



Commonwealth Edison  
Quad-Cities Nuclear Power Station  
Post Office Box 216  
Cordova, Illinois 61242  
Telephone 309/654-2241

NJK-75-256

May 5, 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. 50-265, DPR-30  
Appendix A, Sections 1.0.A.2, 3.6.C.3, 6.6.B.1.a

Dear Mr. O'Leary:

Enclosed please find Abnormal Occurrence Report No. 50-265/75-15 for Quad-Cities Nuclear Power Station. This occurrence was previously reported to Region III, Directorate of Regulatory Operations by telephone on April 27, 1975 and to you and Region III, Directorate of Regulatory Operations by telecopy on April 28, 1975.

This report is submitted to you in accordance with the requirements of Technical Specification 6.6.B.1.a.

Very truly yours,

COMMONWEALTH EDISON COMPANY  
QUAD-CITIES NUCLEAR POWER STATION

N. J. Kalivianakis  
Station Superintendent

NJK/FRL/1k

cc: Region III, Directorate of Regulatory Operations  
J. S. Abel



50-265,  
Inquiry

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REPORT NUMBER: AO 50-265/75-15

REPORT DATE: May 5, 1975

OCCURRENCE DATE: April 26, 1975

FACILITY: Quad-Cities Nuclear Power Station  
Cordova, Illinois 61242

IDENTIFICATION OF OCCURRENCE:

Reactor made critical with reactor water chloride concentration greater than 0.1 ppm.

CONDITIONS PRIOR TO OCCURENCE:

Unit 2 had been shutdown following the initial post-refueling startup to change control rod patterns.

DESCRIPTION OF OCCURRENCE:

The unit was being started up following the cycle one refuel outage. The following events occurred:

<u>Date</u>	<u>Time</u>	<u>Event</u>	<u>Conductivity</u>	<u>Chlorides</u>
3/24	9:05 pm	Pulling rods for criticality		
	10:12 pm	Critical		
	----	Reactor water samples during startup	1 $\mu$ mho/cm	$\leq 0.03$ ppm
3/25	7:30 pm	Reactor water sample	2 $\mu$ mho/cm	0.075ppm
	11:30 pm	Reactor water sample	5.8 $\mu$ mho/cm	0.32ppm
3/26	1:45 am	Generator synchronized		
	1:20 pm	Shutdown for control rod pattern change		
	5:00 pm	Reactor water sample	8.65 $\mu$ mho/cm	0.295ppm
	7:02 pm	Pulling rods for criticality		

Shortly thereafter, it was realized that Technical Specification 3.6.C.3 had been exceeded by starting up with a chloride concentration greater than 0.10 ppm. An orderly shutdown commenced at 8:32 pm on April 26, 1975.

May 5, 1975

DESIGNATION OF APPARENT CAUSE:

## Equipment failure

The apparent cause of this occurrence is attributed to a reoccurring component failure. While investigating for a possible condenser tube leak on April 28, it was discovered that the plug in a previously identified leaking condenser tube had come out, thus allowing cooling water inleakage into the hotwell and subsequent high ion concentrations in the reactor.

ANALYSIS OF OCCURRENCE:

Any stress corrosion damage resulting from chloride attack on the system or its components is negligible due to the conservative nature of the limit and the short time the reactor was operated in this manner. There were no hazards or potential hazards on the health and safety of the public.

CORRECTIVE ACTION:

The initial corrective action was to initiate reactor shutdown. This was done at 8:32 pm April 26. After completion of shutdown, blowdown from the reactor to the hotwell commenced so that the condensate demineralizer system and the condensate makeup could be used to reduce the conductivity and the chloride concentration. By 8:45 am April 27, the conductivity had been reduced to 1.15  $\mu\text{mho/cm}$  and the chloride concentration to less than .03 ppm. At 11:05 am April 27, control rods were pulled for another startup. By 3:05 am April 28, an orderly shutdown was again initiated due to a conductivity of 3.05  $\mu\text{mho/cm}$  in the reactor water and 1  $\mu\text{mho/cm}$  in the hotwell. The chloride concentration during this period from startup to shutdown was maintained at 0.03 ppm or less. Subsequent identification and replugging of a previously identified leaking condenser tube corrected the problem.

FAILURE DATA:

There is no previous data of a reactor startup with condenser cooling water inleakage. Previous condenser leaks have occurred during power operation. Cumulative experience with condenser tube leaks has shown there to be no adverse safety implications since corrective action has always been quickly taken to re-establish the reactor water quality within allowable limits.