

May 20, 2005

U.S. Nuclear Regulatory Commission
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Washington, D.C. 20555-0001

Gentlemen:

In the Matter of) Docket No. 50-259
Tennessee Valley Authority)

**BROWNS FERRY NUCLEAR PLANT (BFN) UNIT 1 - RESPONSE TO NRC'S
LETTER ON LICENSING ACTION STATUS AND INTERDEPENDENCIES
(TAC NOS. MC1330, MC1427, MC2305, MC3812, MC3813, MC3822,
MC3960, MC4070, MC4161, MC4659, MC4797, MC5254 AND MC5373)**

This letter provides TVA's response to NRC's April 19, 2005 letter (Reference 1) on BFN Unit 1 licensing action status and interdependencies. TVA welcomes the opportunity to provide constructive feedback regarding the resolution of NRC staff concerns. The NRC's letter provided information and requested TVA provide responses regarding:

1. License amendment requests under review by the staff and their outstanding TVA or NRC actions;
2. Interdependencies between the license amendment requests;
3. Potential delays in the review or the denial of one licensing action may have an adverse effect on other licensing actions;
4. The potential for splitting some of the license amendment requests into multiple stand-alone requests;

U.S. Nuclear Regulatory Commission
Page 2
May 20, 2005

5. Duplication of NRC license renewal application reviews while processing the extended power uprate license amendment; and
6. NRC review of the previously approved regulatory scope for the restart of BFN Unit 1.

The staff's comments and TVA's response are provided in the enclosure to this letter. In summary:

1. TVA has two comments regarding the NRC status of pending actions. In one case, NRC requested additional information that has been provided. TVA also believes that the staff should be able to approve several pending amendments without additional information.
2. The interdependencies listed in Enclosure 2 of the NRC's April 19th letter are consistent with TVA's prior identification of the interdependencies in its applications. The graphic depiction of the interdependencies in Enclosure 3 is accurate.
3. TVA is also concerned that staff delays in the review or denial of the proposed license amendments required for Unit 1 restart may adversely affect and potentially impede the return to service of Unit 1. TVA recognizes that, in individual instances, its responsiveness to requests for additional information did not meet TVA's or NRC's expectations. However, TVA has endeavored to provide the staff with high quality applications and sufficient review time, and will increase its emphasis on timely and thorough responses. TVA also believes that several of the license amendments being held by the staff could be approved without additional information, which would avoid the further delays and the potential for adverse affects.

4. With regards to revising the scope of applications needed for Unit 1 restart, it is unclear how having TVA withdraw and subsequently resubmit changes which are already under staff review could result in an expedited staff review and approval. However, TVA will respond to any formal staff request for specific revisions and re-submittal of Unit 1 restart amendments in an expeditious manner.
5. TVA's agreement for the staff to complete the License Renewal Application (LRA) review at the current licensed power level was based, in part, on the staff's assurance that there would be no duplicate review costs. TVA encourages NRC to use staff resources efficiently and to eliminate duplicative reviews.
6. The schedule for the restart of BFN Unit 1 is based on the regulatory approved scope which was defined in the regulatory framework letters. The fact that the restart scope is being reconsidered well over a year and a half after its approval by NRC causes us great concern. In order to minimize the impact to the restart of BFN Unit 1 and the LRA, TVA requests to be formally notified as soon as possible upon the identification of any additional regulatory issue. In addition, TVA requests formal notification upon the completion of the staff's review.

The requested response date for this letter was extended until May 31, 2005 due to delays in the receipt of the NRC's request.

If you have any questions about this submittal, please contact me at (256) 729-2636.

Sincerely,

Original signed by:

T. E. Abney
Manager of Licensing
and Industry Affairs

U.S. Nuclear Regulatory Commission
Page 4
May 20, 2005

References:

1. NRC letter, E.M. Hackett to K.W. Singer, dated April 19, 2005, "Browns Ferry Nuclear Plant, Unit 1 - Licensing Action Status and Interdependencies".

