



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

CNL-19-008

March 26, 2019

10 CFR 50.75(f)(1)

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

Browns Ferry Nuclear Plant, Units 1, 2, and 3
Renewed 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
Renewed Facility Operating License Nos. DPR-77 and DPR-79
NRC Docket Nos. 50-327 and 50-328

Watts Bar Nuclear Plant, Units 1 and 2
Facility Operating License Nos. NPF-90 and NPF-96
NRC Docket Nos. 50-390 and 50-391

Subject: **Decommissioning Funding Status Report**

- References:
1. TVA letter to NRC, CNL-17-021, "Decommissioning Funding Status Report," dated March 30, 2017 (ML17090A189)
 2. TVA letter to NRC, CNL-15-189, "Decommissioning Funding Update," dated September 10, 2015 (ML15253A867)

In accordance with the requirements of 10 CFR 50.75(f)(1), Tennessee Valley Authority (TVA) is reporting on the status of decommissioning funding 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), Units 1 and 2. The reporting requirements and corresponding TVA information follow.

1. *The amount of decommissioning funds estimated to be required pursuant to 10 CFR 50.75(b) and (c):*

Decommissioning cost estimates were calculated using the formulas provided in NUREG-1307, Revision 17, "Report on Waste Burial Charges," utilizing the waste burial adjustment factors for Generators Located in the Unaffiliated States and those Located in Compact-Affiliated States having no Disposal Facility. Bureau of Labor Statistics indices for the end of the 2018 calendar year were taken from the sources referenced by NUREG-1307. The calculated estimates for the end of calendar year (CY) 2018 are

provided in Table 1. The dollar amounts shown in Table 1 have been rounded to the nearest hundred thousand dollars.

Table 1. Decommissioning Cost Estimates for end of CY 2018

Plant	Number of Units	Cost per Unit (\$, in millions)	Total Plant Cost (\$, in millions)
BFN	3	671.1	2,013.3
SQN	2	508.0	1,015.9
WBN	2	508.0	1,015.9

2. *The amount accumulated in the TVA decommissioning fund at the end of the calendar year 2018 for the items included in 10 CFR 50.75(b) and (c):*

TVA's decommissioning fund balances for each of the seven units at the end of CY 2018 are provided in Table 2. The dollar amounts shown in Table 2 have been rounded to the nearest dollar.

Table 2. Decommissioning Trust Fund Balances

Plant, Unit	Decommissioning Fund Balance (\$)
BFN, Unit 1	382,129,027
BFN, Unit 2	372,441,358
BFN, Unit 3	337,644,437
SQN, Unit 1	211,311,189
SQN, Unit 2	201,304,966
WBN, Unit 1	267,806,997
WBN, Unit 2	101,186,523

3. *A schedule of the annual amounts remaining to be collected for items in 10 CFR 50.75(b) and (c):*

TVA has established a method to provide funding assurance on an ongoing basis. This method establishes a projection of necessary funds at the end of each calendar year based upon current decommissioning cost estimates and assumptions regarding escalation and rate of earnings. Each year, TVA reviews the performance of its decommissioning trust fund. If funds fall below an established threshold of 95 percent of projected trust fund balances, TVA will make contributions to the trust fund or provide other methods of funding assurance to ensure adequate funding.

The table attached to TVA's March 30, 2017, letter (Reference 1) has been updated herein for the current calculated obligations, expressed in current dollars. This updated table is provided in the enclosure to this letter. At the end of 2018, the trust fund unit balances shown in Table 2 were greater than the respective present values of the costs to decommission each unit. Therefore, no amounts are scheduled to be collected at this time.

4. *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:*

- The assumed escalation in decommissioning costs is four percent.
- TVA assumed a projected annual real rate of return on decommissioning funds of five percent, as authorized by the TVA Board of Directors, TVA's rate-making authority.

5. *Any contracts upon which the licensee is relying pursuant to 10 CFR 50.75(e)(1)(v):*

None.

6. *Any modifications occurring to a licensee's current method of providing financial assurance since the last submitted report:*

None.

7. *Any material changes to trust agreements.*

None. TVA's Sixth Amendment to the TVA Master Decommissioning Trust Agreement was provided as Enclosure 1 to Reference 2.

There are no new regulatory commitments associated with this submittal. If you have any questions concerning this matter, please contact Gordon Williams at 423-751-2687.

