



Commonwealth Edison  
Quad-Cities Generating Station  
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NJK-74-350

October 28, 1974



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

Reference: Quad-Cities Nuclear Power Station, Unit 1  
Docket No. 50-254, DPR-29, Appendix A  
Sections 1.0.A.2, 3.7.B.1, 3.8.B.2.a, and 6.6.B.1.a

Dear Mr. O'Leary:

Enclosed please find Abnormal Occurrence Report No. AO-50-254/74-34 for Quad-Cities Nuclear Power Station. This occurrence was previously reported to Region III, Directorate of Regulatory Operations by telephone on October 19, 1974, and to you and Region III, Directorate of Regulatory Operations by telecopy on October 21, 1974.

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/jeh

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

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REPORT NUMBER: AO 50-254/74-34

REPORT DATE: October 28, 1974

OCCURRENCE DATE: October 19, 1974

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

IDENTIFICATION OF OCCURRENCE:

Discharge of I-131 from the main chimney exceeded  $6 \mu\text{Ci/sec}$ .

CONDITIONS PRIOR TO OCCURRENCE:

Unit 1 in RUN mode following start up and increasing power at 80 MWe/hr.  
Unit 2 in RUN mode at approximately 600 MWe.

DESCRIPTION OF OCCURRENCE:

Unit 1 and 2 primary containments were sampled and vented at various times on October 18, following inerting. The maximum I-131 concentrations at the time of the above drywell/torus ventings are as follows:

<u>UNIT</u>	<u>TIME VENTING STARTED</u>	<u>TIME SAMPLE TAKEN</u>	<u>CONC., <math>\mu\text{Ci/cc}</math></u>
1	8:00 a.m., Oct. 18	4:30 a.m., Oct. 18	$4.33 \times 10^{-9}$
2	12:40 p.m., Oct. 18	5:06 a.m., Oct. 18	$3.58 \times 10^{-8}$
2	10:10 p.m., Oct. 18	6:29 p.m., Oct. 18	$1.96 \times 10^{-8}$
1	12:15 a.m., Oct. 19	10:30 p.m., Oct. 18	$7.24 \times 10^{-9}$

The Unit 2 Reactor Building I-131 concentration was  $6.6 \times 10^{-10} \mu\text{Ci/cc}$  based on a vent stack sample taken October 18. Since the Unit 1 Reactor Building Vent System was on SGTs the entire day, its I-131 concentration was assumed to be approximately  $5.5 \times 10^{-10} \mu\text{Ci/cc}$ , based on vent stack sample taken October 17. At 1:45 a.m. on October 19, the main chimney halogen and particulate filter was pulled as part of daily routine sampling. Subsequent analysis of these filters indicated the daily discharge for I-131 had been 133.7% of Technical Specification 3.8.B.2.A for October 18, 1974.

Subsequent investigation revealed that two minor steam leaks, one in each turbine building, were identified the morning of October 18. Further investigation revealed that the 1/2B-SGTs was operating at 8.3% I-131 removal efficiency. The 1/2A-SGTs tested satisfactorily.

DESIGNATION OF APPARENT CAUSE OF OCCURRENCE:Component Failure:

The apparent cause of this occurrence is designated as component failure. The primary cause of the I-131 release rate being exceeded was due to the SSGTS charcoal filters being exhausted. Thus, while venting the drywells, the I-131 activity was not properly filtered by the charcoal filters. Secondly, the steam leaks in the turbine building contributed to the total I-131 activity at the main chimney as identified by the chimney cartridge samples.

ANALYSIS OF OCCURRENCE:

Although the I-131 discharge limit had been exceeded, the health and safety of the general public were not compromised due to this occurrence. The limit itself is set at a low value for this purpose. Neither of the steam leaks were of major proportion, and no other plant activities were taking place which could have increased the possibility of a major radiation release condition. The duration of the excessive I-131 release was short, thereby minimizing the safety implications of this occurrence.

CORRECTIVE ACTION

The initial corrective action taken was to resample the main chimney I-131 filter. This was done at 10:20 a.m. October 19. Subsequent analysis indicated the daily discharge of I-131 extrapolated for that day to be 26.6% of Technical Specification. At 3:48 p.m., October 19, an I-131 removal efficiency test was run on 1/2B-SGTS. This test was also run on 1/2A-SGTS at 4:04 p.m. Analysis showed the I-131 removal efficiencies to be 8.3% and 70.6% respectively. Work was begun at 8:50 p.m. to change the 1/2B-SGTS charcoal bed and to steam clean the demister. At 9:40 p.m., a load decrease of 20 MWe/hr was commenced on both units. By 4:00 a.m., October 20, the 1/2B-SGTS was returned to service and a freon test was immediately run. A successive freon test was also run on 1/2A-SGTS. Subsequent analysis showed leak tightness of 99.99% and 99.98% respectively. Following these tests the load drop was terminated at 4:15 a.m. At 4:47 a.m. an I-131 removal efficiency test was run on 1/2A-SGTS and at 5:58 a.m. on 1/2B-SGTS. Subsequent analysis showed the I-131 removal efficiencies to be 83.2% and 87.2% respectively. Another I-131 removal efficiency test was run on 1/2A-SGTS at 2:22 p.m. October 20. Subsequent analysis indicated an I-131 removal efficiency of 87.0%.

Since this occurrence, the I-131 daily discharge from the main chimney has been as follows:

<u>DATE</u>	<u>% OF TECH. SPEC.</u>
10-19-74	20.1
10-20-74	13.08
10-21-74	15.93
10-22-74	25.65
10-23-74	15.52
10-24-74	19.64

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The two steam leaks in the Units 1 and 2 Turbine Buildings had been repaired on the day shift, October 18.

Corrective action being planned for the near future is to procure and install in the SBGTS test charcoal cells. These cells will have sample cartridges built in that will be able to be removed periodically for analysis of the charcoal adsorption efficiency. These plans are being made to be in conformance with AEC Regulatory Guide 1.52.

FAILURE DATA:

There are no records of previous failures or cumulative experience related to this occurrence.