



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D. C. 20555

July 11, 1991

Docket Nos. 50-259, 50-260,
and 50-296

Mr. Dan A. Nauman
Senior Vice President, Nuclear Power
Tennessee Valley Authority
6N 38A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

Dear Mr. Nauman:

SUBJECT: SAFETY EVALUATION ON THE CONFORMANCE OF THE BROWNS FERRY NUCLEAR
PLANT WITH THE STATION BLACKOUT RULE (TAC NOS. 68517, 68518,
AND 68519)

By letters dated April 18, 1989, April 5, 1990, and May 4, 1990, the Tennessee Valley Authority (TVA) submitted its response to the Station Blackout (SBO) rule (i.e., 10 CFR 50.63) for the Browns Ferry Nuclear (BFN) Plant. In addition, TVA responded to a number of questions raised during a telecon with the NRC and Science Applications International Corporation (SAIC) on October 25, 1990. Enclosed is the NRC staff's Safety Evaluation (SE) of TVA's response to the SBO rule. Also provided as an attachment to this enclosure is the applicable Technical Evaluation Report (TER) from SAIC, "Browns Ferry Nuclear Plant, Units 1, 2, and 3, Station Blackout Evaluation," SAIC-91/6659 dated May 31, 1991.

Based on the enclosed SE, the staff concluded that BFN Units 1 and 3 are not in conformance with 10 CFR 50.63, and TVA must submit a revised response. More specifically, the staff determined that existing batteries are incapable of supplying adequate electrical power to the safe shutdown systems of all operating units during an SBO event. As a result, the staff cannot conclude that all three BFN units conform to the SBO rule until the battery capacity issue is resolved. TVA is committed to fully comply with 10 CFR 50.63, for Units 1 and 3, prior to their respective restart dates. In order to provide the staff sufficient time to evaluate TVA's revised response for Unit 3 and still allow TVA enough opportunity to implement any procedure changes or modifications prior to restart, TVA is requested to submit their revised response as soon as possible but no later than December 31, 1991. This revised response is to resolve the staff's specific concerns regarding inadequate battery capacity and address the staff recommendations detailed in the enclosed SE. A similar submittal is also required for Unit 1 no later than 24 months before its scheduled restart date.

With regard to BFN Unit 2, the staff determined that existing battery capacity is adequate for the operation of this single unit. Consequently, the staff concluded that the information and schedule for implementing necessary procedure changes submitted by TVA conforms with the SBO rule for Unit 2. However, this

9107180092 910711
PDR ADDCK 05000259
PDR

NRG FILE CENTER COPY

Handwritten signature
11

120013

conclusion is contingent upon TVA's satisfactory resolution of recommendations detailed in the enclosed SE. These staff recommendations instruct TVA to do the following: verify the capability of existing batteries to also supply electrical power for turbine/generator emergency oil pumps and emergency diesel generators (EDG) during an SBO event; revise heat-up calculations for the control room, safety-related equipment rooms and the drywell using more conservative values; reevaluate containment isolation valves according to the exclusion criteria of Regulatory Guide 1.155; incorporate applicable SBO equipment into an appropriate quality assurance (QA) program; and implement an EDG reliability program. Although TVA has already committed to revise appropriate procedures as necessary (no Unit 2 modifications are required for SRO) within a year after issuance of the staff's SE, 10 CFR 50.63(c)(4) requires TVA to submit an implementation schedule within 30 days after receipt of the staff's regulatory assessment (i.e., SE). As part of this submittal, TVA is also requested to address each of the staff recommendations for Unit 2 and provide an implementation schedule as applicable.

On March 8, 1991, in a meeting with the Advisory Committee on Reactor Safeguards (ACRS) regarding BFN, Unit 2 restart, the ACRS posed a question with respect to the environmental impact upon solid-state equipment due to an SBO event and concurrent loss of ventilation. In response to that question, TVA provided heat-up values which were different than those originally submitted to the NRC in response to 10 CFR 50.63. TVA is requested to address why these values are different. Furthermore, although the heat-up values provided to the ACRS by TVA were higher than those submitted in response to the SBO rule, the staff believes they are still non-conservative and as such, would not adequately resolve the staff recommendation identified above.

