CATEGORY 1

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ACCESSION NBR:9605230210 DOC.DATE: 96/05/20 NOTARIZED: NO DOCKET #
FACIL:50-260 Browns Ferry Nuclear Power Station, Unit 2, Tennessee 05000260
50-296 Browns Ferry Nuclear Power Station, Unit 3, Tennessee 05000296
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SALAS,P. Tennessee Valley Authority
RECIP.NAME RECIPIENT AFFILIATION
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SUBJECT: Informs NRC of corrective actions taken by plant w/regard to slow five percent scram insertion times associated w/scram solenoid pilot valves equipped w/viton diaphragms,per NRC Info Notice 96-007.

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Tennessee Valley Authority, Post Office Box 2000, Decatur, Alabama 35609

May 20, 1996

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

Gentlemen:

In the Matter of	)	Docket Nos. 50-260
Tennessee Valley Authority	)	50-296

BROWNS FERRY NUCLEAR PLANT (BFN) - UNITS 2 AND 3 - NRC INFORMATION NOTICE 96-07, SLOW FIVE PERCENT SCRAM INSERTION TIMES CAUSED BY VITON DIAPHRAGMS IN SCRAM PILOT VALVES

TVA is issuing this letter to inform NRC of the corrective actions taken by BFN with regard to the slow five percent scram insertion times associated with Scram Solenoid Pilot Valves (SSPV) equipped with Viton diaphragms. On January 26, 1996, NRC issued the subject information notice to alert licensees of the potential for slow five percent scram insertion times associated with the Automatic Switch Company's Viton "Dual type" SSPV supplied by General Electric (GE) for use in the Control Rod Drive (CRD) System Hydraulic Control Units (HCU).

As noted in the information notice, it was determined that the slow five percent scram insertion time was attributed to adherence of the Viton type diaphragm to the valve seat in the body of the pilot valve.

Unit 3 was returned to service on November 29, 1995, after an extended outage utilizing the Viton type SSPVs supplied by GE in all of the 185 CRD HCUs. BFN performed base line testing of the CRDs and found that the five percent scram insertion times were within the Technical Specification (TS) limits. However, because the industry noted a progressive increase in the five percent scram insertion times, BFN replaced the Viton diaphragm in the exhaust port of the SSPVs.

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The Viton type diaphragm and valve body bonnet were replaced with a BUNA-N type diaphragm and a valve body bonnet designed for use with the BUNA-N diaphragm. The replacement of the diaphragm and the bonnet along with the required post modification testing was completed on March 3, 1996. The inlet port of the SSPVs is unaffected by this issue and therefore, the Viton diaphragm was not replaced.

BFN Unit 2 had Viton diaphragm equipped SSPVs installed in the HCUs for two CRDs during the Cycle 7 refueling outage. After approximately six months of operation, BFN noted a progressive increase in the five percent scram insertion time of these SSPVs. Accordingly, the Viton diaphragms in the exhaust port of the affected valves were replaced during the Cycle 8 refueling outage.

Due to the service life experienced by the BUNA-N diaphragms in the Unit 2 CRD HCUs, the diaphragms will require replacement at the end of this operating cycle (Cycle 9). There is only a limited supply of the qualified replacement BUNA-N kits available. If the issue regarding the long-term qualification of replacement a diaphragm has not been resolved, and no diaphragm design has been approved, TVA may be required to utilize Viton diaphragms for Unit 2 Cycle 10 operation. If we return to the use of the Viton diaphragm, we will notify the NRC.

BFN's current TSs require verification of the scram insertion time for all operable control rods after each refueling outage prior to exceeding 40 percent power. Additionally, the TS require testing of 10 percent of the operable CRDs at 16-week intervals during the operating cycle. TVA will continue to follow the requirements and periodicity established in the TSs.

The enclosure contains the commitment made in this letter. If you have any questions, please contact me at (205) 729-2636.

Sincerely,

Pedro Salas
Manager of Site Licensing

Enclosure
cc: See page 3

Enclosure
cc (Enclosure):
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ENCLOSURE

Tennessee Valley Authority

Browns Ferry Nuclear Plant (BFN)

NRC Information Notice 96-07

COMMITMENT

If TVA returns to the use of the Viton diaphragm for Unit 2 Cycle 10 operation, TVA will notify the NRC.