



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

MAR 29 1994

TVA-BFN-TS-340

10 CFR 50.90

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

Gentlemen:

In the Matter of) Docket No. 50-296
Tennessee Valley Authority)

BROWNS FERRY NUCLEAR PLANT (BFN) - UNIT 3 - TVA TECHNICAL SPECIFICATION (TS) NO. 340 - UNIT 3 EMERGENCY DIESEL GENERATOR LOAD SHEDDING

In accordance with the provisions of 10 CFR 50.4 and 50.90, TVA is submitting a request for an amendment (TS-340) to license DPR-68 to change the Technical Specifications for Unit 3. The proposed change adds operability and surveillance requirements to support the Unit 3 480-volt load shed logic system being added by a design change.

TVA has determined that there are no significant hazards considerations associated with the proposed change and that the change is exempt from environmental review pursuant to 10 CFR 51.22(c)(9). The BFN Plant Operations Review Committee and the BFN Nuclear Safety Review Board have reviewed this proposed change and determined that operation of BFN Unit 3 in accordance with the proposed change will not endanger the health and safety of the public. Additionally, in accordance with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter and enclosures to the Alabama State Department of Public Health.

Enclosure 1 to this letter provides the description and evaluation of the proposed change. This includes TVA's determination that the proposed change does not involve a

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significant hazards consideration and is exempt from environmental review. Enclosure 2 contains copies of the appropriate Unit 3 TS pages marked-up to show the proposed change. Enclosure 3 forwards the revised TS pages for Unit 3 which incorporate the proposed change.

In TVA's letter to NRC dated December 23, 1993, TVA provided need dates for NRC approval of those TS changes required to support Unit 3 restart. Consistent with the information provided in that letter, TVA requests NRC approval of this amendment by April 7, 1995.

As previously stated, this TS change adds operability and surveillance requirements that support a modification to BFN. This TS change, will make the Unit 3 TSSs consistent with Units 1 and 2. It is TVA's position that the preferred method for maintaining operability of the 480-volt load shedding logic system is through the TSSs; however, if this change is not approved by restart of Unit 3, TVA will impose additional administrative requirements on the 480-volt load shedding logic system that will control the operability of the equipment.

TVA will inform NRC of any significant changes to the need date through BFN's regular communications with the Staff's Project Managers for BFN.

TVA requests that the revised TS be made effective within 30 days of NRC approval. If you have any questions about this change, please telephone me at (205) 729-2636.



Pedro Salas
Manager of Site Licensing

Subscribed and sworn to before me
on this 29th day of March 1994.

Barbara A. Blanton

Notary Public
My Commission Expires 10-30-94.

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Enclosures

cc (Enclosures):

American Nuclear Insurers
Town Center, Suite 300S
29 South Main Street
West Hartford, Connecticut 06107-2445

Mr. W. D. Arndt
General Electric Company
735 Broad Street
Suite 804, James Building
Chattanooga, Tennessee 37402

Mr. Johnny Black, Chairman
Limestone County Commission
310 Washington Street
Athens, Alabama 35611

Mr. R. V. Crlenjak, Project Chief
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

NRC Resident Inspector
Browns Ferry Nuclear Plant
Route 12, Box 637
Athens, Alabama 35611

Mr. D. C. Trimble, Project Manager
U.S. Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852

Mr. Joseph F. Williams, Project Manager
U.S. Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852

Dr. Donald E. Williamson
State Health Officer
State Department of Public Health
State Office Building
Montgomery, Alabama 36194

ENCLOSURE 1

TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT (BFN)
UNIT 3

PROPOSED TECHNICAL SPECIFICATION (TS) CHANGE TS-340
DESCRIPTION AND EVALUATION OF THE PROPOSED CHANGE

I. DESCRIPTION OF THE PROPOSED CHANGE

BFN Unit 3 TSS are being amended to add a limiting condition for operation and a surveillance requirement for a Unit 3 480-volt load shedding logic system being added by a design change. A 480-volt load shedding logic is being added to the Unit 3 Auxiliary Electrical system to ensure that the maximum capacity of the Unit 3 Emergency Diesel Generators (EDG) is not exceeded during a postulated loss of offsite power concurrent with a design basis accident condition.

BFN Unit 3 has four EDGs that supply backup power to the Unit 3 Auxiliary Electrical system. The system mainly consists of four 4kV shutdown boards, two 480-volt shutdown boards, five motor operated valve boards, four motor generator sets, two diesel auxiliary boards, and a Standby Gas Treatment System board.

This proposed TS change is consistent with the approved Units 1 and 2 TSS.

The specifics of this proposed change are as follows:

1. Revise 3.9.A.5. to read as follows:

5. Logic Systems

- a. Accident signal logic system is OPERABLE.
 - b. 480-volt load shedding logic system is OPERABLE.

2. Adds surveillance requirement "b." to the Auxiliary Electrical System section of TSS, paragraph 4.9.A.3.

- b. Once every 18 months, the condition under which the 480-volt load shedding logic system is required shall be simulated to demonstrate that the load shedding logic system would initiate load shedding signals on the diesel auxiliary boards, RMOV boards, and the 480-volt shutdown boards.

II. REASON FOR THE PROPOSED CHANGE

This proposed TS change adds a limiting condition for operation (LCO) and a surveillance requirement for the Unit 3 480-volt load shedding logic system that is being added by a design change being implemented under 10 CFR 50.59. The Unit 3 EDGs are now being utilized to support Unit 2 operation and are lightly loaded. Therefore, Unit 3 480-volt load shedding logic is not required until restart of Unit 3.