Enclosure

cc (Enclosure):

(Via NRC Electronic Distribution)

U.S. Nuclear Regulatory Commission
Region II
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW, Suite 23T85
Atlanta, Georgia 30303-3415

Mr. Stephen J. Cahill, Branch Chief
U.S. Nuclear Regulatory Commission
Region II
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW, Suite 23T85
Atlanta, Georgia 30303-3415

NRC Senior Resident Inspector
Browns Ferry Nuclear Plant
10833 Shaw Road
Athens, AL 35611-6970

Margaret Chernoff, Senior Project Manager
U.S. Nuclear Regulatory Commission
(MS 08G9)
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852-2739

Eva A. Brown, Project Manager
U.S. Nuclear Regulatory Commission
(MS 08G9)
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852-2739

U.S. Nuclear Regulatory Commission
Page 5
May 20, 2005

Enclosures

cc (Enclosures):

A. S. Bhatnagar, LP 6A-C
J. C. Fornicola, LP 6A-C
R. G. Jones, NAB 1A-BFN
K. L. Krueger, POB 2C-BFN
R. F. Marks, PAB 1C-BFN
F. C. Mashburn, BR 4X-C
N. M. Moon, LP 6A-C
J. R. Rupert, NAB 1A-BFN
K. W. Singer, LP 6A-C
M. D. Skaggs, PAB 1E-BFN
E. J. Vigluicci, ET 11A-K
NSRB Support, LP 5M-C
EDMS WT CA - K

ENCLOSURE
TVA RESPONSE TO NRC'S APRIL 19, 2005 LETTER
REGARDING LICENSING ACTION STATUS AND INTERDEPENDENCIES

INTRODUCTION

This letter provides TVA's response to NRC's April 19, 2005 letter (Reference 1) on BFN Unit 1 licensing action status and interdependencies. TVA welcomes the opportunity to provide constructive feedback regarding the resolution of NRC staff concerns. The staff's comments and TVA's response are provided below:

NRC COMMENT 1:

"The Tennessee Valley Authority (TVA, the licensee) has submitted 13 license amendment requests (TS-426, TS-427, TS-428, TS-430, TS-431, TS-432, TS-433, TS-434, TS-435, TS-436, TS-437, TS-438, and TS-447) since November 2003 in support of the recovery activities for Browns Ferry Nuclear Plant, Unit 1 (BFN1), excluding the license renewal application (LRA). In addition, there are two license conditions that must be satisfied prior to BFN1 restart. The U.S. Nuclear Regulatory Commission (NRC) staff is issuing this letter to confirm our understanding of the interdependencies and to provide the status of licensing actions. ... A listing of the license amendment requests citing outstanding information is contained in Enclosure 1."

TVA RESPONSE:

TVA has two comments regarding the NRC status provided in Enclosure 1 of their April 19, 2005 letter:

- With regards to TS 431, Extended Power Uprate, TVA submitted the supplemental information concerning large transient testing on April 25, 2005 (Reference 2).
- For the six Unit 1 restart amendments the staff is awaiting supplemental information regarding ISA Method 3, four have previously been approved for Units 2 and 3. TVA believes

that the staff should be able to approve these six changes very quickly, without additional information, and prior to the generic resolution of the ISA Method 3 issue. As previously discussed in Reference 3, TVA's method for performing setpoint calculations was previously reviewed and explicitly approved by NRC on the BFN docket. As part of NRC's review of one of the Units 2 and 3 precedent Technical Specifications for a 24 month fuel cycle (Reference 4), NRC endorsed TVA's method of evaluation of as-found and as-left values in TVA's maintenance program and TVA's method of addressing failures through the corrective action program. Therefore, the proposed amendments conform to the plant's Current Licensing Basis and are consistent in format and content with the latest approved revision of the Standard Technical Specifications.

Also, TVA has had several telephone conferences with NRC on this issue to investigate options that would be satisfactory to the staff. As documented in Reference 5, TVA proposed a plant specific interim resolution to the Method 3 issue, which would obviate the need for waiting until the industry resolution is developed. TVA offered to modify the Technical Specification Bases to describe TVA's current practice of resetting instrument setpoints to within established calibration tolerance bands following calibration surveillances. NRC stated that this was not an acceptable approach and NRC rejected TVA's proposal.

TVA continues to believe that the interim solution it has proposed would allow NRC approval of these Technical Specifications and would eliminate concerns that delays in the review or the denial of these actions may adversely effect the restart of Unit 1. TVA continues to be willing to discuss this further with the staff.

TVA also anticipates that the TSTF being drafted by NEI will not require any TVAN programmatic changes. However, if a suitable resolution between TVA, NEI and NRC is reached, TVA will expeditiously prepare and submit an amendment request to implement the generic resolution of this issue.

