



Tennessee Valley Authority
1101 Market Street, LP 3R
Chattanooga, Tennessee 37402-2801

R. M. Krich
Vice President
Nuclear Licensing

June 23, 2011

10 CFR 50.4

ATTN: Document Control Desk
U S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Browns Ferry Nuclear Plant, Units 1, 2, and 3
Facility Operating License Nos. DPR-33, DPR-52, and DPR-68
NRC Docket Nos. 50-259, 50-260, and 50-296

Sequoyah Nuclear Plant, Units 1 and 2
Facility Operating License Nos. DPR-77 and DPR-79
NRC Docket Nos. 50-327 and 50-328

Watts Bar Nuclear Plant, Unit 1
Facility Operating License No. NPF-90
NRC Docket No. 50-390

**Subject: Response to Request for Additional Information Regarding
Decommissioning Funding Status Report**

- References:**
1. Letter from TVA to NRC, "Decommissioning Funding Status Report," dated March 31, 2011
 2. Letter from NRC to TVA, "Browns Ferry Nuclear Plant, Units 1, 2, and 3, Sequoyah Nuclear Plant, Units 1 and 2, and Watts Bar Nuclear Plant, Unit 1 – Request for Additional Information Regarding Decommissioning Funding Status Report (TAC Nos. ME5455, ME5456, ME5457 (Browns Ferry), ME5535, ME5536 (Sequoyah), and ME5551 (Watts Bar 1)),” dated May 24, 2011

By letter dated May 24, 2011 (Reference 2), the Nuclear Regulatory Commission (NRC) requested additional information regarding the Tennessee Valley Authority's (TVA's) Decommissioning Funding Status Report submitted in accordance with the requirements of 10 CFR 50.75(f)(1) on March 31, 2011 (Reference 1). TVA has

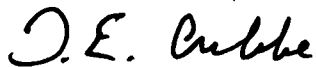
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reviewed the request for additional information and provides its response in the enclosure to this letter.

There are no regulatory commitments contained in this response. If you have any questions concerning this matter, please contact Josh Perrel at 423-751-7737.

Respectfully,



for R. M. Krich

Enclosure

cc (Enclosure):

NRC Regional Administrator – Region II
NRC Senior Resident Inspector – Browns Ferry Nuclear Plant
NRC Senior Resident Inspector – Sequoyah Nuclear Plant
NRC Senior Resident Inspector – Watts Bar Nuclear Plant

ENCLOSURE

TENNESSEE VALLEY AUTHORITY RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING DECOMMISSIONING FUNDING STATUS REPORT

Browns Ferry Nuclear Plant, Units 1, 2, and 3
NRC Docket Nos. 50-259, 50-260, and 50-296

Sequoyah Nuclear Plant, Units 1 and 2
NRC Docket Nos. 50-327 and 50-328

Watts Bar Nuclear Plant, Unit 1
NRC Docket No. 50-390

The Tennessee Valley Authority's (TVA's) response to the Nuclear Regulatory Commission's (NRC's) request for additional information (RAI) regarding the decommissioning funding status (DFS) report for Browns Ferry Nuclear Plant (BFN), Units 1, 2, and 3, Sequoyah Nuclear Plant (SQN), Units 1 and 2, and Watts Bar Nuclear Plant (WBN), Unit 1, is provided below. TVA's response is provided after each RAI is restated in its entirety.

NRC RAI 1

Identify Actual Funds as of December 31, 2010 (BFN, Units 1 and 2):

Provide the actual amount of decommissioning funds accumulated for BFN, Units 1 and 2, rounded to the nearest dollar, which must reflect the fund balance as of December 31, 2010.

In its March 31, 2011, letter, TVA provided the actual amount accumulated for NRC decommissioning activities as of December 31, 2010, in amounts rounded to the nearest hundred thousand dollars. Although rounding dollar figures is acceptable to the NRC in DFS reporting, in this instance, rounding may have resulted in a shortfall in decommissioning funding assurance projections for BFN, Units 1 and 2.

Per 10 CFR 50.75(f)(1), the licensee must identify "the amount accumulated to the end of the calendar year preceding the date of the report." This actual amount is dedicated for NRC decommissioning activities as defined in 10 CFR 50.2.

TVA RESPONSE TO RAI 1

For BFN, Units 1 and 2, the amounts of decommissioning funding accumulated as of December 31, 2010, rounded to the nearest dollar, are provided in Table 1.

Table 1

Nuclear Plant and Unit	Decommissioning Fund as of December 31, 2010
BFN, Unit 1	\$164,952,588
BFN, Unit 2	\$157,714,181

NRC RAI 2

Citation for real rate of returns (BFN, Units 1, 2 and 3, SQN, Units 1 and 2, and WBN, Unit 1):

Provide the citation (e.g., an Order by the rate-regulatory authority) by the regulatory entity that allows for the assumptions used regarding rates of escalation in decommissioning costs, rate of earnings on decommissioning funds and rates of other factors assumed in your DFS report.

