

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

John T. Herron
Vice President, Browns Ferry Nuclear Plant

March 29, 2000

TVA-BFN-TS-402

10 CFR 50.4
10 CFR 50.90
10 CFR 50.91(a)(6)

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

Gentlemen:

In the Matter of) Docket Nos. 50-259
Tennessee Valley Authority) 50-260
50-296

**BROWNS FERRY NUCLEAR PLANT (BFN) - UNITS 1, 2, AND 3 -
EXIGENT TECHNICAL SPECIFICATIONS (TS) CHANGE 402 -
SECONDARY CONTAINMENT ACCESS DOORS - TAC NOS. MA8548,
MA8549, AND MA8550**

In accordance with the provisions of 10 CFR 50.4, 50.90, and 50.91(a)(6), TVA is submitting a request for an exigent TS change (TS-402) to licenses DPR-33, DPR-52, and DPR-68 to revise Surveillance Requirement 3.6.4.1.2 regarding secondary containment access doors. Approval of this proposed TS change would allow inner or outer secondary containment access doors to be temporarily opened for required maintenance activities provided the other door is closed.

This requested TS change is consistent with NRC approved Technical Specifications Task Force (TSTF) Change Traveler, TSTF-18, Revision 1, which recognized that the Boiling Water Reactor (BWR/4) Standard Technical Specifications (STS), NUREG-1433, needed an allowance for performing maintenance

U.S. Nuclear Regulatory Commission
Page 2
March 29, 2000

on secondary containment access doors. TSTF-18, Revision 1 was also approved for incorporation into BWR/6, Westinghouse, and Combustion Engineering STS.

As discussed with NRC in a telecon on March 24, 2000, TVA is requesting exigent approval of this proposed TS change to allow the prompt repair of an air leak on a pneumatic seal on the inner main equipment access door. TVA is concerned that the air leak could worsen if not repaired soon, potentially rendering the inner equipment access door inoperable. In this case, equipment transfer into and out of secondary containment via the main equipment lock would be prohibited by TS Limiting Condition for Operation, 3.6.4.1, Secondary Containment.

With the Unit 3 refueling outage pending in mid-April, it is imperative that we be able to readily move equipment and material in and out of secondary containment through the main equipment lock. The inability to do so would severely hinder outage activities since the subject building access lock is the primary pathway for large equipment transport supporting refueling activities. Therefore, it is prudent that TVA request exigent approval of TS-402 to allow repair of the door seal as soon as possible.

Current BFN TS do not contain explicit provisions for single secondary containment doors to be temporarily opened to accommodate maintenance activities. Therefore, shutdown of both Units 2 and 3 would be required to perform the seal repairs. The proposed TS change would allow the seal to be repaired online and would avoid the transition risks associated with such a reactor shutdown to perform minor door seal repair work. Thus, exigent approval of the TS would serve a benefit to the public health and safety. As noted above, NRC has previously approved TSTF-18 which allows door maintenance provided the redundant secondary containment door is closed.

Enclosure 1 to this letter provides the description and justification for the proposed TS change, and the significant hazards and environmental impact considerations. Enclosure 2 contains mark-up copies of the appropriate pages from the current Units 1, 2, and 3 TS showing the proposed revisions.

U.S. Nuclear Regulatory Commission
Page 3
March 29, 2000

TVA has determined that there are no significant hazards considerations associated with the proposed change and that the TS change qualifies for a categorical exclusion from environmental review pursuant to the provisions of 10 CFR 51.22(c)(9). The BFN Plant Operations Review Committee and the Nuclear Safety Review Board have reviewed this proposed change, and determined that operation of BFN Units 1, 2, and 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.

TVA is requesting approval of this change as soon as practicable and that it be made effective immediately. If you have any questions concerning this proposed TS change, please contact me at (256) 729-2636.

Sincerely,


John T. Herron

Subscribed and sworn to before me
on this 29 day of March 2000.