NRC COMMENT 2:

"Enclosure 2 provides a listing of licensing actions that includes TVA's requested completion dates and interdependencies. The interdependencies are graphically depicted in Enclosure 3. The NRC staff has found that, in general, the submittals provided by TVA have clearly identified the interrelationships between the requested license amendments. Nevertheless, the NRC staff is requesting TVA confirmation that our understanding of the interdependencies is correct."

TVA RESPONSE:

The interdependencies listed in Enclosure 2 of the NRC's April 19th letter are consistent with TVA's prior identification of the interdependencies in its applications. TVA has no comments on the graphic depiction of the interdependencies in Enclosure 3.

NRC COMMENT 3:

"The NRC staff is concerned that delays in the review or the denial of one licensing action may have an adverse effect on multiple other licensing actions, including the license renewal review. For example, the scope of the license renewal application review is dependent on the license amendment request associated with the allowable main steamline isolation valve leakage limits (TS-436). The NRC staff believes that a complete, high quality, and timely response to NRC staff questions is critical to the timely review of your applications."

TVA RESPONSE:

TVA is also concerned that staff delays in the review or denial of the proposed license amendments required for Unit 1 restart may adversely affect and potentially impede the return to service of Unit 1. TVA recognizes that, in individual instances, its responsiveness to requests for additional information did not meet TVA's or NRC's expectations. TVA will increase its emphasis on timely and thorough responses.

However, as previously discussed, TVA does not agree that the six amendments related to Method 3 should be kept on hold. TVA continues to believe that the interim solution it has proposed would allow NRC approval of these Technical Specifications and would eliminate concerns that delays in the review or the denial of these actions may adversely effect on other licensing actions. TVA continues to be willing to discuss this further with the staff.

Also, in the example cited by the staff, TS 436 could be approved since the staff has already imposed a License Condition which requires the completion of a staff requested analysis before restart of Unit 1. With regards to the "dependence" between the LRA and TS 436, TVA provided additional information (Reference 6) concerning the Unit 1 restart commitments that were identified in Appendix F of the LRA. Should TVA not receive approval of TS-436, the effect on the BFN license renewal is that the Unit 1 components credited in the Main Steam Isolation Valve Alternate Leakage Pathway would not be in scope for license renewal as currently planned. The Unit 1 boundary drawings would remain accurate and the increased scope

identified by the bold border boxes in the application would not be applicable. Therefore, staff reviews of the application would not change and the dependency between the LRA and TS 436 is relatively minor.

Overall, TVA has endeavored to provide the staff with high quality applications. Nine of the 13 pending Unit 1 amendment requests had precedents which were previously approved by the staff on BFN Units 2 and 3. TVA's Unit 1 applications included the information submitted with the Units 2 and 3 applications, as well as any additional information that was requested by the staff during the review and subsequent approval of the Units 2 and 3 precedents. In addition, if there was any deviation from the Units 2 and 3 precedent, it was explicitly identified and justified. TVA provided this information to allow efficient use of staff resources in reviewing the applications. However, TVA notes that in several cases, NRC review costs for Unit 1 have already exceeded that of the Units 2 and 3 precedents. Two of these applications have been with the staff for over 18 months. Therefore, TVA does not believe that all the current delays in approval can be attributed to the quality of our applications or responses to requests for additional information.

We also note TVA has submitted all but two of the amendments that are known to be required prior to restart. The Unit 1 amendment submittal schedule was implemented to provide sufficient time for NRC to review these requests. The two remaining applications (i.e., Detect and Suppress Solution - Confirmation Density and Maximum Extended Load Line Limit Analysis Plus) are pending NRC approval of Topical Reports before they can be submitted.

NRC COMMENT 4:

"The NRC staff has noted that several of the applications contain multiple parts that could be split into stand-alone licensing actions. For example, TS-447 contains a request to change both limiting safety system setpoints and the surveillance frequency. In some cases, portions of the amendment request could be reviewed and issued separately while technical issues are being resolved for the remainder of the amendment request. In the future, TVA may want to consider revising the scope of these applications in order to expedite NRC staff review and approval."

TVA RESPONSE:

Overall, it is unclear how having TVA withdraw and subsequently resubmit changes, which are needed for Unit 1 restart and already under staff review, could result in an expedited staff review and approval. In general, the Unit 1 amendment requests are needed in their entirety to maintain consistency between the units. To separate them into multiple requests would require additional TVA and NRC administrative resources. It would appear to be more efficient for the staff to continue reviewing the proposed changes, as submitted, and issue the amendments when all reviews have been completed.

