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ComEd

ESK-96-214

November 20, 1996

United States Nuclear Regulatory Commission
Washington, DC 20555

Attention: Document Control Desk

Subject: Quad Cities Station Unit 1 and 2
NRC Request for Additional Information for Generic Letter 95-07, dated June 5, 1996
NRC Docket Nos. 50-254 and 50-265

References: (a) ComEd Response to NRC Request for Additional Information - Generic Letter 95-07, dated June 28, 1996.

(b) NRC Request for Additional Information for Generic Letter 95-07, dated June 5, 1996.

In the Request for Additional Information, reference (b), the NRC posed the following question:

> **Regarding the potential susceptibility of valves 1(2)-2301-3, HPCI Turbine Steam Supply, to thermal binding, Commonwealth Edison's (ComEd) submittal states that these valves are closed hot after stroke testing or High Pressure Coolant Injection (HPCI) flow testing and remain hot prior to an initiation signal. Does ComEd have test data, such as temperature measurements of the valve body while open and later shut, to verify this assertion? If so, please provide these results for the staff's review.**

In ComEd's response to the NRC Request for Additional Information, reference (a), Quad Cities Station committed to collecting the test data and providing it to the NRC within 30 days of data collection. Although the data was collected in September 1996, due to an administrative oversight it was not forwarded as scheduled.

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Thermography scanning was performed on the HPCI steam supply valve bodies for both units. The data was collected before, during, and after runs of the HPCI system. The post HPCI run data was taken a minimum of 48 hours after the run. Unit 1 was at approximately 8% reactor power (initial high pressure run during startup), while Unit 2 was at 100% reactor power.

The point temperatures (degrees F) for each image are provided below. The temperatures shown are the temperatures at approximately one foot upstream of valve centerline, valve centerline (disk position), and one foot downstream of valve centerline.

UNIT 1 (degrees F)

	Upstream	Disk	Downstream
Before HPCI Run	513	405	362
During HPCI Run	390	400	396
After HPCI Run	511	421	359

UNIT 2 (degrees F)

	Upstream	Disk	Downstream
Before HPCI Run	526	431	335
During HPCI Run	530	528	523
After HPCI Run	521	429	333

The temperature point most important to the thermal binding concern is the valve body centerline (disk position). This area of the valve body would have to cool significantly to cause binding on the valve disk. The data collected shows that the worst case is Unit 2 which cools approximately 100 degrees F after valve closure. The data shows that the valve remains hot after closure and the HPCI run demonstrates that cooling 100 degrees F is not significant enough to cause thermal binding. The flexible wedge designed valve disk also minimizes thermal binding by "flexing" if the valve body contracts when cooling occurs.

If you have any questions concerning this letter, please contact Chuck Peterson, Regulatory Affairs Manager, at (309) 654-2241 extension 3602.

Respectfully,

E. S. Kraft, Jr.
Site Vice President
Quad Cities Nuclear Power Station

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