



**Commonwealth Edison**

Quad Cities Nuclear Power Station  
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*DCD/DCB*

RLB-93-069

March 31, 1993

Mr. A. Bert Davis  
Regional Administrator  
U.S. Nuclear Regulatory Commission  
Region III  
799 Roosevelt Road  
Glen Ellyn, IL 60137

SUBJECT: Quad Cities Station Units 1 and 2  
Secondary Containment Capability  
Test Summary Technical Report  
NRC Docket Nos. 50-254 and 50-265

REFERENCES: LER 1-93-002

Dear Mr. Davis:

Attached, in accordance with Section 6.6.c.4 and Table 6.6-1 of Appendix A to DPR-29 and DPR-30, is a summary of the Secondary Containment Leak Rate Test performed for the Quad Cities Station Units 1 and 2 Reactor Buildings on March 2, 1993. This test was performed in accordance with Section 4.7.C.1.c of the Quad Cities Units 1 and 2 Technical Specifications.

Very truly yours,

R. L. Bax  
Station Manager  
Quad Cities Nuclear Power Station

RLB/DS/jmk

Enclosure

cc: T. E. Taylor, Senior Resident Inspector, Quad Cities

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*Test 1*

## Quad Cities Nuclear Power Station

### Units 1 and 2

#### Secondary Containment Leak Rate Test Summary

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##### Introduction

Prior to the Unit Two Refueling Outage at the End of Cycle Twelve operations, a Secondary Containment Leak Rate Test was performed on the combined volume of the Unit One and Unit Two Secondary Containment Building. The test was performed to demonstrate the ability of the Standby Gas Treatment System (SBGTS) to maintain a quarter of an inch of water vacuum in both Reactor Buildings simultaneously with a filter train flow rate of not more than 4000 cfm. The test was conducted with a local filter train flow rate of 4000 cfm.

##### Secondary Containment Capability Test

The test was initiated at 0534 hours on March 2, 1993 with the 'A' and 'B' SBGTS trains in primary by simulating a "HI" radiation signal in the Reactor Building Ventilation Monitors. This action isolated the Reactor Building Ventilation systems, stopping all supply and exhaust fans, and starting both of the SBGTS trains. The 'A' train of SBGTS was then stopped. When equilibrium conditions were reached, differential pressure readings were taken.

##### Test Results

Data on wind speed, wind direction, building inside and outside temperatures, and differential building pressures were obtained for SBGTS flow rate of approximately 4000 cfm on the 'B' filter train. The test data represents the "as-found" condition of the Secondary Containment Building.

A leak in the Secondary Containment was induced during the test. The purpose was to obtain data in order to quantify the performance of the Secondary Containment in a degraded condition. The leak was induced by opening a four inch fire header from outside to the Reactor Building.

There was no correction performed for the building to atmosphere differential temperature.

## SUMMARY OF TEST DATA

March 2, 1993

### Quad Cities 1 & 2 Reactor Building Leak Rate

'B' SBGTS Train

<u>Flow (cfm)</u>	<u>Differential Wall Pressure (inches of water)</u>				
	<u>North</u>	<u>South</u>	<u>East</u>	<u>West</u>	<u>Average</u>
4000	-0.300	-0.300	-0.325	-0.255	-0.295

### Induced Leak Rate Results

<u>Flow (cfm)</u>	<u>Differential Wall Pressure (inches of water)</u>				
	<u>North</u>	<u>South</u>	<u>East</u>	<u>West</u>	<u>Average</u>
4000	-0.270	-0.280	-0.275	-0.245	-0.268

### Summary of Wind and Temperature Conditions

Temperature (deg. F):    Indoor        79 F  
                                 Outdoor     32 F

Wind Velocity (MPH):    6.3 - 10.1

Wind Direction:         North-East (67 - 74 deg)

Elevation Above Grade Level (feet):        196

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The results of the test indicate that the SBGTS is capable of maintaining a quarter of an inch of water vacuum under calm wind conditions with a filter train flow rate of no more than 4000 cfm. Average building differential pressure for the train results in -0.295 inches of water, indicating adequate performance of the Secondary Containment and Standby Gas Treatment System.