The NRC's April 19, 2005, letter specifically cites TS 447 as an example of an amendment that TVA may wish to revise. TS 447 was submitted in August 2004 (Reference 7). The staff noted that TS 447 contains a request to change both limiting safety system setpoints and the associated surveillance frequencies. Setpoints and surveillance frequencies are co-dependent values (i.e., the longer time between surveillances, the more margin has to be included in the setpoint to account for a longer period of drift). It is not clear how either a setpoint or a surveillance frequency could be approved individually without consideration of the other parameter. As evidenced by this example, it would appear that separating this amendment into multiple requests would also result in both additional administrative burden for TVA and NRC as well as duplicative reviews by the staff.

However, TVA will respond to any formal staff request for specific revisions and re-submittal of Unit 1 restart amendments in an expeditious manner.

NRC COMMENT 5:

"Due to scheduling considerations and as requested in your letter dated January 7, 2005, the review of your LRA will be based on currently licensed thermal power limits for each of your units. The extended power uprate (EPU) review will address EPU conditions for the renewed license term later. The NRC staff will be reviewing the two applications to the level of detail necessary to reach a finding of compliance with the applicable regulations. While every effort will be made to avoid overlap and duplication of reviews, the NRC staff may not completely preclude revisiting some of the license renewal issues, such as any intervening aging management program review changes, including any current licensing basis changes, during the conduct of the EPU review."

TVA RESPONSE:

It should be noted that the January 7, 2005 (Reference 8) letter documented a meeting between TVA and NRC in which TVA was informed it could either accept the completion of the LRA review based on current licensed power levels or indefinitely delay the LRA review until the EPU review was completed. TVA's agreement for the staff to complete the LRA review at the current licensed power level for each unit and address the renewed license term at EPU conditions as part of the EPU review, was based, in part, on the staff's assurance that there would be no duplicate review costs.

In order to minimize the unnecessary duplication of staff reviews, TVA suggests the staff consider the following approach. The LRA is currently under review by the staff. The LRA conservatively assumes EPU conditions for each of the three units. NRC could obtain input from the LRA reviewers, assuming the conservative EPU conditions, for those common portions of the LRA and EPU applications. This would minimize the need for staff being assigned to the EPU application to revisit areas previously researched and reviewed. This would appear to provide an effective and efficient use of staff resources and minimize the need for duplicative reviews.

As evidenced by the examples provided below, TVA has been proactive in recognizing the interrelationships between the LRA, the EPU application and their effects on the Current Licensing Basis.

- Since its development, the LRA assumed EPU conditions.
- Differences between the current licensing basis for Unit 1 and the current licensing bases for Units 2 and 3 were documented in Appendix F of the LRA.
- In Reference 6, TVA provided additional information concerning the BFN Unit 1 restart commitments identified in Appendix F of the LRA. TVA specified the impact to the BFN license renewal regulatory basis should, for some unforeseen reason, any of these restart commitments were modified, withdrawn, or otherwise be unfulfilled upon the restart of BFN Unit 1. TVA concluded that, although it has not yet completed implementation of the Unit 1 restart commitments, the regulatory basis for NRC approval of the BFN license renewal application for Unit 1 had been established.
- In Reference 9, TVA submitted a detailed explanation of how the LRA bounded the EPU submittal. The enclosure provided a "road map" which documents the review of plant systems included in the scope of LRA to identify design or operational changes created by EPU.

TVA continues to be willing to assist the staff in its review of these interrelationships.

NRC COMMENT 6:

"The NRC staff is reviewing closure packages for Generic Communications and Special Programs applicable to BFN1 during the period from 1985 through the present to verify that all required submittals are being tracked in your periodic Status of BFN1 Restart Issues report. The results of that review will be the subject of separate correspondence. These results may potentially impact the LRA review."

TVA RESPONSE:

TVA proposed a regulatory framework for the restart of Unit 1 in References 10 and 11. Included in this proposal was a listing of those NUREG-0737 Action Items, Bulletins, Generic Letters, and Nuclear Performance Plan Special Programs that required responses or the completion of committed actions prior to the restart of Unit 1. TVA met with NRC and had numerous interactions regarding both the list of NUREG-0737 Action Items, Bulletins, Generic Letters, and Nuclear Performance Plan Special Programs and their affect on the LRA. The regulatory scope for the restart of BFN Unit 1 was explicitly approved by NRC in August of 2003 (Reference 12). NRC stated:

"The staff has reviewed the list of bulletins, GLs, and Three-Mile Island Action items. Based on this review, the staff agrees that the list ... is complete. ...

