



Commonwealth Edison
Quad-Cities Nuclear Power Station
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BBS-73-41

March 12, 1973

Mr. Angelo Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545

Reference: Quad-Cities Nuclear Power Station
Docket Numbers 50-254 - and 50-265
DPR-29 and 30, Appendix B, Section 1.1
and 3.1.A.

Dear Mr. Giambusso:

The purpose of this letter is to report chlorine residual concentrations in the discharge bay in excess of the limiting conditions for operation in the non-radiological technical specifications. The limit of 0.1 ppm free and combined chlorine in the discharge bay was exceeded on several occasions since my last report to you on this subject dated February 9, 1973.

On February 13, 1973, Bio-Test Laboratories sampled the discharge bay and the Mississippi River downstream of the diffuser pipe. The total chlorine residual in the river was less than 0.1 ppm at all times, however, the discharge bay total chlorine residual registered as high as 0.41 ppm. A total of 192 gallons of sodium hypochlorite was injected.

From February 13th to February 22, 1973 the system was operated in automatic with the circulating water flow direction from north to south. During this time, it was discovered that the feed cycle to the Northeast section of the unit one condenser was inoperable due to a relay failure. On February 22, 1973, station personnel sampled the discharge bay for free and combined chlorine during the injection of 252 gallons of sodium hypochlorite. The maximum free chlorine level was 0.2 ppm, while the maximum combined chlorine level was 2.2 ppm.

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Mr. A. Giambusso

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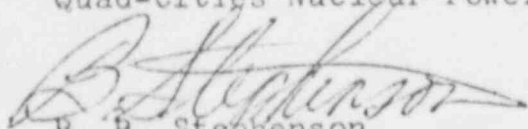
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Between the evening of February 22 to February 28, 1973 the entire sodium hypochlorite system was shutdown to repair the service water hypochlorite injection pumps.

During a condenser tube leak outage on Unit 2 on February 24, 1973, the tubes were inspected by chemists from the Commonwealth Edison Central Efficiency office. The amount of bacterial slime detected by sampling led them to conclude that chlorination in the past had been insufficient to prevent a build up. Based on their recommendation the frequency of injection was increased from once a day to three times a day and the injection rate fixed at 7 gpm. This program was initiated on March 3, 1973. Since each condenser half is chlorinated for 10 minutes, the total cycle consists of 40 minutes of injection every 8 hours. During the injection period residual chlorine levels in the discharge bay of 1.0 to 1.5 ppm have been observed. Although these residuals exceed the Limiting Condition for Operation, lower injection rates have proven to be ineffective. The frequency of injection is such that the LCO will be exceeded for less than 10 per cent of each day.

Very truly yours,

COMMONWEALTH EDISON COMPANY
Quad-Cities Nuclear Power Station



B. B. Stephenson
Station Superintendent

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