Notary Public 
My Commission Expires 04/12/2003

Enclosures
cc: See page 4



U.S. Nuclear Regulatory Commission
Page 4
March 29, 2000

Enclosures

cc (Enclosures):

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ENCLOSURE 1

TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT (BFN)
UNITS 1, 2, and 3

PROPOSED TECHNICAL SPECIFICATIONS (TS) CHANGE TS-402
CHANGES TO SURVEILLANCE REQUIREMENT (SR) 3.6.4.1.2
SECONDARY CONTAINMENT ACCESS DOORS

I. DESCRIPTION OF THE PROPOSED CHANGE

TVA is revising BFN Units 1, 2, and 3 TS SR 3.6.4.1.2 and the associated Bases for SR 3.6.4.1.1 and SR 3.6.4.1.2 to require that only one secondary containment access door for each access opening be verified closed. This change adopts an NRC/Industry agreed upon generic TS improvement, Technical Specifications Task Force (TSTF), Traveler Change, TSTF-18, Revision 1.

A text description of the specific TS changes follows below. Refer to Enclosure 2 for a mark-up copy of the proposed changes.

1. TS SR 3.6.4.1.2. The proposed change revises SR 3.6.4.1.2 for Units 1, 2, and 3 as follows. (Deleted and added text is indicated by strikeouts and ***bold italics***, respectively):

SURVEILLANCE		FREQUENCY
SR 3.6.4.1.2	Verify each <i>one</i> secondary containment access door <i>in each access opening</i> is closed, except when the access opening is being used for entry and exit, then at least one door shall be closed.	31 days

2. TS Bases for SR 3.6.4.1.1 and SR 3.6.4.1.2. The proposed change revises the subject SR Bases for Units 1, 2, and 3 as follows:

Verifying that secondary containment equipment hatches and ***one*** access doors ***in each access opening*** are closed ensures that the infiltration of outside air of such a magnitude as to prevent maintaining the desired negative pressure does not occur. Verifying that all such openings are

ENCLOSURE 1

closed provides adequate assurance that exfiltration from the secondary containment will not occur. In this application, the term "sealed" has no connotation of leak tightness. Maintaining secondary containment OPERABILITY requires verifying **one** each door in the access opening is closed, ~~except when the access opening is being used for normal transient entry and exit (then at least one door must remain closed).~~ **An access opening contains one inner and one outer door. In some cases, secondary containment access openings are shared such that a secondary containment barrier may have multiple inner doors. The intent is to not breach the secondary containment at any time when secondary containment is required. This is achieved by maintaining the inner or outer portion of the barrier closed at all times. However, all secondary containment access doors are normally kept closed, except when the access opening is being used for entry and exit or when maintenance is being performed on an access opening.** The 31 day Frequency for these SRs has been shown to be adequate, based on operating experience, and is considered adequate in view of the other indications of door and hatch status that are available to the operator.

II. REASON FOR THE PROPOSED CHANGE

The current TS language was adopted as a more restrictive change when BFN converted to NUREG-1433, Improved Standard Technical Specifications, format on July 14, 1998. The previous BFN TS licensing basis, as described in Custom Technical Specifications, would have allowed maintenance on one access door while maintaining secondary containment integrity by administratively controlling the other access door.

For the specifics of the exigency review, TVA is requesting prompt approval of the proposed TS change to allow the timely repair of an air leak on a pneumatic door seal on the inner main equipment access lock. TVA is concerned that the air leak could worsen if not repaired soon, potentially rendering the inner equipment access door inoperable. In this case, equipment transfer into and out of secondary containment via the main equipment lock would be prohibited by TS Limiting Condition for Operation (LCO) 3.6.4.1, Secondary Containment.

ENCLOSURE 1

With the Unit 3 refueling outage pending in mid-April, it is imperative that we be able to readily move equipment and material in and out of secondary containment through the main equipment lock. The inability to do so would severely hinder outage activities since the subject building access lock is the primary path for large equipment transport supporting refueling activities. Therefore, it is prudent that TVA request exigent approval of TS-402 to allow repair of the door seal to proceed as soon as possible.

Current BFN TS do not contain explicit provisions for single secondary containment doors to be temporarily opened to accommodate maintenance activities. Since at BFN, the secondary containment is common, the shutdown of both Units 2 and 3 would be required under the existing TS to perform the seal repairs. The proposed TS change would allow the seal to be repaired online and would avoid the transition risks associated with such a reactor shutdown to perform minor door seal repair work should the seal leak worsen. Hence, the approval of this TS could prevent an unnecessary forced shutdown of both BFN units. For future applications, the TS change would allow routine or unexpected door maintenance to be performed in a timely manner.

