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Dresden Nuclear Power Station
R. R. #1
Morris, Illinois 60450
November 29, 1972

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

Subject: License DPR-19, Dresden Nuclear Power Station, Unit #2
Section 6.6.C.1 of the Technical Specifications

Reference: (1) P & ID No. M-25
(2) Letter to P. A. Morris from W. P. Worden dated May 18, 1972, regarding local leak rate tests of primary containment penetrations

Dear Mr. Giambusso:

This is to report a condition relating to the operation of the station, when, during local leak rate testing, the valves associated with primary containment system penetration X-126, had a leakage rate apparently greater than that specified for a single penetration as required in section 4.7.A.2.g.(2) (b) of the Technical Specification.

PROBLEM AND INVESTIGATION

At 1415 on October 31, 1972, with the reactor shutdown for main steam line flow restrictor replacement, local leak rate tests were being conducted on the primary containment rubber seated ventilation valves. These tests are required each refueling outage, but presently are conducted on a three month frequency due to previously experienced problems with deterioration of the rubber seats. On the first test of the valves associated with penetration X-126, the leakage was 87.965 scfh. This exceeds the leak rate specified for a single penetration (29.34 scfh). These valves were last tested on July 28, 1972, and had a leakage of 17.44 scfh. Refer to Reference (1) for piping and valve arrangement.

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The internals of valve 2-8502-501 were inspected for a possible leak path. This was done, because, at this time, there was no noticable outside leakage escaping from the pipe volume. Also it was assumed that the rubber seated valves were in good condition because of their recent "reseating". During the 1972 refueling outage, valves AO-2-1601-21, AO-2-1601-22 and AO-2-1601-56 had new EPT type rubber seats installed. The old seats were made of Buna N type rubber, a material susceptible to breaking down under high temperatures. Refer to reference (2) for more detailed information regarding "reseating" of these valves.

Investigation of valve 2-8502-501 internals showed that the seating surfaces of both the seat and disc were coated with grime. The seating surfaces were cleaned and a bluing applied. The results of the blue showed that the disc and seat had no imperfections. The seating surfaces were in good condition. The valve was reassembled and another leak test performed.

The leak test, conducted at 1115 on November 1, 1972, showed that the leakage was reduced to 47.366 scfh. Further investigation showed leakage coming from the bottom trunion assembly of the packing gland of valve AO-2-1601-21. New packing rings were installed and another leak test was performed. The result of this test was 21.091 scfh, which is essentially the same as that measured in July.

Three other leak tests were performed at this time. These tests were satisfactory. The results are tabulated below.

Valves	Leakage (scfh)
1601-20A & 1601-31A	6.276
1601-20B & 1601-31B	2.384
1601-23, 1601-60, 1601-24 & 1601-63	3.290

In the integrated leak rate test of the primary containment, conducted during the last refueling outage, the total leakage out of the primary containment was calculated to be 0.302 weight percent of the contained air in a 24 hour period. Using the maximum leak rate of 87.965 scfh, the total leakage from the containment would be 0.451 weight percent. Using the leak rate of 21.091 scfh, the total leakage from the plant is 0.314 weight percent. As can be seen, the leakages are well within the Technical Specification limit of 1.6 weight percent of the contained air in a 24 hour period. Hence, it is concluded that no safety hazard to the public resulted from this condition.

The herein reported leakage conditions are the first, of this nature, experienced, and are at this time considered isolated occurrences. The three month testing surveillance of the rubber seated ventilation valves will be continued until all similar valves have been "reseated" and their reliable performance has been established.

Sincerely,

W. P. Worden
Superintendent

WPW:sdb