NRC FOR (7-77)	LICENSEE EVENT REPORT
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0 2	During normal operation, the result of an offsite analysis of a charcoal sample
0 3	(SI-4.7.E.4) from the control room emergency ventilation system (common to all
0 4	units) showed a methyl iodide removal efficiency less than the required 90-percent
0 5	(T.S. 3.7.E.2.b). A charcoal sample from the redundant filter train has also been
06	sent offsite for analysis. There was no effect on public health or safety. There
07	was no safety related use of the system during this event period.
	9 SYSTEM CAUSE CAUSE COMP VALVE
0 9	CODE CODE SUBCODE COMPONENT CODE SUBCODE SUBCODE
7 8	9 10 11 12 EBDUENTIAL REPORT NO. 10 LER RO REPORT NO. 10 LER RO REPORT NO. 10 LER RO REPORT NO. 10 LER RO REPORT NO. 10 1 6 21 22 23 23 24 26 27 28 29 30 31 31 32 ACTION FUTURE EFFECT SHUTDOWN HOURS 22 ATTACHMENT FORM SUB. 10 3 X 28 29 30 31 31 32 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1 0	The cause of the reduced removal efficiency was degradation of the stored charcoal
11	prior to use. Four new filter trays were installed and system operability verified.
1 2	A program to monitor charcoal shelf life is in effect and the first survey was
13	performed in October 1984.
14	
7 8	9 FACILITY N POWER OTHER STATUS 30 METHOD OF STATUS N POWER OTHER STATUS 30 DISCOVERY DESCRIPTION 32 E 30 0 9 2 30 NA A Offsite Laboratory Analysis
7 8	3 10 12 13 44 45 46 81 ACTIVITY CONTENT 12 13 44 45 46 100 ACTIVITY
7 8	9 PERSONNEL EXPOSURES NUMBER TYPE DESCRIPTION (30) 0 0 0 (37) Z (33) NA
7 8 1 2 8 1 7	9 PERSONNEL INJURIES NUMBER 13 13 0 0 0 0 11 9 11 12 13 9 11 12 13 9 11 12 13 9 11 12 13 9 11 12 13 9 11 12 12 10 0 0 14 11 12 12 12 13 13 12 14 12 12 14 14 12 14 14 12 14 14 13 14 14 15 15 16 16 16 17 12 18 14 19 14 10 15 11 12 12 14 12 14 13 14 14 15 15 16 16 16 17 17 18 16 19 17 19 18 10 18
7 8	9 10 PUBLICITY ISSUED _ DESCRIPTION (15)
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Tennessee Valley Authority Browns Ferry Nuclear Plant

LER SUPPLEMENTAL INFORMATION

BFRO-50-259 / 83016 R3 Technical Specification Involved 3.7.E.2.b

Reported Under Technical Specification 6.7.2.b(2) * Date Due NRC

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Unit 1 was at 92-percent power. Unit 2 was in a refueling outage. Unit 3 was at 93-percent power. All three units were affected by this event. As required by Technical Specification (T.S.) 3.7.E.2.b., a charcoal sample from one of the trays in the control room emergency ventilation system (CREVS) train "A" was obtained on February 3, 1983, and sent to an offsite laboratory (per Surveillance Instruction (SI) 4.7.E.4) for analysis for methyl iodide temoval efficiency. The analytical result of this sample was found to have a methyl iodide removal efficiency of 25.09-percent. T.S. 4.7.E.2 specifies a minimum removal efficiency of 90-percent.

Four new charcoal absorber trays were put in the system at time of sampling. SI 4.7.E.4 will be revised to no longer require removal of all four charcoal trays during sampling. The charcoal shelf life is now controlled via TI-80. Satisfactory halogenated/hydrocarbon testing was performed. Test results verify system operability.

Retention: Period - Lifetime; Responsibility - Document Control Supervisor

*Revision:

As part of the investigation initiated by BFRO-50-296/82066, samples were obtained of all four trays in CREVS train "B" and sent to an offsite vendor for analysis. TVA does not have the onsite analytical capability required to determine the iodide removal efficiency of PAC. The analytical results received on April 14, 1983, indicated that three of the four trays sampled had inadequate iodine removal efficiencies.