In its March 31, 2011, letter, TVA reported the following:

- *4 percent rate of escalation in decommissioning costs, and*
- *5 percent real rate of return on decommissioning funds.*

As stated in 10 CFR 50.75(f)(1),

The information in this [DFS] report must include, at a minimum the amount of decommissioning funds estimated to be required under 10 CFR 50.75(b) and (c); the amount accumulated to the end of the calendar year preceding the date of the report; a schedule of the annual amounts remaining to be collected; the assumptions used regarding rates of escalation in decommissioning costs, rates of earnings on decommissioning funds, and rates of other factors used in funding projections;

TVA RESPONSE TO RAI 2

On February 12, 1999, the TVA Board of Directors, TVA's rate-setting authority, authorized the use of a calculated annual real rate of return of 5 percent. TVA is an agency and instrumentality of the federal government, created and existing pursuant to the Tennessee Valley Authority Act of 1933, as amended. The Tennessee Valley Authority Act of 1933, as amended, gives the TVA Board of Directors the authority to set TVA's rates by granting to the Board of Directors the sole discretion to make such rules and regulations governing the sale of electric power, and to charge such rates as are necessary to produce revenues sufficient to provide funds for the operation, maintenance, and administration of TVA's power system, including the provision of sufficient funds for the decommissioning of TVA's nuclear power plants. Attachment 1 provides a copy of the Board of Directors action that approved the use of a 5 percent real rate of return on decommissioning funds.

The assumed 4 percent rate of escalation in decommissioning costs noted in TVA's March 31, 2011 report, as well as previous biennial decommissioning funding status reports as described

below, is derived from an evaluation of the historical increase in the minimum amounts required to demonstrate reasonable assurance of funds for decommissioning as calculated using the formulae in 10 CFR 50.75(c). While 10 CFR 50.75(e)(1) allows TVA to use an annual real rate of return that is greater than 2 percent provided the rate has been approved the TVA's rate-setting authority, TVA is not required to have approval by a rate-setting authority for the assumed rate of escalation in decommissioning costs.

On March 25, 1999, following promulgation of the final rule in September of 1998 that both added a definition of "Federal Licensee" and required that licensees report biennially the status of decommissioning funding for each reactor, TVA reported an assumed escalation of decommissioning costs of 4 percent. TVA continued to use the 4 percent assumption in subsequent biennial decommissioning funding status reports. In 2011, TVA again evaluated this assumption to ensure that it was representative of the increase in decommissioning costs as calculated and reported biennially using the formulae in 10 CFR 50.75(c) and NUREG-1307, "Report on Waste Burial Charges." This evaluation showed that the compound annual growth rate of decommissioning costs from 1998 to 2010 was approximately 4.19 percent and 3.99 percent for Boiling Water Reactors (BWRs) and Pressurized Water Reactors (PWRs), respectively. As such, it remains reasonable to continue to assume a 4 percent escalation in decommissioning costs. Table 2 provides the TVA-reported decommissioning costs per year since 1998 with the associated percent increase per year. The amounts provided in Table 2 are based on TVA-reported decommissioning costs (calculated using Bureau of Labor Statistics numbers taken from sources referenced in NUREG-1307, "Report on Waste Burial Charges," at the end of each corresponding calendar year) and internal TVA calculations of decommissioning costs for years DFS reports to the NRC were not required.

Table 2

Year	BWR Estimated Decommissioning Cost (millions)	BWR Percent Increase from Previous Year	PWR Estimated Decommissioning Cost (millions)	PWR Percent Increase from Previous Year
1998	\$372		\$292	
1999	\$382.5	2.82%	\$298.6	2.26%
2000	\$412	7.71%	\$317	6.16%
2001	\$413.5	0.36%	\$318.8	0.57%
2002	\$440.5	6.53%	\$356.7	11.89%
2003	\$446.7	1.41%	\$361.5	1.35%
2004	\$457.5	2.42%	\$369.7	2.27%
2005	\$468.3	2.36%	\$342.0	-7.49%
2006	\$516.7	10.34%	\$366.1	7.05%
2007	\$529.7	2.52%	\$375.9	2.68%
2008	\$554.6	4.70%	\$400.5	6.54%
2009	\$559.9	0.96%	\$404.4	0.97%
2010	\$609.1	8.79%	\$467	15.48%

NRC RAI 3

Amounts accumulated (BFN, Units 1, 2 and 3, SQN, Units 1 and 2, and WBN, Unit 1):

Provide the after-tax amount of funds accumulated through December 31, 2010.

