



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402-2801

November 13, 2009

10 CFR 50.4

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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 Assurance**

During a teleconference between Tennessee Valley Authority (TVA) and NRC representatives on October 20, 2009, NRC requested additional information regarding decommissioning funding assurance for each of TVA's six nuclear units. NRC requested that TVA provide this additional information by November 13, 2009. The enclosure to this letter provides TVA's response to the NRC's request for additional information.

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There are no new regulatory commitments included in this submittal. Please direct any questions concerning this matter to Fred Mashburn at (423) 751-8817.

Respectfully,



R. M. Krich
Vice President
Nuclear Licensing

Enclosure: Response to Request for Additional Information - Decommissioning
Funding Assurance

cc (Enclosures):

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

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**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
DECOMMISSIONING FUNDING ASSURANCE**

TENNESSEE VALLEY AUTHORITY

**BROWNS FERRY NUCLEAR PLANT, UNITS 1, 2, AND, 3
SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2
WATTS BAR NUCLEAR PLANT, UNIT 1**

DOCKET NOS. 50-259, 50-260, 50-296, 50-327, 50-328, AND 50-390

"In a letter dated March 31, 2009, the Tennessee Valley Authority's (TVA's) biennial decommissioning fund status report showed that the actual balances of the funds declined to less than 95 percent of the fund balances projected in 2007. The severity of the decline caused the actual balances to fall short of meeting the NRC required minimum funding assurance. However, it appears that TVA did not provide contributions or other funding assurances as described in its 2007 biennial fund status report."

Question 1.

Clarify the actions taken in 2009 to implement the plan, as described in TVA's biennial funding status report submitted on March 28, 2007, to provide additional financial assurance for decommissioning in response to the decline in decommissioning trust fund (DTF) balances, as of December 31, 2008, to less than 95 percent of the projections stated in the 2007 funding status report.

Response 1.

TVA took timely and appropriate action to implement its plan, as described in TVA's 2007 biennial decommissioning funding status report (TVA letter dated March 28, 2007), in accordance with regulations and regulatory guidance. The plan, as described in TVA's 2007 biennial decommissioning funding status report, was described as follows.

TVA establishes a projection of necessary funds at the end of each year based upon current decommissioning cost estimates and assumptions regarding escalation and rate of earnings. Each year TVA reviews the performance of the decommissioning trust funds. If funds fall below an established threshold of 95% of the projected value, TVA will make contributions to the trust funds or provide other methods of funding assurance to ensure adequate funding.

As a result of its annual monitoring of decommissioning funding balance, TVA personnel recognized in March 2009 that, as of December 31, 2008, DTF balances for TVA nuclear units had fallen to less than 95 percent of the projections stated in the 2007 funding status report. Beginning in June 2009, discussions were held among responsible organizations within TVA regarding potential actions that could be taken to address the DTF deficit. As a rate-regulated licensee, or one that sets its own rates, TVA is permitted to use any

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combination of mechanisms described by NRC under its regulations to provide financial assurance for decommissioning. Thus, in addition to considering increased contributions to make up the deficit, TVA explored the cost effectiveness of using various other mechanisms to assure adequate funding as described below. Note that, in accordance with Regulatory Guide (RG) 1.159, "Assuring the Availability of Funds for Decommissioning Nuclear Reactors," Revision 1, "A reasonable amount of time may be used to make up any deficit, consistent with good faith efforts to obtain appropriate rate relief." (See RG 1.159, Section 2.2.8).

TVA staff sought TVA's Board of Directors review and approval of the funding plan to address the DTF balances. On July 14, 2009, TVA personnel briefed the responsible committee of the TVA Board of Directors and provided recommendations for a plan to address the DTF shortfall. The recommendations included a proposal that would apply a sinking fund methodology, a proposal that would secure lines of credit, and a proposal to pursue site-specific decommissioning studies. TVA's Board of Directors met on August 20, 2009, and approved a budget which included a contribution to the DTF. This budget then translated into a rate change. Accordingly, a budget has been approved to accommodate a contribution should one be required.

In summary, TVA took appropriate, well considered measures to address the decline in decommissioning trust fund (DTF) balances which it reported on March 31, 2009. These measures were appropriate and timely, and did not rely on a "wait and see" attitude regarding market conditions.

Question 2.

Starting in 1999, provide the year-end balance, the dates, and the amounts of the contributions made by TVA into each of the DTFs associated with each of TVA's six nuclear units. The data should be aggregated to show the total contributions made during a calendar year.

Response 2.

The year-end balances, the dates, and the amounts of the contributions made by TVA into each of the DTFs associated with each of TVA's six nuclear units since 1999 are provided in the attached Table E-1, TVA Decommissioning Trust Funds.

Question 3.

Describe TVA's decision-making process for selecting a method of decommissioning funding assurance to cover a shortfall.

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Response 3.

