



Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

BBS Ltr. #267-75

Dresden Nuclear Power Station
R. R. #1
Morris, Illinois 60450
April 24, 1975

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



SUBJECT: REPORT OF ABNORMAL OCCURRENCE PER SECTION 6.6.A OF THE TECHNICAL
SPECIFICATIONS
FREON LEAKAGE 1%

References: 1) Regulatory Guide 1.16 Rev. 1 Appendix A
2) Notification of Region III of U. S. Nuclear Regulatory Commission
Telephone: P. Johnson, 1500 hours on April 16, 1975
Telegram: J. Keppler, 1540 hours on April 16, 1975

Report Number: 50-257/1975-21

Report Date: April 23, 1975

Occurrence Date: April 16, 1975

Facility: Dresden Nuclear Power Station, Morris, Illinois 60450

IDENTIFICATION OF OCCURRENCE

The Freon leak rate test performed on the "A" train of the Dresden Standby Gas Treatment System (SBGTS) on April 16, 1975 indicated that the leakage rate past the charcoal cells was 1.8%. This was in excess of the allowable limit of 1% leakage, as specified in Technical Specification number 4.7.B.1.b.(2).

CONDITIONS PRIOR TO OCCURRENCE

Both units 2 and 3 were in cold shutdown and no fuel moves were in progress. Thus, the SBGTS was not required to be operable.

DESCRIPTION OF OCCURRENCE

The results of the routine semi-annual Freon leak test on the "A" train of the SBGTS indicated a leakage rate slightly greater than the 1% limit. The "A" train was immediately taken out of service and, even though reactor conditions did not require operability of the SBGTS, the "B" train was tested and proved to be operable. (The "B" train had passed its Freon leak test on 4/15/75).

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Work request #4638 was initiated to inspect the "A" train charcoal cells to determine the cause of the leakage.

DESIGNATION OF APPARENT CAUSE OF OCCURRENCE (Personnel Error)

Upon inspection of the charcoal cells, it was found that one of the twelve cells had approximately a two inch section of its sealing gasket ripped off and a few tears elsewhere along the gasket. Apparently, the gasket caught on the metal housing during installation in May 1974 and eventually ripped due to the pressure. This gasket failure was determined to be the cause of the excess leakage.

ANALYSIS OF OCCURRENCE

The purpose of the Standby Gas Treatment System is to limit the release of radioactive material to the environment in the case of high airborne radioactivity levels in the reactor building. During recent operation of the SBGTS, the iodine release rates have not exceeded the limits specified in the Technical Specifications, limits which are for continuous release and which do not endanger the health and safety of the public. The release rates are based on measurements at the point of release and are not based on any calculations which assume a certain SBGTS charcoal efficiency.


In the case of a design basis loss of coolant accident, the SBGTS is designed to reduce the airborne activity released to the environment from the primary containment. Based on calculations in the PCAR which assume a 99% SBGTS charcoal efficiency, the calculated thyroid dose to an individual at the site boundary will be at the maximum, 1/100,000 of the units specified in 10 CFR 100. With an actual charcoal efficiency of 98.2% of thyroid dose would still be well below 10 CFR 100 limits. Therefore, it is concluded that at no time was the safety of the public or plant personnel jeopardized.

CORRECTIVE ACTION

The torn gasket was replaced and the charcoal cell reinstalled. The freon leak test was repeated on "A" train and gave satisfactory results. Care in the installation of the charcoal cells has been brought to the attention of the maintenance department and should eliminate this problem in the future. The corrective action is considered complete and adequate and the "A" train has been returned to service.

FAILURE DATA

This was the first failure of this type on the Dresden Standby Gas Treatment System.


B. B. Stephenson
Superintendent

BBS:RC:smp

File/NRC