In its March 31, 2011, letter, TVA did not state if the amount of decommissioning funds accumulated was an after-tax amount.

The provisions of 10 CFR 50.75(f)(1) and (2) require the licensee to report the amount of funds accumulated to the end of the calendar year preceding the report.

TVA RESPONSE TO RAI 3

As described in the response to RAI 2, above, TVA is an agency and instrumentality of the federal government. As such, TVA does not pay taxes on the funds accumulated in its decommissioning trust fund (DTF). The amount of funds accumulated through December 31, 2010, for BFN, Units 1, 2, and 3; SQN, Units 1 and 2; and WBN, Unit 1, were provided to the NRC in TVA's letter, "Decommissioning Funding Status Report," submitted on March 31, 2011, in accordance with 10 CFR 50.75(f)(1) and (2).

NRC RAI 4

Annual amounts deposited (BFN, Units 1, 2 and 3, SQN, Units 1 and 2, and WBN, Unit 1):

Provide the annual amount deposited in your trust fund for decommissioning, as defined in 10 CFR 50.2, starting in 2010.

Pursuant to 10 CFR 50.75(e)(2), the NRC reserves the right to review the accumulation of decommissioning funds.

TVA RESPONSE TO RAI 4

Table 3 provides the amounts deposited in the DTF for BFN, Units 1, 2, and 3; SQN, Units 1 and 2; and WBN, Unit 1, beginning in calendar year (CY) 2010. TVA continues to follow its plan, of which the most recent update was included in TVA's letter to the NRC, "Decommissioning Funding Status Report," dated March 31, 2011, to provide decommissioning funding assurance for each of its nuclear reactors. Since the levels, to date, of TVA's DTF for each nuclear reactor remain above the targets specified for 2010 and 2011 in the plan, no contributions have been made to the DTF in 2010 or 2011, to date.

Table 3

Nuclear Plant and Unit	Amount Deposited in DTF	
	CY 2010	CY 2011 (to date)
BFN, Unit 1	\$0	\$0
BFN, Unit 2	\$0	\$0
BFN, Unit 3	\$0	\$0
SQN, Unit 1	\$0	\$0
SQN, Unit 2	\$0	\$0
WBN, Unit 1	\$0	\$0

ATTACHMENT

**Tennessee Valley Authority Board of Directors
Approval of 5 Percent Real Rate of Return**

APPLICATION FOR BOARD APPROVAL

SUBJECT: Sequential Board approval authorizing, for planning purposes, the use of a calculated annual real rate of return of 5 percent in connection with TVA's Nuclear Decommissioning Fund.

ATTACHMENTS: David N. Smith's February 12, 1999, memorandum to the Chief Administrative Officer.

CHIEF
ADMINISTRATIVE
OFFICER COMMENTS: I recommend approval.

PROPOSED ACTION: WHEREAS TVA has historically maintained a nuclear decommissioning fund to assure the adequacy of funds necessary to meet its nuclear plant decommissioning obligations; and

WHEREAS in June 1996, TVA transferred its nuclear decommissioning fund to an external trust arrangement by executing three Master Decommissioning Trust Agreements with three Trustees covering Browns Ferry Units 1, 2, and 3; Sequoyah Units 1 and 2; and Watts Bar Unit 1; and

WHEREAS the nuclear decommissioning fund has experienced a greater than 5-percent average annual real rate of return since the establishment of the decommissioning trusts; and

WHEREAS the Nuclear Regulatory Commission provides that a nuclear licensee's rate-setting authority may authorize a projected annual real rate of return on external decommissioning trust fund investments from the time of future funds' collection through each nuclear unit's decommissioning period; and

WHEREAS the Tennessee Valley Authority Act of 1933, 16 U. S. C. §§ 831-831dd (1994), gives the Board of Directors the authority to set TVA's rates by granting to them the sole discretion to make such rules and regulations governing the sale of electric power, and to charge such rates as are necessary to produce revenues sufficient to provide funds for the operation, maintenance, and administration of TVA's power system;

BE IT RESOLVED, the Board of Directors, as TVA's rate-setting authority, hereby authorizes, for planning purposes, the use of a calculated annual real rate of return of 5 percent from the time of future nuclear decommissioning funds' collection through each of the above-mentioned nuclear unit's decommissioning periods; provided, that the Chief Financial Officer, or his designee, will validate the continuing adequacy of the decommissioning fund through the annual business planning process; provided, further, that any adjustment to a higher than the above-calculated annual real rate of return shall require approval by the Board of Directors.

