

ABNORMAL OCCURRENCE REPORT

Report No.: BFAO-50-259/7460W
Report Date: January 3, 1975
Occurrence Date: December 24, 1974
Facility: Browns Ferry Nuclear Plant unit 1

Identification of Occurrence

The unit 1 offgas radiation monitor was inoperable for 1 hour and 55 minutes.

Conditions Prior to Occurrence

Unit 1 was operating at 82-percent power.

Description of Occurrence

At 1330 hours the offgas sample flow abnormal alarm was received in the control room. The problem was isolated to the local offgas sample flow rotometer which was inspected and cleaned and returned to service at 1545 hours. This action cleared the abnormal flow alarm but at 1550 hours both the offgas radiation "high" and "high-high" alarms were received in the control room. Although there was no significantly visible change in related indications either upstream or downstream of the offgas system, reactor power was reduced to prevent automatic offgas isolation. At 2305 hours the offgas radiation monitor was removed from service to eliminate a sample leak at the local offgas sample flow rotometer, and unit 1 shutdown commenced. Corrective maintenance was completed and the offgas radiation monitor was restored to normal service at 0100 hours on December 25.

Designation of Apparent Cause

An "O" ring in the local offgas sample flow rotometer failed to seal properly upon reassembly following initial inspection and cleaning. The resulting abnormal leakage caused an increased flow rate and a corresponding indicated activity increase of the offgas radiation monitor due to an increase of short-lived radionuclides.

Analysis of Occurrence

Two offgas grab samples were collected and analyzed, one at 1800 hours and another at 1955 hours, which showed no significant change from previous offgas samples taken the day before. Investigation continued and at 2218 hours airborne activity was detected near the local offgas sample flow rotometer which was found to be leaking. In addition, dose rates at the detector chamber reflected increased radiation levels.

Under normal conditions the offgas monitor sample delay time is about 2 minutes. In this case the delay time was significantly reduced due to the increased offgas sample flow rate. Thus, the offgas radiation monitor was monitoring a disproportionate share of short-lived radionuclides causing a premature actuation of the "high-high" offgas activity alarm. In addition, the "high-high" offgas activity alarm setpoint was conservatively at 68 mr/hr which also contributed to the premature actuation of this alarm.

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TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

January 3, 1975



Mr. Edson G. Case
Acting Director of Licensing
Office of Regulation
U.S. Atomic Energy Commission
Washington, DC 20545

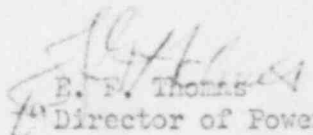
Dear Mr. Case:

TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT UNIT 1 -
DOCKET NO. 50-259 - FACILITY OPERATING LICENSE DPR-33 - ABNORMAL
OCCURRENCE REPORT BFAO-50-259/7460W

The enclosed report is to provide details concerning the unit 1
offgas radiation monitor which was inoperable for 1 hour and
55 minutes and is submitted in accordance with Appendix A to
Regulatory Guide 1.16, Revision 1, October 1973. This event
occurred on Browns Ferry Nuclear Plant unit 1 on December 24, 1974.

Very truly yours,

TENNESSEE VALLEY AUTHORITY


E. P. Thomas
Director of Power Production

Enclosure

CC (Enclosure):

Mr. Norman C. Moseley, Director
Region II Regulatory Operations Office, USAEC
230 Peachtree Street, NW., Suite 818
Atlanta, Georgia 30303

Analysis of Occurrence (continued)

The combined stack release rate from both units 1 and 2 during this occurrence was less than 150 uc/sec which is several decades below the allowable technical specification limit. There was no adverse effect on the health and safety of the public as a result of this occurrence.

Corrective Action

The offgas sample flow rotometer "O" ring was reassembled correctly and the proper sample flow rate was confirmed. This corrective action was sufficient to clear the "high" and "high-high" alarm and to restore the offgas radiation monitor to its normal level of activity.

In addition, a design change will be considered to install a redundant offgas sample flow rotometer for each unit to prevent similar occurrences in the future.

Failure Data

Nameplate: Fisher Porter

Tube No.: FP 1/4-23-6-3/61

S/N 69013A1-5

Range: 0-25 SCFH Air Met @ STP