

May 24, 2005

10 CFR 54

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Mail Stop: OWFN P1-35  
Washington, D.C. 20555-0001

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 -  
LICENSE RENEWAL APPLICATION (LRA) - RESPONSE TO NRC REQUEST  
FOR ADDITIONAL INFORMATION ON FOLLOW-UP TO RAI 2.3.3.21-4b  
(TAC NOS. MC1704, MC1705, AND MC1706)**

By letter dated December 31, 2003, TVA submitted, for NRC review, an application pursuant to 10 CFR 54, to renew the operating licenses for the Browns Ferry Nuclear Plant, Units 1, 2, and 3. As part of its review of TVA's LRA, the NRC staff, through an informal request on May 21, 2005, identified additional information needed for follow-up to RAI 2.3.3.21-4b.

The enclosure to this letter contains the specific NRC request for additional information and the corresponding TVA response.

U.S. Nuclear Regulatory Commission  
Page 2  
May 24, 2005

If you have any questions regarding this information, please contact Ken Brune, Browns Ferry License Renewal Project Manager, at (423) 751-8421.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 24<sup>th</sup> day of May, 2005.

Sincerely,

Original Signed by:

T. E. Abney  
Manager of Licensing  
and Industry Affairs

Enclosure:

cc: See page 3

U.S. Nuclear Regulatory Commission  
Page 3  
May 24, 2005

Enclosure

cc (Enclosure):

State Health Officer  
Alabama Department of Public Health  
RSA Tower - Administration  
Suite 1552  
P.O. Box 303017  
Montgomery, Alabama 36130-3017

Chairman  
Limestone County Commission  
310 West Washington Street  
Athens, Alabama 35611

(Via NRC Electronic Distribution)

Enclosure

cc (Enclosure):

U.S. Nuclear Regulatory Commission  
Region II  
Sam Nunn Atlanta Federal Center  
61 Forsyth Street, SW, Suite 23T85  
Atlanta, Georgia 30303-8931

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 30303-8931

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

NRC Unit 1 Restart Senior Resident Inspector  
Browns Ferry Nuclear Plant  
10833 Shaw Road  
Athens, Alabama 35611-6970

cc: continued page 4

U.S. Nuclear Regulatory Commission  
Page 4  
May 24, 2005

cc: (Enclosure)

Margaret Chernoff, 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

Yaira K. Diaz-Sanabria, Project Manager  
U.S. Nuclear Regulatory Commission  
(MS 011F1)  
One White Flint, North  
11555 Rockville Pike  
Rockville, Maryland 20852-2739

Ramachandran Subbaratnam, Project Manager  
U.S. Nuclear Regulatory Commission  
(MS 011F1)  
One White Flint, North  
11555 Rockville Pike  
Rockville, Maryland 20852-2739

U.S. Nuclear Regulatory Commission  
Page 5  
May 24, 2005

JEM:TLE:BAB

Enclosure

cc (Enclosure):

A. S. Bhatnagar, LP 6-C  
K. A. Brune, LP 4F-C  
J. C. Fornicola, LP 6A-C  
R. G. Jones, NAB 1A-BFN  
K. L. Krueger, POB 2C-BFN  
R. F. Marks, Jr., PAB 1A-BFN  
F. C. Mashburn, BR 4X-C  
N. M. Moon, LP 6A-C  
J. R. Rupert, NAB 1F-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

s://Licensing/Lic/Submit/Sub/License Renewal/BFN LR Clarification On Follow-up to RAI  
2.3.3.21-4b Letter.doc

ENCLOSURE

TENNESSEE VALLEY AUTHORITY  
BROWNS FERRY NUCLEAR PLANT (BFN)  
UNITS 1, 2, AND 3  
LICENSE RENEWAL APPLICATION (LRA)

RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION (RAI) ON  
FOLLOW-UP TO RAI 2.3.3.21-4b

---

(SEE ATTACHED)

**TENNESSEE VALLEY AUTHORITY  
BROWNS FERRY NUCLEAR PLANT (BFN)  
UNITS 1, 2, AND 3  
LICENSE RENEWAL APPLICATION (LRA)**

**RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION (RAI) ON  
FOLLOW-UP TO RAI 2.3.3.21-4b**

---

By letter dated December 31, 2003, TVA submitted, for NRC review, an application pursuant to 10 CFR 54, to renew the operating licenses for the Browns Ferry Nuclear Plant, Units 1, 2, and 3. As part of its review of TVA's LRA, the NRC staff, through an informal request on May 4, 2005, identified additional information needed for follow-up to RAI 2.3.3.21-4b. This enclosure contains the specific NRC request for additional information and the corresponding TVA response.

**NRC Follow-up to RAI 2.3.3.21-4b**

With regard to RAI 2.3.3.21-4b, the applicant stated that flow indicators are not contained as a component type in LRA Table 2.3.3.21. Flow indicators were excluded from an AMR based on guidance provided in NEI 95-10 Appendix B.

