temperature and flow changes result in a calculated reactivity increase of 0.17%.

Supplement A to Unit 2 Cycle 2 Reload Submittal (also applicable to Unit 1) contains an analysis for a cold water transient due to loss of a 100°F feedwater heater. This analysis gives the following:

Peak Neutron Flux, %	Peak Heat Flux, %	Peak Steamline Pressure, PSIG	Peak Vessel Pressure, PSIG
115	114.7	1005	1053

The ratio of the actual temperature transient to the analyzed transient is,

$$\frac{17^{\circ}F}{100^{\circ}F} = 17\%$$

The analyzed heat flux (100°F) increase of 14.7% multiplied by 17% gives a calculated heat flux increase of 2.5% for the actual transient.

The actual thermal power increase was

$$\frac{2539\ MWt}{2474\ MWt} = 1.026 \text{ or a } 2.6\% \text{ increase}$$

This shows excellent agreement between calculated and actual transient analysis.

The cause of this event is attributed to inadvertent contact with the switch controlling MO-1-3203. This switch is located on the extreme forward portion of control panel 901-6 and is spring loaded to return to its normal position following actuation.

Corrective action consisted of inserting rods and decreasing recirculation flow to bring the transient under control and within normal limits. Subsequently, MO-1-3203 was again closed and normal power operation was resumed. In addition, a work request (1258-75) was issued to inspect the valve electrical circuits. No discrepancies were noted at the breaker or in any of the valve controls.

This event had no effect on the health and safety of the public because the cold water transient was immediately controlled. In addition, it is noted that the results of this transient compare favorably with the transient analysis provided.

Sincerely,

COMMONWEALTH EDISON COMPANY
QUAD-CITIES NUCLEAR POWER STATION

N. J. Kalivianakis
Station Superintendent

NJK/lk

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NJK-75-268

May 7, 1975

Mr. John F. O'Leary, Director
Directorate of Licensing Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20545

Reference: Quad-Cities Nuclear Power Station
Docket No. 50-254, DPR-29
Appendix A, Section 6.6.B.2.b.

Dear Mr. O'Leary:

The purpose of this letter is to provide you with details concerning an unusual event which occurred at Quad-Cities Nuclear Power Station, Unit One, on April 8, 1975. This report is submitted to you in accordance with the requirements of Technical Specification 6.6.B.2.b.

At 12:45 p.m. on April 8 with Unit 1 operating at 818 MWe, the Unit 1 operator noticed an unexpected increase in reactor power. He immediately began inserting rods and decreased recirc flow to 775 MWe. He then discovered the high pressure heater bypass valve (MO-1-3203) had opened resulting in a reactivity increase due to the lower reactor fe dwater inlet temperature.

This had resulted in the following conditions:

	INITIAL	FINAL
Feedwater Temperature (^{o}F)	338	321
MWe	818	820
MWt	2474	2539
Feedwater Flow (Mlb/hr)	9.75	10.0
Core Flow (Mlb/hr)	97.5	97.5

The decreased feedwater temperature caused a core inlet subcooling change of 2.425 BTU/lb. Using an inlet subcooling reactivity coefficient of 0.07 ΔK/BTU/lb (derived from General Electric Core Management Engineering Anamolies Surveillance Curve for Quad-Cities Unit 1 Cycle 2), the feedwater

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