TVA's decision-making process for selecting a method of decommissioning funding assurance follows NRC regulations and applicable regulatory guidance. As required by 10 CFR 50.75, TVA monitors the status of the funds annually by comparing the fund balances for each licensed unit to the certification amount as determined by 10 CFR 50.75(c). If it is determined that the fund for any unit does not meet the certification amount, TVA determines the difference and responsible TVA management, including representatives from Nuclear Power Group, Financial Services, and the Office of General Counsel, consider the variety of methods described in 10 CFR 50.75 (e)(1) available to provide funding assurance, taking into account the "reasonable amount of time" standard discussed in Regulatory Guide 1.159, Revision 1. On the most recent occasion, as noted above, several methods were presented to the appropriate Board committee and the Board approved a budget which included funds for making a DTF contribution should one be required.

The letter from TVA to NRC, "Decommissioning Funding Assurance," dated September 4, 2009, provided a table that describes an external sinking fund approach to provide decommissioning funding assurance for each TVA nuclear unit at the end of its respective term of licensed operation. A fund balance was projected for each remaining year of unit operation. This approach used the decommissioning cost estimates, funding levels, and assumptions regarding the real rate of return that were described in the tables provided as an enclosure to the letter from TVA to NRC, "Decommissioning Funding Assurance," dated July 30, 2009. In accordance with NRC regulations, TVA will annually review the minimum amount to be provided for decommissioning funding assurance. As a result of that annual review, TVA will update the projected fund balances (provided in TVA's letter to NRC dated September 4, 2009) as appropriate. TVA will meet or exceed the projected annual fund balances for each unit reflected in the table provided in TVA's letter to NRC dated September 4, 2009. As necessary, TVA will make contributions to the funds for each unit, or apply another method or combination of methods of funding assurance consistent with NRC regulations and guidance.

Upon discovery of a DTF shortfall, TVA personnel take appropriate and timely action to address the shortfall, in accordance with NRC regulations and taking into account applicable regulatory guidance.

Question 4.

Describe the monitoring process and the timeframes established by TVA to take action in response to a shortfall.

Response 4.

The monitoring of decommissioning funding is performed in accordance with 10 CFR 50.75 paragraphs (b)(2) and (f)(1). TVA monitors decommissioning fund balance annually by comparing the fund balance to the certification amount required to be provided for decommissioning funding assurance under 10 CFR

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50.75(c), and provides reports to the NRC on a biennial basis in March, in accordance with 10 CFR 50.75 (f)(1). As a result of the identification of any shortfall identified during the annual monitoring review, TVA staff would promptly begin the process of preparing recommendations for addressing the shortfall to the TVA Board of Directors, just as was done this past March. These recommendations do not include an option that allows for market recovery. Based on the Board's decision, TVA would make any necessary contributions to the funds or apply another method or combination of methods of funding assurance in accordance with NRC regulations and applicable guidance as described above.

Question 5.

Provide the available DTF balances as of September 30, 2009, for the each of TVA's six nuclear units.

Response 5.

The available DTF balances as of September 30, 2009, for each of TVA's six nuclear units, are provided in attached Table E-1, TVA Decommissioning Trust Funds.

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Table E-1

TVA Decommissioning Trust Funds

| | Balance as of: | | | | | | | | | | |
|--------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | 12/31/1999 (\$) | 12/31/2000 (\$) | 12/31/2001 (\$) | 12/31/2002 (\$) | 12/31/2003 (\$) | 12/31/2004 (\$) | 12/31/2005 (\$) | 12/31/2006 (\$) | 12/31/2007 (\$) | 12/31/2008 (\$) | 09/30/2009 (\$) |
| Browns Ferry Unit 1 | 171,853,089 | 144,192,193 | 128,750,915 | 128,049,718 | 168,416,379 | 189,250,725 | 202,924,207 | 162,727,216 | 169,731,128 | 107,425,547 | 136,314,515 |
| Browns Ferry Unit 2 | 171,853,089 | 144,192,193 | 128,750,915 | 122,000,975 | 160,393,170 | 180,238,786 | 193,505,784 | 154,997,422 | 161,668,638 | 102,713,151 | 130,334,858 |
| Browns Ferry Unit 3 | 171,853,089 | 144,192,193 | 128,750,915 | 110,659,583 | 145,482,783 | 163,490,934 | 175,525,158 | 140,541,704 | 146,590,734 | 92,484,500 | 117,355,510 |
| Sequoyah Unit 1 | 120,706,336 | 112,457,587 | 100,414,715 | 73,719,049 | 96,846,518 | 108,701,533 | 116,445,959 | 224,264,405 | 233,916,928 | 148,132,079 | 187,967,883 |
| Sequoyah Unit 2 | 120,706,336 | 112,457,587 | 100,414,716 | 70,208,618 | 92,302,400 | 103,517,674 | 111,308,637 | 213,523,003 | 222,713,208 | 140,949,718 | 178,854,036 |
| Watts Bar Unit 1 | 61,376,103 | 112,765,690 | 100,689,824 | 35,428,349 | 46,577,211 | 52,317,099 | 56,510,539 | 107,815,564 | 112,456,034 | 68,898,577 | 87,426,841 |
| Contributions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |