



**Commonwealth Edison**

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September 26, 1984

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Subject: Quad Cities Station Units 1 and 2  
Draft Technical Specification  
Amendment Appendix J Testing -  
Containment Personnel Airlock  
NRC Docket Nos. 50-254 and 50-265

References (a): D. B. Vassallo letter from D. L. Farrar  
dated June 12, 1984.

Dear Mr. Denton:

The referenced letter denied our request for specific exemptions from 10 CFR 50.54(o) and Appendix J on the testing of the containment personnel airlock. Instead, the Staff amended our request but still requires to perform testing every six months and requires some testing at Pa (48 psig). Specifically, testing at Pa may be extended to the next refueling outage, but in no case shall exceed 24 months from the last test at Pa, provided that there have been no airlock openings since the last successful test at Pa and a Pa test is performed following the next airlock opening. A reduced pressure test or testing between seals shall be performed every six months. Our review of this exemption finds, in short, that we cannot comply.

The containment personnel airlock is designed to withstand pressure from one side, the containment, with minimal leakage. We question the structural integrity of the airlock, specifically the inner door, when testing between the two doors at Pa. To resolve that question we are performing an engineering design review of the inner airlock door's pressure retaining capability with or without the hold-down beams installed.

In recognition of the design characteristics of these doors, we have enclosed for your review DRAFT proposed Technical Specification changes which we still believe may meet the intent of Appendix J to 10 CFR 50. Following your review we will formally submit these proposed amendments with appropriate fees pursuant to 10 CFR 170.

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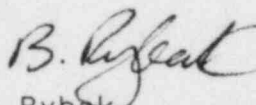
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Finally, we are attaching a table which summarizes the Type B testing history on the containment personnel airlock at both units at Quad Cities. As can be seen from this record, Quad Cities' airlocks have shown acceptably low or zero leakage since the first tests done in 1970.

Please direct any questions that you may have regarding this matter to this office.

One signed original and forty (40) copies of this transmittal are provided for your use.

Very truly yours,



B. Rybak

Nuclear Licensing Administrator

lm

cc: R. Bevan - NRR  
NRC Resident Inspector - Quad Cities

Attachments A: DRAFT Technical Specification Amendment  
to DPR-29 and DPR-30.  
B: Quad Cities Containment Personnel Airlock Test  
History

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ATTACHMENT A

QUAD CITIES STATION UNITS 1 and 2

DRAFT TECHNICAL SPECIFICATION AMENDMENT FOR  
PERSONNEL AIRLOCK TESTING (APPENDIX J)

- b)  $\leq L_t$ , 1.0 percent by weight of the containment air per 24 hours at a reduced pressure of  $P_t$ , 25 psig.
- 2) A combined leakage rate of  $\leq 0.60 L_a$  for all penetrations and valves, except for main steam isolation valves, subject to Type B and C tests when pressurized to  $P_a$ .
- 3) 11.3 scf per hour for any one main steam isolation valve when tested at 25 psig.
- b. With the measured overall integrated containment leakage rate exceeding  $0.75 L_a$  or  $0.75 L_t$ , as applicable, restore the overall integrated leakage rate(s) to  $\leq 0.75 L_a$  or  $\leq 0.75 L_t$ , as applicable.
- c. With the measured combined leakage rate for all penetrations and valves, except for main steam isolation valves, subject to Type B and C tests exceeding  $0.60 L_a$ , restore the combined leakage rate for all penetrations and valves, except for main steam isolation valves, subject to Type B and C tests to  $\leq 0.60 L_a$ .
- d. Leakage shall be limited to a leakage rate of less than or equal to 3.75 percent of  $L_a$  for any one air lock.
- b. If any periodic Type A test fails to meet either  $0.75 L_a$  or  $0.75 L_t$ , the test schedule for subsequent Type A tests shall be reviewed and approved by the commission. If two consecutive Type A tests fail to meet either  $0.75 L_a$  or  $0.75 L_t$ , a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet either  $0.75 L_a$  or  $0.75 L_t$ , at which time the above test schedule may be resumed.
- c. The accuracy of each Type A test shall be verified by a supplemental test which:
- 1) Confirms the accuracy of the test by verifying that the difference between the supplemental data and the Type A tests data is within  $0.25 L_a$  or  $0.25 L_t$ .
  - 2) Has a duration sufficient to establish accurately the change in leakage rate between the Type A test and the supplemental test.
  - 3) Requires the quantity of gas injected into the containment or bled from the containment during the supplemental test to be equivalent to at least 25 percent of the total measured leakage at  $P_a$ , 48 psig, or  $P_t$ , 25 psig.
- d. Type B and C test shall be conducted at  $P_a$ , 48 psig, at intervals no greater than 24 months except for tests involving:

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e. With the measured leakage rate exceeding 11.5 scf per hour for any one main steam isolation valve, restore the leakage rate to  $\leq$  11.5 scf per hour for any one main steam isolation valve prior to increasing the reactor coolant temperature above 212° F.

- 1) Main steam isolation valves, which shall be leak tested at least once per 18 months at a pressure of 25 psig, and
- 2) Bolted double-gasketed seals which shall be tested at a pressure of 48 psig whenever the seal is closed after being opened and each operating cycle.

e. All test leakage rates shall be calculated using observed data converted to absolute values. Error analyses shall be performed to select a balanced integrated leakage measurements system.

f. The drywell personnel air lock shall be tested:

- 1) When primary containment is not required and within 72 hours following closure by verifying that the leakage rate is less than or equal to its limit when tested at 1.0 psig.
- 2) When primary containment is required and an entry made, the 1.0 psig test will be performed at the next time primary containment is not required.
- 3) Each operating cycle at 10 psig when a Type A test is not scheduled.
- 4) At  $P_a$ , 48 psig, when conducting a Type A test, and verifying that the overall air lock leakage rate is less than or equal to its limit.

3. Pressure Suppression Chamber-Reactor Building Vacuum Breakers.

a. Except as specified in Specification 3.7.A.3.b below, two pressure sup

3. Pressure Suppression Chamber-Reactor Building Vacuum Breakers.

a. The pressure suppression chamber-reactor building vacuum

ATTACHMENT B

QUAD CITIES STATION

CONTAINMENT PERSONNEL AIRLOCK TEST HISTORY

UNIT 1		UNIT 2	
<u>Date</u>	<u>Leakage</u>	<u>Date</u>	<u>Leakage</u>
December 2, 1970	0.07 SCFH	August 27, 1971	0.0 SCFH
May 18, 1974	0.00 SCFH	January 25, 1975	0.0 SCFH
January 9, 1976	0.00 SCFH	October 5, 1976	7.0 SCFH
May 7, 1977	6.97 SCFH	March 3, 1978	9.5 SCFH
February 4, 1979	10.10 SCFH	January 16, 1980	17.74 SCFH
December 19, 1980	0.00 SCFH	December 18, 1981	10.30 SCFH
November 26, 1982	0.00 SCFH	January 14, 1984	24.73 SCFH
April 2, 1984	3.43 SCFH	January 20, 1984	1.37 SCFH