These reported values were 74.2-percent, 39.73-percent, and 31.26-percent for trays 1, 3, and 4, respectively. Tray 2 was changed as part of SI 4.7.E.4 (Iodine Removal Efficiency Test) performed in March 1982.

Previous samples taken from other (SBGT and PCP) systems that use powdered activated charcoal (PAC) have historically met the minimum required removal efficiency of >90-percent. For this reason, plant engineers suspected that CREVS train "B" had been fouled by an airborne contaminant (oil, paint solvent, etc.). However, prior to the receipt of the analytical results on train "B", SI 4.7.E.4 was performed on train "A" per SI schedule; as a precautionary measure, all four trays were changed. Analytical results received by phone on March 9, 1983, reported an iodine removal efficiency of 25.09-percent. LER BFR0-50-259/83016 was initiated and a vendor was contracted to perform a series of analytical tests in an effort to identify the cause(s) of the degraded removal efficiency. The resulting report which was received on May 4, 1983, cited an insufficient amount of activation impregnant present in the charcoal as the cause. A material trace identified a 55 gallon drum of bulk charcoal that had been used to refill CREVS trays as the possible source of the defective charcoal. A sample was sent to the offsite vendor and analytical results obtained on July 26, 1983, confirmed this suspicion. The defective charcoal had not been used in any other plant emergency air handling system.

Further investigation into the cause of the reduced removal efficiency revealed that the charcoal (NACAR G617) was purchased in 1974 and was installed in CREVS trains "A" and "B" in January and August 1981, respectively. According to the <u>Nuclear Air Cleaning Handbook</u>, issued by the Oak Ridge National Laboratory, a shelf life of five years is expected for PAC kept in sealed containers. Plant personnel had no knowledge of this fact and literature addressing PAC and it's properties was not readily available. Additionally, a consultant had indicated previously during this investigation process that PAC in seal containers did not have a shelf life limit. On the basis of existing evidence, it cannot be concluded if both trains were simultaneously incapable of meeting the minimum required iodine removal efficiency prior to December 21, 1982.

There was no effect on public health or safety. There was no safety-

The defective charcoal has been removed from the site. Plant personnel no longer refill charcoal trays. All replacement charcoal trays (CREVS, SBGT, PCPS) are filled and sealed by the vendor and come with certification papers. A program to monitor the shelf life is in effect and the first survey was performed in October 1984.

TENNESSEE VALLEY AUTHORITY

Browns Ferry Nuclear Plant P.O. Box 2000 Decatur, Alabama 35602

June 26, 1986

U.S. Nuclear Regulatory Commission Document Control Desk Washington, D.C. 20555

Dear Sir:

TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT UNIT 1 - DOCKET NO. 50-259 - FACILITY OPERATING LICENSE DPR-33 - REPORTABLE OCCURRENCE REPORT BFR0-50-259/83016, REVISION 3

The enclosed report provides additional details concerning compliance to Technical Specification 3.7.E.2.b. Browns Ferry's present method of compliance is reflected in this revision.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

mun Robert L. Lewis

Plant Manager Browns Ferry Nuclear Plant

Enclosures cc (Enclosures): Regional Administration U.S. Nuclear Regulatory Commission Office of Inspection and Enforcement Region II 101 Marietta Street, Suite 2900 Atlanta, Georgia 30303

INPO Records Center Suite 1500 1100 Circle 75 Parkway Atlanta, Georgia 30339

NRC Resident Inspector, Browns Ferry Nuclear Plant

R42 860605 867

TENNESSEE VALLEY AUTHORITY

Browns Ferry Nuclear Plant P.O. Box 2000 Decatur, Alabama 35602

June 4, 1986

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Very truly yours,

TENNESSEE VALLEY AUTHORITY

Robert L. Lewis Plant Manager Browns Ferry Nuclear Plant

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