BOARD ACTION:

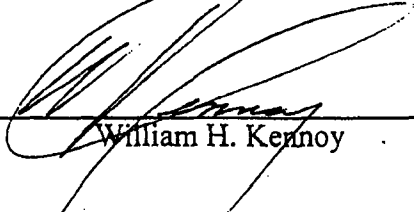
APPROVED SEQUENTIALLY BY INDIVIDUAL BOARD MEMBERS:



Craven Crowell

2/12/99

Date



William H. Kennoy

2/17/99

Date

Prepared by Edward J. Vigluicci, approved by ESJ, date 2/11/99.

000058628

February 12, 1999

Norman A. Zigrossi, ET 12A-K (5)

REQUEST FOR SEQUENTIAL BOARD APPROVAL - TVA'S NUCLEAR DECOMMISSIONING FUND

RECOMMENDED ACTION:

It is recommended that, for planning purposes, the Board of Directors authorizes the use of a calculated annual real rate of return of 5 percent in connection with TVA's Nuclear Decommissioning Fund.

DESCRIPTION OF PROPOSED ACTION:

The proposed resolution will authorize TVA to use a calculated annual real rate of return of 5 percent from the time of future funds' collection through each unit's decommissioning period, a rate which is reasonable given past returns on decommissioning trust fund investments and future long-term investment planning assumptions. As part of the annual business planning process, the Chief Financial Officer, or his designee, will validate the continuing adequacy of the decommissioning fund. TVA Nuclear, with the concurrence of the Chief Financial Officer, or his designee, will make the necessary reports to the Nuclear Regulatory Commission (NRC) regarding the status of the decommissioning fund. Any adjustment to a greater calculated annual real rate of return will require approval by the TVA Board.

BACKGROUND:

TVA has historically maintained a decommissioning fund to assure the adequacy of funds necessary to safely decommission each of TVA's licensed, operating nuclear units when those units eventually cease operations.

TVA established an external decommissioning funding mechanism in June 1996 when it created three Master Decommissioning Trust Agreements with three Valley banks serving as Trustees. In addition to these Trustees, TVA has appointed a wide range of investment managers, both within the region and nationwide, to seek the prudent investment of these decommissioning funds. Return on investments in the decommissioning trust funds plays an important role in assuring the continued growth of such funds to meet TVA's decommissioning obligations:

BACKGROUND:
(Continued)

NRC permits power reactor licensees to take credit for projected earnings on trust account funds using up to a 2-percent annual real rate of return from the time of future funds' collection through each nuclear unit's decommissioning period. NRC's regulations also provide that the licensee's rate-setting authority may authorize the use of another rate. Under Sections 10 and 15(d) of the TVA Act, the Board has the sole discretion to make such rules and regulations governing the sale of electric power, and to charge such rates as are necessary to produce revenues sufficient to provide funds for the operation, maintenance, and administration of TVA's power system. By law and practice, it is clear that the TVA Board is TVA's rate-setting authority

Since the establishment of the Master Decommissioning Trust Agreements in 1996, the nuclear decommissioning fund has experienced a greater than 5-percent average annual real rate of return.

Use of a calculated annual real rate of return of 5 percent from the time of future funds' collection through each unit's decommissioning period is reasonable given past returns on decommissioning trust fund investments and future long-term investment planning assumptions. The Chief Financial Officer, or his designee, will validate the continuing adequacy of the decommissioning fund. TVA Nuclear, with the concurrence of the Chief Financial Officer, or his designee, will make the necessary reports to the NRC regarding the status of the decommissioning fund. Any adjustment to a greater calculated annual real rate of return will require approval by the TVA Board.

JUSTIFICATION:

The TVA Board is authorized by the TVA Act to set TVA's rates to meet its power system obligations, including TVA's decommissioning obligations, and the NRC's regulations allow the licensee's rate-setting authority to authorize a projected annual real rate of return on external decommissioning trust fund investments.

JUSTIFICATION:
(Continued)

Adoption of the proposed resolution will allow TVA to engage in reasonable, realistic financial planning to assure that adequate funds are available to meet TVA's decommissioning obligations.

Actual performance of TVA's decommissioning fund investments will be monitored by the Chief Financial Officer, or his designee, in order to validate the continuing adequacy of the decommissioning fund.

CONCURRENCE:

This recommendation has been developed and coordinated with the Office of the General Counsel and TVA Nuclear.

POINT OF CONTACT:

David N. Smith, Chief Financial Officer, (423) 632-4049.



David N. Smith
Chief Financial Officer
ET 12A-K

EJV:DSW
Attachment

cc (Attachment):

J. R. Bynum, LP 3K-C

E. S. Christenbury, ET 11A-K

K. J. Jackson, WT 11A-K

M. O. Medford, HR1 3A-NST

W. J. Museler, MR 3H-C

J. A. Scalice, LP 6A-C

O. J. Zeringue, ET 12A-K

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