50-483

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 15, 1999

Mr. Garry L. Randolph
Vice President and Chief Nuclear Officer
Union Electric Company
Post Office Box 620
Fulton, Missouri 65251

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION - GENERIC LETTER 95-07, "PRESSURE LOCKING AND THERMAL BINDING OF SAFETY-RELATED POWER-OPERATED GATE VALVES" - CALLAWAY PLANT, UNIT 1 (TAC NO. M93443)

Dear Mr. Randolph:

On August 17, 1995, the NRC issued Generic Letter (GL) 95-07, "Pressure Locking and Thermal Binding of Safety-Related Power-Operated Gate Valves." In GL 95-07, the staff requested that licensees take actions to ensure those safety-related power-operated gate valves that are susceptible to pressure locking and thermal binding are capable of performing their safety functions.

In letters dated February 9 and February 15, 1996, Union Electric Company (UE) submitted its 180-day response to GL 95-07 for Callaway Plant, Unit 1. The NRC staff reviewed these submittals and requested additional information by letter dated May 30, 1996. UE responded by letter dated June 24, 1996. In order for the NRC staff to complete its evaluation of your responses to GL 95-07, the additional information discussed in the enclosure is requested.

The enclosed questions were discussed with your staff on February 4, 1999. Originally there were a total of eight questions, but during the February 4, 1999, telephone discussion, your staff provided clarifying information such that two of the questions were answered satisfactorily and do not require a written response. Consequently, they have been removed from the enclosed list of questions. These two questions pertained to (1) the basis for not considering the reactor water storage tank ( RWST) suction valves to residual heat removal (RHR) pumps (BNHV8812A and B) susceptible to pressure locking during shutdown cooling, and (2) the basis for not considering certain valves in the boration flowpath susceptible to pressure locking due to boric acid pump operation.

To assist the NRC staff in completing a timely review, we request that you respond to this request in writing within 30 days from the receipt of this letter.

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If you have any questions, please contact me at (301) 415-3021.

Sincerely,

Original Signed By

Mel Gray, Project Manager
Project Directorate IV-2
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-483

Enclosure: Request for Additional Information

cc w/encl: See next page

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REQUEST FOR ADDITIONAL INFORMATION

REGARDING RESPONSE TO GENERIC LETTER 95-07

"PRESSURE LOCKING AND THERMAL BINDING OF SAFETY-RELATED

POWER-OPERATED GATE VALVES"

UNION ELECTRIC COMPANY

CALLAWAY PLANT, UNIT 1

DOCKET NO. 40-483

1. The containment recirculation sump to residual heat removal (RHR) and containment spray pump suction valves, EJHV8811A/B and ENHV0001/7, were modified to eliminate the potential for the valves to pressure lock. Describe the modification and any calculations used to demonstrate that the valves are not susceptible to pressure locking. Explain why E HV8811A/B are not susceptible to pressure locking following operation of the RHR syst in the shutdown cooling mode, RHR pump surveillance testing and RHR injectio

2. By letter date June 24, 2996, Union Electric (UE) indicated that the boron injection tank outlet valves, EMHV8801A/B, are not susceptible to pressure locking because there is a large margin between actuator capability and the thrust required to overcome differential pressure, the valves are inservice tested, and the downstream piping is monitored to ensure that it is not pressurized from reactor coolant system leakage. The reasoning that a large margin exists between actuator capability and the thrust required to overcome differential pressure, and inservice testing demonstrate that these valves are not susceptible to pressure locking does not appear to provide a sound basis to preclude pressure locking in these valves. In addition, explain how downstream piping is monitored and what actions are taken if the header becomes pressurized. Either clarify your basis or provide appropriate actions to ensure that pressure locking is not a concern for these valves.

3. By letter dated June 24, 1999, UE indicated that the boron injection tank inlet valves, EMHV8803A/B, are not susceptible to pressure locking because the charging pump is operating when the valves are required to open. With a loss of off-site power, do the valves open when the charging pumps are not operating or are the valves sequenced to open after a charging pump has started and developed full discharge pressure? Are there any pressure locking scenarios where the valves will operate at locked rotor conditions until the charging pump develops full discharge pressure?

4. By letter dated June 24, 1996, UE indicated that the pressurizer power operated relief valve (PORV) block valves, BBHV8000A/B, are not a pressure locking concern. These valves are a pressure locking concern at other Westinghouse plants for steam generator tube rupture events. The pressure locking evaluations assume 2235 psig in the bonnet of the valves (parallel disk or flexible wedges and steam or water in the valve bonnet) and a reactor coolant system pressure of approximately 1400-1500 psig. Typically, these valves are modified or a calculation is used to demonstrate that the valves will operate during this pressure locking scenario. Explain why pressure locking is not a concern for the Callaway pressurizer PORV block valves.

5. Explain why the RHR to charging pump suction valves, EJHV8804A/B, and RHR to safety injection pump suction valves, EMHV8807A/B, are not susceptible to pressure locking. Discuss if the bonnets of these valves could be pressurized during shutdown cooling, RHR pump surveillance testing, and RHR pump injection, and if these valves would be required to open later at a lower RHR pump discharge pressure.

6. Explain why containment spray pump discharge valves, ENHV0006 and ENHV0012, are not susceptible to pressure locking following operation of the containment spray pumps with the discharge valves shut. Are there any pressure locking scenarios where the valves will operate at locked rotor conditions until the containment spray pump develops full discharge pressure?