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DUKE POWER

April 4, 1997

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Subject: Catawba Nuclear Station, Units 1 and 2
Dockets Nos. 50-413 and 50-414
Request for Additional Information Regarding
GL 95-07, "Pressure Locking and Thermal Binding of
Safety Related Power Operated Gate Valves"
(TAC NOS. M93446 and M93447)

By letter dated February 19, 1997 the NRC requested additional information regarding the Pressure Locking and Thermal Binding of Safety Related Power Operated Gate Valves as discussed in conference calls on January 23 and February 10, 1997. Changes in some of the GL 95-07 commitments required a response detailing the changes. The timeliness of this response meets the requested period of 45 days.

Please review the additional information and contact Martha Purser (803) 831-4015 with any questions.

Sincerely,

William R. McCollum, Jr.

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xc (with attachments):

L.A. Reyes, Regional Administrator, Region II

P.S. Tam, Senior Project Manager, ONRR

R.J. Freudenberger, Senior Resident Inspector, CNS

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**Duke Power Company
Catawba Nuclear Station, Units 1 and 2
March 31, 1997**

Response to NRC Request for Additional Information
NRC GL 95-07: Pressure Locking and Thermal Binding of
Safety-Related Power-Operated Gate Valves
Request dated February 19, 1997

**1. Valves 1(2)ND028A, 1(2)NI136B, 1(2)NS001B, 1(2)NS018A,
1(2)NS038B, 1(2)NS043A, 1(2)NV252A, 1(2)NV253B,
1(2)NI121A, 1(2)NI152B, 1(2)NI009A, and 1(2)NI010B:**

Each of these valves will be modified to preclude pressure locking. The refueling outage when each valve is currently planned for modification is listed below:

1(2)ND028A and 1(2)NI136B RHR Supply to Charging System

Valve 1 ND 028A will be modified during U1EOC10 in the fall of 1997. Valve 2 ND 028A will be modified during U2EOC10.

The modification to 1NI136B will be performed during U1EOC12. Valve 2NI136B will be modified during the U2EOC9 refueling outage in the fall of 1998.

**1(2)NS001B and 1(2)NS018A Containment Spray Pump
Containment Sump Suction**

Both 1NS001B and 1NS018A will be modified during U1EOC10 in the fall of 1997. The modifications to Unit 2 NS001B and NS018A will be made during U2EOC9.

1(2)NS038B and 1(2)NS043A RHR Containment Spray Header

Modifications to preclude pressure locking will be made to 1NS038B and 1NS043A during U1EOC11. The Unit 2 valves in this same application will be modified during U2EOC10.

1(2)NV252A and 1(2)NV253B Charging Pump Suction

Valves 1NV252A and 1NV253B will be modified during U1EOC12. Both 2NV252A and 2NV253B will be modified during U2EOC10.

1(2)NI121A and 1(2)NI152B SI Pump Hot Leg Injection

These Unit 1 valves will be modified during refueling outage U1EOC11. Valve 2NI152B will be modified during U2EOC9, but 2NI121A will be modified at the following Unit 2 outage, U2EOC10.

1(2)NI009A and 1(2)NI010B Chemical and Volume Control Pump Cold Leg Injection Isolation

Valve 1NI009A will be modified during the upcoming U1EOC10 outage in the fall of this year. 1NI010B will be modified during refueling outage U1EOC12. Both Unit 2 valves will be modified during U2EOC9 in the fall of 1998.

2. Valves 1(2) ND032A and 1(2) ND065B RHR Hot Leg Injection

During Catawba's initial GL 95-07 response, these valves were not evaluated for PL/TB concerns because the current UFSAR licensing basis does not take credit for RHR Hot Leg Recirculation. The following is the PL/TB evaluation for these valves:

VALVE TAG NUMBERS: 1(2) ND 032A, 065B

Valve Application: Nuclear Decay-RHR (ND) Pump Hot Leg Injection Isolation

Gate design: Flex Wedge

Manufacturer: Westinghouse

Safety function: Normally open for cold leg injection; closed for cold leg recirculation to provide train separation and passive failure protection in the manual alignment for cold leg recirculation. Note: Only the LOCA will be addressed, since Non-LOCA accidents do not require sump recirculation.

Pressure Locking/Thermal Binding Evaluation: Once this valve is closed after transferring to cold leg recirculation, the only reason for opening the valve is to align the ND System for hot leg recirculation in order to prevent boron precipitation in the core. When the valve is closed, ND pump discharge pressure is 210 psig (maximum), and the temperature is 190 degrees F (maximum). When the valve is opened for hot leg recirculation 7 hours into an accident, there would be pump discharge pressure on upstream side of the valve, precluding hydraulically-induced pressure

locking. If the piping between the valve and the pump were to rupture, pressure could be trapped in the valve's bonnet. However, in that scenario, there would be no need to open the valve since either NI pump is capable of providing enough recirculation flow. Additionally, at hot leg recirculation when the valves are required to open, the ND system temperature would not exceed the temperature at valve closure. Therefore, thermally-induced pressure locking is not probable. Also, since the conditions at valve opening do not exceed the thermal binding screening criteria, thermal binding of these valves is not probable.

Conclusion: These valves are not susceptible to pressure locking or thermal binding.

Corrective Actions: None.

**3. Valves 1(2)NS012B, 1(2)NS015B, 1(2)NS029A, and 1(2)NS032A
Containment Spray Headers Isolation**

The NS System Operating Procedures, OP/1/A/6200/07 and OP/2/A/6200/07, are being revised to include steps that ensure these valves will be cycled after any evolution that could potentially pressurize the valves' bonnets. The procedure changes are currently being reviewed, and are in the approval process. Catawba PIP 0-C-95-1980 corrective action #9 will track this item to completion.