Analysis performed as part of the design baseline verification effort for Unit 3 restart has shown that Unit 3 EDGs (3A and 3C) could be overloaded during multiunit operation with a loss of offsite power concurrent with a Unit 3 design basis accident. Consequently, prior to the restart of Unit 3, TVA will implement a design change that automatically strips the 480-volt loads not required for short-term post accident mitigation from the safety-related auxiliary electrical systems.

BFN Units 1 and 2 have four EDGs that supply power to the Unit 1 and 2 4kV shutdown boards upon loss of offsite power. Because Units 1 and 2 share four EDGs, there has always been a 480-volt load shedding logic feature for these units from the time of initial licensing.

In TVA's letter to NRC dated December 23, 1993, TVA provided need dates for NRC approval of those TS changes required to support Unit 3 restart. Consistent with the information provided in that letter, TVA requests NRC approval of this amendment by April 7, 1995.

As previously stated, this TS change adds operability and surveillance requirements that support a modification to BFN. This TS change, will make the Unit 3 TSs consistent with Units 1 and 2. It is TVA's position that the preferred method for maintaining operability of the 480-volt load shedding logic system is through the TSs; however, if this change is not approved by restart of Unit 3, TVA will impose additional administrative requirements on the 480-volt load shedding logic system that will control the operability of the equipment.

TVA will inform NRC of any significant changes to the need date through BFN's regular communications with the Staff's Project Managers for BFN.

III. SAFETY ANALYSIS

TVA is implementing a design change that upon loss of offsite power, concurrent with a Unit 3 accident signal, sheds 480-volt loads not required for short-term post accident mitigation from the Unit 3 safety-related auxiliary electrical systems. Through the implementation of this design change, the maximum capacity of the EDGs will not be exceeded during a design basis accident.

The 480-volt load shedding logic system will trip 480-volt loads not required for short term accident mitigation (e.g., Main Steam system, Raw Service Water system, CO₂ Storage, Fire Protection and Purging system) from 480-volt Shutdown Boards 3A and 3B, Diesel Auxiliary Boards 3EA and 3EB, Reactor Motor Operated (RMOV) Valve Boards 3A and 3B, and the RMOV Board 3C feeder breaker.

The load shedding logic system is designed to operate on a divisional basis. A Division I signal initiates load shedding signal on the non-critical loads associated with 480-volt Shutdown Board 3A, RMOV Board 3A, and Diesel Auxiliary Board 3EA. A Division II signal initiates load shedding on 480-volt Shutdown Board 3B, RMOV board 3B, and the Diesel Auxiliary Board 3EB.

The TS is being changed to specify operability and surveillance requirements for equipment required for safe shutdown of Unit 3. The LCO prescribes a minimum level of performance for the 480-volt load shedding logic. The LCO requires that the load shedding be operable prior to start up from a cold condition. Furthermore, the addition of a surveillance requirement ensures the minimum level of performance is maintained. Testing of the 480-volt load shedding logic on an interval of 18 months is consistent with BWR/4 (NUREG-1433) Standard Technical Specifications.

The objective of the Auxiliary Electrical system is to assure an adequate supply of electrical power for operation of those systems required for safe shutdown of Unit 3. Implementation of a design change that sheds non-essential loads from the Unit 3 Auxiliary Electrical system assures that adequate power can be supplied by the EDGs under postulated accident conditions. Therefore, revising these TSS to include an LCO and surveillance requirement for the load shedding logic provides assurance that this objective is met.

IV. NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

TVA has concluded that operation of Browns Ferry Nuclear Plant Unit 3 in accordance with the proposed change to the technical specifications does not involve a significant

hazards consideration. TVA's conclusion is based on its evaluation, in accordance with 10 CFR 50.91(a)(1), of three standards set forth in 10 CFR 50.92(C). TVA's conclusion is based on the following:

- A. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

This proposed change establishes a surveillance testing requirement and limiting condition for operation for the Unit 3 480-volt load shedding logic system. This Technical Specification change will not introduce any new failure mode and will not alter any assumptions previously made in evaluating the consequences of an accident. Accordingly, this change does not affect any design limiting safety system settings or operating parameters. Furthermore, the change does not modify or add any accident initiating events or parameters. Therefore, these proposed changes do not involve an increase in the probability or consequences of an accident previously evaluated.

- B. The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

This proposed change establishes a limiting condition for operation and a surveillance requirement for the Unit 3 480-volt load shedding logic system. The addition of a limiting condition for operation and surveillance requirement will not adversely affect the operation of Unit 3 or the manner in which it is operated. Furthermore, the change does not create a failure mode that can lead to an accident of a different type than previously evaluated. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

- C. The proposed amendment does not involve a significant reduction in a margin of safety.

The addition of a limiting condition for operation and surveillance requirement will not reduce the margin of safety. The testing of the 480-volt load shedding logic on an 18-month interval is consistent with BWR/4 (NUREG-1433) Standard Technical Specifications. These are based on the guidance set forth in NRC Regulatory Guide 1.108, "Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants." The addition of a limiting condition for operation establishes a minimum acceptable level of performance for the 480-volt load shedding logic

system. Thus, the ability of the Emergency Diesel Generators to supply power during a loss of offsite power coincident with a design basis accident is assured.

Furthermore, no reductions in the requirements or setpoints of the equipment supplied by the Emergency Diesel Generators are made which could result in a reduction in the margin of safety. Therefore, this proposed change does not involve a reduction in the margin of safety.

V. ENVIRONMENTAL IMPACT CONSIDERATION

The proposed change does not involve a significant hazards consideration, a significant change in the types of or significant increase in the amounts of any effluent that may be released offsite, or a significant increase in individual or cumulative occupational radiation exposure. Therefore, the proposed change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental assessment of the proposed change is not required.