III. CONSISTENCY WITH TSTF

It was previously recognized that STS needed provisions for allowing access doors to be temporarily opened to perform maintenance. An industry sponsored generic change (TSTF-18) which reintroduced this allowance was proposed and approved by NRC as TSTF-18, Revision 1. The TSTF-18 change modifies the SR wording and Bases such that maintenance can be performed on secondary containment access doors while continuing to preserve the secondary containment safety function by keeping one access door closed.

IV. SAFETY EVALUATION

A. Secondary Containment Access Doors Description

Main Equipment Access Lock

The main equipment access lock is located on Unit 1 and provides a path for transport of large equipment and bulk material into and out of secondary

ENCLOSURE 1

containment. This common equipment access hatch is also used for transfer of new fuel into secondary containment for the three BFN units. Once inside the secondary containment, the equipment/material is transported to the respective units or refuel floor via internal doors and equipment hatches. The two access doors to the large equipment lock are secondary containment doors and are shown on Final Safety Analysis Report (FSAR) Figure 1.6-8 Sheet 1. Additional discussion on secondary containment access doors is located in FSAR Section 5.3.

The main equipment lock is a concrete box structure approximately 26 feet wide by 26 feet high, extending outward from the south side of the Unit 1 reactor building approximately 106 feet. The inner and outer equipment access doors are identical in design and provide a sealed closure at each end of the access lock. Each door consists of two leaves. Each leaf is hinged on the outer side, held at the center of the opening by manually-operated locking pins, and sealed on four sides by inflatable rubber seals. The seals are mounted on the door leaves and are pressurized after the door is closed. The structural portion of each door is airtight, of welded steel construction. Operation of the doors is interlocked so that only one door is open at any given time. These doors are designed and maintained as secondary containment doors.

Personnel Access Doors

As discussed in FSAR Section 5.3, there are several secondary containment personnel locks which provide access for personnel entry and exit. The personnel access locks include both outer and inner doors which provide a redundant secondary containment boundary.

Small Reactor Building Equipment Access Doors

Two small equipment access locks are located on elevation 565 which provide access from the turbine building to the reactor building for equipment and material transport as shown on FSAR Figures 1.6-6 and 1.6-13. These equipment access locks include both outer and inner doors which provide a redundant secondary containment boundary.

ENCLOSURE 1

B. Safety Evaluation of the Proposed Change

The main equipment access lock doors provide a boundary zone between secondary containment and the outside environment. During normal operation, both doors remain closed. Current TS provide that that one of the doors can be opened for personnel entry or exit if the other door is maintained closed. The proposed TS change would additionally allow one of the doors to be open for required maintenance provided the other door is closed.

While closed, the door seals are kept inflated with a positive pressure.

During operation:

- Only one door may be opened at any given time.
- Before one door can be opened, the other door must be closed, locked, and sealed.
- Doors cannot be opened until the door seals are deflated.
- Seals on one door cannot be inflated until the door has been closed and locked.

The proposed TS change would also apply to the personnel and small equipment locks in a similar manner. Specifically, the TS revision would allow the inner or outer doors to be open for maintenance, and for personnel entry and exit provided the secondary containment boundary was maintained by a closed secondary containment door.

Secondary containment at BFN consists of the entire Reactor Building and Refueling Zone. The Standby Gas Treatment System is used to maintain the secondary containment at a negative pressure and provide for a controlled, filtered, elevated release of the secondary containment atmosphere under abnormal conditions. To perform this function and for redundancy, plant design incorporates paired sets of outer and inner secondary containment access doors.

ENCLOSURE 1

Current TS provide that the secondary containment access doors be verified closed except during periods of personnel entrance and exit provided that the other door is closed. This proposed TS change would allow access doors be temporarily opened to perform required maintenance activities provided the other access door is verified closed to maintain the secondary containment boundary. As noted in the revised TS Bases, both the outer and inner secondary containment access doors are normally maintained closed except for the temporary conditions of personnel access or for required maintenance.