It should be noted that NRC guidance provided on technical specifications (TS) for SBO states that TS should be consistent with the Interim Commission Policy Statement. The staff has taken the position that TS are required for SBO-related equipment. However, the question of how TS for SBO equipment will be applied is currently being considered by the NRC on a generic basis within the context of the TS Improvement Program. For the interim, the staff expects BFN procedures to reflect appropriate testing and surveillance requirements to ensure the operability of necessary SBO equipment. If the NRC later determines that TS for SBO equipment are warranted, TVA will be notified.

Sincerely,



Thierry M. Ross, Project Manager
 Project Directorate II-4
 Division of Reactor Projects - I/II
 Office of Nuclear Reactor Regulation

Enclosure:
 Safety Evaluation

cc w/enclosure:
 See next page

OFC	: PDII-4/LA	: PDII-4/PM	: PDII-4/PM	: PDII-4/DD	: PDII-4/D
NAME	: MSanders <i>MS</i>	: TRoss <i>TR</i>	: JWilliams <i>JW</i>	: SBlack <i>SB</i>	: FHebdon <i>FH</i>
DATE	: 7/11/91	: 7/11/91	: 7/11/91	: 7/11/91	: 7/11/91

Mr. Dan A. Nauman

cc:

Mr. Marvin Runyon, Chairman
Tennessee Valley Authority
ET 12A
400 West Summit Hill Drive
Knoxville, Tennessee 37902

Mr. John P. Waters, Director
Tennessee Valley Authority
ET 12A
400 West Summit Hill Drive
Knoxville, Tennessee 37902

Mr. W. H. Kennoy, Director
Tennessee Valley Authority
ET 12A
400 West Summit Hill Drive
Knoxville, Tennessee 37902

Mr. W. F. Willis
Senior Executive Officer
ET 12B
400 West Summit Hill Drive
Knoxville, Tennessee 37902

General Counsel
Tennessee Valley Authority
ET 11H
400 West Summit Hill Drive
Knoxville, Tennessee 37902

Mr. Dwight Nunn
Vice President, Nuclear Projects
Tennessee Valley Authority
3B Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

Dr. Mark O. Medford
Vice President, Nuclear Assurance
Licensing and Fuels
Tennessee Valley Authority
6B Lookout Place
Chattanooga, Tennessee 37402-2801

Mr. Edward G. Wallace
Manager, Nuclear Licensing
and Regulatory Affairs
Tennessee Valley Authority
5B Lookout Place
Chattanooga, Tennessee 37402-2801

Mr. O. J. Zeringue, Site Vice President
Browns Ferry Nuclear Plant
Tennessee Valley Authority
P. O. Box 2000
Decatur, Alabama 35602

Mr. P. Carier, Site Licensing Manager
Browns Ferry Nuclear Plant
Tennessee Valley Authority
P. O. Box 2000
Decatur, Alabama 35602

Mr. L. W. Myers, Plant Manager
Browns Ferry Nuclear Plant
Tennessee Valley Authority
P. O. Box 2000
Decatur, Alabama 35602

Chairman, Limestone County Commission
P. O. Box 188
Athens, Alabama 35611

Claude Earl Fox, M.D.
State Health Officer
State Department of Public Health
State Office Building
Montgomery, Alabama 36130

Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta Street, N.W.
Atlanta, Georgia 30323

Mr. Charles Patterson
Senior Resident Inspector
Browns Ferry Nuclear Plant
U.S. Nuclear Regulatory Commission
Route 12, Box 637
Athens, Alabama 35611

Tennessee Valley Authority
Rockville Office
11921 Rockville Pike
Suite 402
Rockville, Maryland 20852

Distribution

Docket File

NRC PDR

Local PDR

S. Varga 14-E-4

G. Lains 14-H-3

F. Hebbon

S. Black

B. Wilson RII

P. Kellogg RII

C. Patterson RII

M. Sanders

T. Ross

J. Williams

D. Moran

OGC 15-B-18

E. Jordan MNBB-3701

N. Trehan

ACRS (10)

BFN Rdg. File

L. Reyes RII