The NRC staff has reviewed the list of special programs and TVA's proposed actions. Based on this review, the staff finds that the list is complete and TVA's proposed actions are acceptable."

As discussed in response to the last comment, TVA has provided extensive information regarding restart commitments and their relationship to the LRA. The schedule for the restart of BFN Unit 1 is based on the regulatory approved scope which was defined in the regulatory framework letters. The fact that the restart scope is being reconsidered at this late stage in the Unit 1 restart project, and well over a year after the submittal of the LRA (Reference 13), causes us great concern. In order to minimize the impact to the restart of BFN Unit 1 and the LRA,

TVA requests to be formally notified as soon as possible upon the identification of any additional regulatory issue. In addition, TVA requests formal notification upon the completion of the staff's review.

REFERENCES :

1. NRC letter, E.M. Hackett to K.W. Singer, dated April 19, 2005, "Browns Ferry Nuclear Plant, Unit 1 - Licensing Action Status and Interdependencies".
2. TVA letter, T.E. Abney to NRC, dated April 25, 2005. "Browns Ferry Nuclear Plant (BFN) - Unit 1 - Response to NRC's Request for Additional Information Related to Technical Specifications (TS) Change No. TS-431- Request for Extended Power Uprate Operation (TAC No. MC3812)."
3. TVA letter, T.E. Abney to NRC, dated November 15, 2004, "Browns Ferry Nuclear Plant (BFN) - Unit 1 - Technical Specifications (TS) Change 434 - Response to Request for Additional Information Regarding Lowering the Allowable for Reactor Vessel Water Level - Low Level 3".
4. NRC letter, L. Raghavan to J. Scalice, dated November 30, 1998, "Issuance of Amendments - Browns Ferry Nuclear Plan Units 1, 2 and 3 (TAC Nos. MA2081, MA2082, and MA2083)."
5. NRC letter, Margaret H. Chernoff to TVA, dated February 16, 2005, "Summary of February 1, 2005, Conference Call Regarding Request for Information Regarding Status of Amendments Using Method 3 (TAC Nos. MC1330, MC1427, MC2305, MC3812, MC4070, MC4071, MC4072, MC4161, MC3743, MC3744)
6. TVA letter, T.E. Abney to NRC, dated January 31, 2005, "Browns Ferry Nuclear Plant (BFN) - Units 1, 2, and 3 License Renewal Application - Additional Information Concerning the Integration of Unit 1 Restart and Renewal Activities (TAC Nos. MC1704, MC1705, and MC1706)

7. TVA letter, T.E. Abney to NRC, dated August 16, 2004, "Browns Ferry Nuclear Plant (BFN) - Units 1, 2, and 3 - Technical Specifications (TS) Change TS-447 - Extension of Channel Calibration Surveillance Requirement Performance Frequency and Allowable Value Revision".
8. TVA letter, T.E. Abney to NRC, dated January 7, 2005, "Browns Ferry Nuclear Plant (BFN) - Units 1, 2, and 3 - Summary of NRC Site Visit and Meeting Regarding Extended Power Uprate (EPU) and License Renewal Applications (LRA)".
9. TVA letter, T.E. Abney to NRC, dated August 3, 2004, "Browns Ferry Nuclear Plant (BFN) - Units 1, 2, And 3 - License Renewal (LR) Application - Detailed Explanation of how the LR Application Bounds the BFN Extended Power Uprate (EPU) Submittals (TAC Nos. MC1768, MC1769, and MC1770)".
10. TVA letter, T.E. Abney to NRC, dated December 13, 2002, "Browns Ferry Nuclear Plant (BFN) - Unit 1 - Regulatory Framework for the Restart of Unit 1".
11. TVA letter, T.E. Abney to NRC, dated February 28, 2003, "Browns Ferry Nuclear Plant (BFN) - Unit 1 - Regulatory Framework for the Restart of Unit 1".
12. NRC letter, L.B. Marsh to J.A. Scalice, dated August 14, 2003, "Regulatory Framework for the Restart of Browns Ferry Nuclear Plant, Unit 1 (TAC MB7679)".
13. TVA letter, M.J. Burzynski to NRC, dated December 31, 2003, "Browns Ferry Nuclear Plant (BFN) - Units 1, 2 and 3 - Application for Renewed Operating Licenses".