C. Conversion to Improved TS

SR 3.6.4.1.2 is a new Surveillance Requirement which was added during the BFN conversion to Improved TS. Prior to the conversion, BFN did not have a periodic SR for verification of containment access door position. The previous custom TS, however, specifically provided that secondary containment integrity was maintained if one door in each access was maintained closed with no time or activity restrictions specified. Hence, adoption of TSTF-18, Revision 1 is more conservative than the previous custom TS provisions, and remains consistent with the BFN licensing and design basis for secondary containment.

IV. NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

TVA has concluded that operation of Browns Ferry Nuclear Plant (BFN) Units 1, 2, and 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 the three standards set forth in 10 CFR 50.92(c).

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

The proposed change is an administrative clarification of the existing requirements. Verifying that one door in each access opening is closed ensures the infiltration of outside air of such a magnitude as to prevent the

ENCLOSURE 1

maintaining of the desired post-accident negative pressure does not occur.

Therefore the proposed amendment does not involve a significant 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.

The proposed amendment does not add any new equipment or require any existing equipment to be operated in a manner different from the present design. The proposed change is consistent with the SAR analysis for design basis accidents. No operation outside of the existing design basis is introduced by the proposed amendment.

Therefore, the proposed amendment 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 proposed change is consistent with the BFN FSAR accident analysis. The change does not physically modify any equipment, setpoints, or equipment initiation sequences.

For these reasons, the proposed amendment does not involve a significant reduction in the margin of safety.

V. ENVIRONMENTAL IMPACT CONSIDERATION

The proposed amendment does not involve a significant hazards consideration, a significant change in the types of or significant increase in the amounts of any effluents that may be released offsite, or a significant increase in individual or cumulative occupational radiation exposure. Therefore, the

ENCLOSURE 1

proposed amendment 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 amendment is not required.

ENCLOSURE 2

TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT (BFN)
UNITS 1, 2, and 3

PROPOSED TECHNICAL SPECIFICATIONS (TS) CHANGE TS-402
CHANGES TO SURVEILLANCE REQUIREMENT (SR) 3.6.4.1.2
SECONDARY CONTAINMENT ACCESS DOORS

MARKED-UP TS/BASES CHANGES

AFFECTED PAGE LIST

Unit 1	Unit 2	Unit 3
3.6-46	3.6-46	3.6-46
B 3.6-105	B 3.6-105	B 3.6-105

BASES INSERT

An access opening contains one inner and one outer door. In some cases, secondary containment access openings are shared such that a secondary containment barrier may have multiple inner doors. The intent is to not breach the secondary containment at any time when secondary containment is required. This is achieved by maintaining the inner or outer portion of the barrier closed at all times. However, all secondary containment access doors are normally kept closed, except when the access opening is being used for entry and exit or when maintenance is being performed on an access opening.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.1.1	Verify all secondary containment equipment hatches are closed and sealed.	31 days
SR 3.6.4.1.2	Verify one each secondary containment access door is closed, except when the access opening is being used for entry and exit, then at least one door shall be closed.	31 days
SR 3.6.4.1.3	Verify two standby gas treatment (SGT) subsystems will draw down the secondary containment to ≥ 0.25 inch of vacuum water gauge in ≤ 120 seconds.	24 months on a STAGGERED TEST BASIS
SR 3.6.4.1.4	Verify two SGT subsystems can maintain ≥ 0.25 inch of vacuum water gauge in the secondary containment at a flow rate $\leq 12,000$ cfm.	24 months on a STAGGERED TEST BASIS

in each access opening

BASES

ACTIONS

C.1, C.2, and C.3 (continued)

Required Action C.1 has been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, in either case, inability to suspend movement of irradiated fuel assemblies would not be a sufficient reason to require a reactor shutdown.

SURVEILLANCE
REQUIREMENTS

SR 3.6.4.1.1 and SR 3.6.4.1.2

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one →

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BASES

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in each access opening

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BASES

ACTIONS

C.1, C.2, and C.3 (continued)

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SURVEILLANCE
REQUIREMENTS

SR 3.6.4.1.1 and SR 3.6.4.1.2

one

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separate page
here

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