Based on its review, the staff is not able to find the applicant's response to RAI 2.3.3.21-4 acceptable. The applicant follows the guidance in NEI 95-10 which lists flow indicators as active components. However, the flow indicators in question are in-line indicators. The indicator portion of the component is an active component, but the piping portion of the indicator through which flow goes provides a pressure boundary function. Therefore, this portion of the component should be within scope and subject to an AMR. Therefore, the staff is not able to determine that the integrity of the reactor water cleanup system will be ensured.

**TVA Response to follow up to RAI 2.3.3.21-4b**

The pressure boundary portion of the flow indicators are in scope and are evaluated as fittings in the Control Rod Drive System (85). License Renewal Drawings 1-47E810-1-LR, 2-47E810-1-LR, and 3-47E810-1-LR were revised to show FI-75 and FI-77 in blue for 54.4(a)(2). The pressure retaining portion of the flow indicators are stainless steel with an internal environment of treated water with an external environment of inside air and are already contained in Table 3.3.2.29 of the LRA.

All license renewal boundary drawings were reviewed for in-line flow indicators which provide a pressure boundary function. This review identified that the following system drawings also contain flow indicators that form a pressure boundary, and the drawings were updated as listed below:

- **System 43 changes**

- Drawing 1-47E610-43-1-LR was revised to show FI-11, -12A, and -12B and FIS-13A and -13B in blue for 54.4(a) (2).
- Drawing 2-47E610-43-1-LR was revised to show FI-10, -11, -12A, -12B, FIC-10A, -10B, -10C, -11A, -11B, -11C, -12A, -12B, and FIS-13A and -13B in blue for 54.4(a) (2).
- Drawing 3-47E610-43-1-LR was revised to show FIS-13A and -13B in blue for 54.4(a) (2).
- Drawing 3-47E610-43-6-LR was revised to show FI-10, -11, -12A, -12B and FIC-11A, -11B, -11C, -12AA, -12AB, -12BA, and -12BB in blue for 54.4(a) (2).
- No changes are required to LRA Table 3.3.2.14 since fittings contain the material/environment combinations for the in-line FIs, FICs and FISs which provide a pressure boundary function.

- **System 68 changes**

- Drawing 1-47E817-1-LR was revised to show FIS-55, -62, -68, and -74 in blue for 54.4(a) (2).
- Drawing 2-47E817-1-LR was revised to show FIS-55, -62, -68, and -74 in blue for 54.4(a) (2).
- Drawing 3-47E817-1-LR was revised to show FIS-55, -62, -68, and -74 in blue for 54.4(a) (2).
- Drawing 1-47E822-1-LR was revised to show FIS-53 and -66 in red for 54.4(a) (1).
- Drawing 2-47E822-1-LR was revised to show FIS-53 and -66 in red for 54.4(a) (1).
- No changes are required to drawing 3-47E822-1-LR since FIS-53 and -66 were already red for 54.4(a) (1).



- No changes are required to LRA Table 3.1.2.4 since fittings contain the material/environment combinations for the in-line FISs which provide a pressure boundary function.

- **System 69 changes**

- Drawings 1-47E837-1-LR was revised to show FI-38, -55, and -81 in blue for 54.4(a) (2).
- Drawings 2-47E837-1-LR was revised to show FI-38, -55, and -81 in blue for 54.4(a) (2).
- Drawings 3-47E837-1-LR was revised to show FI-38, -55, and -81 in blue for 54.4(a) (2).
- No changes are required to LRA Table 3.3.2.21 since fittings contain the material/environment combinations for the in-line FIs which provide a pressure boundary function.

- **System 74 changes**

- Drawing 1-47E811-1-LR was revised to show FIS-4, -15, -27, and -38 in blue for 54.4(a) (2).
- Drawing 2-47E811-1-LR was revised to show FIS-4, -15, -27, and -38 in blue for 54.4(a) (2).
- Drawing 3-47E811-1-LR was revised to show FIS-4, -15, -27, and -38 in blue for 54.4(a) (2).
- Add the following Material to page 3.2-8: Glass
- Add the information from the next page to Table 3.2.2.4 on page 3.2-50.
- No other changes are required to LRA Table 3.1.2.4 since fittings contain the other material/environment combinations for the in-line FISs which provide a pressure boundary function.

**ADDITIONS TO TABLE 3.2.2.4**

<b>Component Type</b>	<b>Intended Function</b>	<b>Material</b>	<b>Environment</b>	<b>Aging Effect Requiring Management</b>	<b>Aging Management Program</b>	<b>NUREG-1801, Vol. 2 Item</b>	<b>Table 1 Item</b>	<b>Notes</b>
Fittings	PB	Glass	Treated water (internal)	None	None	V.D2.1-c	None	F, 4, 6
Fittings	PB	Glass	Inside air (external)	None	None	V.E.1-b	None	F, 4, 6