

Response

- a) Description of operator action for transfer to recirculation.

During Mode 4 operation, the Semi-automatic Switchover system is disarmed. If a LOCA were to occur during Mode 4 operation, the operator would initiate a manual safety injection IAW EI-4.17-Partial Loss of Reactor Coolant (Note: This procedure is presently being rewritten to address LOCAs in Mode 4 more specifically). Once safety injection is initiated, the operator will be directed to EOP-TRIP-1 - (Reactor trip/safety injection procedure) and would transition to EOP-LOCA-3 (Transfer to Cold Leg Recirculation). Step 3.9.3 of EOP-LOCA-3 requires that the operator monitors the Semi-automatic Switchover. If switchover does not take place or is in manual, the operator is required to perform the contingency actions of the procedure which shifts each train over to the containment sump.

- b) Brief description of Procedure

During a LOCA condition the operator is directed to EOP-LOCA-3 when the RWST Lo-Level Alarm activates. Once in EOP-LOCA-3, Step 3.9 aligns for recirculation and if Step 3.9.3 "Monitor RHR Pump Suction Switchover" cannot be performed automatically, as is the case during Mode 4 because the Semi-automatic Switchover is disarmed, the operator would have to manually perform the contingency action which aligns the proper valve lineup and operates the pumps necessary to begin recirculation.

- c) What indications does an operator use to determine when to transfer from safety injection to recirculation?

The RWST Lo-Level Alarm is used to direct the operator to begin cold leg recirculation. The low level setpoint is set high enough to ensure a sufficient volume is available in the RWST to allow the operator time to switch from injection to recirculation given the worst case single failure. This single failure is considered to be one which maximizes outflow from RWST. Instrumentation error is accounted for in determining this setpoint.

- d) How much time is available and how long does manual switchover take?

Drain down time of the RWST from the Lo-Level Alarm to the unusable water level with the assumption that the operator fails to stop one containment spray pump for conservatism, is calculated to be approximately 18.5 minutes. This calculation takes into account level instrument error. It is conservatively estimated that it would take the operator 13 minutes to complete the switchover. Thus the RWST Lo Level setpoint ensures sufficient time for the operator to change from injection to recirculation.