



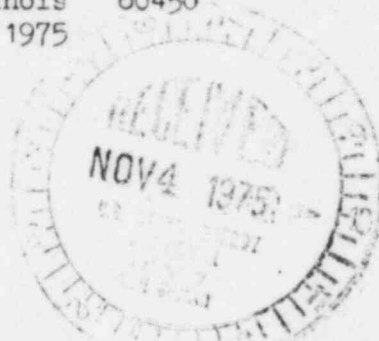
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BBS Ltr. #692-75

Dresden Nuclear Power Station
R. R. #1
Morris, Illinois 60450
October 15, 1975

Mr. James G. Keppler, Regional Director
Directorate of Regulatory Operations-Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137



SUBJECT: SUPPLEMENTAL REPORT TO LETTER CONCERNING EXCESSIVE LEAKAGES THROUGH RUBBER-SEATED VALVES DATED MAY 18, 1972

- References:
- 1) Letter from W. P. Worden to Dr. Peter A. Morris dated May 18, 1972
 - 2) Letter from W. P. Worden to Mr. J. F. O'Leary dated December 19, 1973
 - 3) Letter from B. B. Stephenson to Mr. J. G. Keppler dated October 24, 1974
 - 4) Report No. 50-249/75-22 dated August 14, 1975

Report Date: October 15, 1975

INTRODUCTION

In the letter from Worden to Dr. Morris, Dresden Station reported leakage problems with the seats on rubber-seated valves in the pressure suppression system. The letter stated that the station was reviewing this problem to determine the adequacy of the seat material. Until the problem was solved, the station was to local leak-rate test the rubber-seated valves once every three months rather than once per refueling outage.

Four local leak-rate tests are required to check all primary containment rubber-seated butterfly valves for either Unit 2 or 3. The four tests and the corresponding rubber-seated valves are listed in the following table.

Description

Rubber Seated Valves

1. Torus vent relief
2. Torus vent relief
3. Drywell and torus vent
4. Drywell and torus purge

1601-20A
1601-20B
1601-23, -24, -60, and -63
1601-21, -22, and -56

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October 15, 1975

CORRECTIVE ACTION

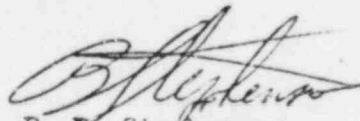
A decision was made to change the seat material from Buna-N rubber to a rubber compound called "EPT" which can operate at high temperatures. By the spring of 1973, all the valve seats had been changed to the EPT rubber.

This action appeared to resolve the seat problems for the rubber-seated valves listed in the first three groups. Since May, 1972 the torus vent relief valves and the drywell and torus vent valves have had only three local leak-rate test failures, none of which were due to valve seat failure. In November, 1973 valves 3-1601-23 and -24 exhibited excessive leakages. These failures were attributed to improper operator assembly during maintenance (see letter from Worden to O'Leary dated December 19, 1973 and letter from Stephenson to Keppler dated October 24, 1974 for further detail). A third failure occurred in May, 1975 when valve 1601-23 was found with a shaft packing leak (see report no. 50-249/75-22).

Since these three leak-rate test failures were isolated incidents not caused by valve seat deterioration, the testing frequency for the torus vent relief and drywell and torus vent valves will be reduced from once every three months to the original frequency of once per refueling outage.

However, the drywell and torus purge valves (1601-21, -22, and -56) will continue to be tested once every three months. This group of rubber-seated valves has had seven incidents of excessive leakages due to cracked seats within the last two years. These valves are exposed to vaporized nitrogen during drywell inerting, and cryogenic deterioration of the valve seats is the suspected cause of failure.

A plant modification is being engineered to eliminate valve seat failures due to cryogenic stress. The seat problem will be considered resolved if no failures resulting from seat deterioration occur for two years, in which case the testing frequency will be reduced to once per refueling outage. A follow-up report will be submitted at that time.



B. B. Stephenson
Superintendent

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