Respectfully,



Erin K. Henderson
Director, Nuclear Regulatory Affairs

Enclosure: Updated Projected Decommissioning Funding Levels for TVA Operating Units

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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
NRC Project Manager – Browns Ferry Nuclear Plant
NRC Project Manager – Sequoyah Nuclear Plant
NRC Project Manager – Watts Bar Nuclear Plant

ENCLOSURE

Updated Projected Decommissioning Funding Levels for TVA Operating Units

Real	BFN1 12-20-2033			BFN2 6-28-2034			BFN3 7-2-2036			SQN1 9-17-2040			SQN2 9-15-2041			WBN1 11-9-2035			WBN2 10-21-2055			Annual	Targeted			
Return	Annual	Annual	Projected	Annual	Annual	Projected	Annual	Annual	Projected	Annual	Annual	Projected	Annual	Annual	Projected	Annual	Annual	Projected	Annual	Annual	Projected	Disbursement	Funding	Fund		
5.0%	Disbursement	Funding	Fund	Disbursement	Funding	Fund	Disbursement	Funding	Fund	Disbursement	Funding	Fund	Disbursement	Funding	Fund	Disbursement	Funding	Fund	Disbursement	Funding	Fund	Disbursement	Assurance	Assets	Assets	
Year		Assurance	Assets		Assurance	Assets		Assurance	Assets		Assurance	Assets		Assurance	Assets		Assurance	Assets		Assurance	Assets		Assurance	Assets	Assets	
2018			\$268.6			\$261.8			\$237.3			\$146.3			\$139.4			\$185.4			\$70.1				\$1,309	
2019		\$0.0	\$282.0		\$0.0	\$274.9		\$0.0	\$249.2		\$0.0	\$153.6		\$0.0	\$146.3		\$0.0	\$194.7		\$0.0	\$73.6	\$0.0	\$0	\$0	\$1,374	
2020		\$0.0	\$296.1		\$0.0	\$288.6		\$0.0	\$261.7		\$0.0	\$161.3		\$0.0	\$153.6		\$0.0	\$204.4		\$0.0	\$77.2	\$0.0	\$0	\$0	\$1,443	
2021		\$0.0	\$310.9		\$0.0	\$303.1		\$0.0	\$274.7		\$0.0	\$169.4		\$0.0	\$161.3		\$0.0	\$214.6		\$0.0	\$81.1	\$0.0	\$0	\$0	\$1,515	
2022		\$0.0	\$326.5		\$0.0	\$318.2		\$0.0	\$288.5		\$0.0	\$177.8		\$0.0	\$169.4		\$0.0	\$225.4		\$0.0	\$85.2	\$0.0	\$0	\$0	\$1,591	
2023		\$0.0	\$342.8		\$0.0	\$334.1		\$0.0	\$302.9		\$0.0	\$186.7		\$0.0	\$177.9		\$0.0	\$236.6		\$0.0	\$89.4	\$0.0	\$0	\$0	\$1,670	
2024		\$0.0	\$360.0		\$0.0	\$350.8		\$0.0	\$318.0		\$0.0	\$196.0		\$0.0	\$186.8		\$0.0	\$248.5		\$0.0	\$93.9	\$0.0	\$0	\$0	\$1,754	
2025		\$0.0	\$377.9		\$0.0	\$368.4		\$0.0	\$333.9		\$0.0	\$205.8		\$0.0	\$196.1		\$0.0	\$260.9		\$0.0	\$98.6	\$0.0	\$0	\$0	\$1,842	
2026		\$0.0	\$396.8		\$0.0	\$386.8		\$0.0	\$350.6		\$0.0	\$216.1		\$0.0	\$205.9		\$0.0	\$273.9		\$0.0	\$103.5	\$0.0	\$0	\$0	\$1,934	
2027		\$0.0	\$416.7		\$0.0	\$406.1		\$0.0	\$368.2		\$0.0	\$226.9		\$0.0	\$216.2		\$0.0	\$287.6		\$0.0	\$108.7	\$0.0	\$0	\$0	\$2,030	
2028		\$0.0	\$437.5		\$0.0	\$426.4		\$0.0	\$386.6		\$0.0	\$238.3		\$0.0	\$227.0		\$0.0	\$302.0		\$0.0	\$114.1	\$0.0	\$0	\$0	\$2,132	
2029		\$0.0	\$459.4		\$0.0	\$447.8		\$0.0	\$405.9		\$0.0	\$250.2		\$0.0	\$238.4		\$0.0	\$317.1		\$0.0	\$119.8	\$0.0	\$0	\$0	\$2,239	
2030		\$0.0	\$482.4		\$0.0	\$470.1		\$0.0	\$426.2		\$0.0	\$262.7		\$0.0	\$250.3		\$0.0	\$333.0		\$0.0	\$125.8	\$0.0	\$0	\$0	\$2,351	
2031		\$0.0	\$506.5		\$0.0	\$493.7		\$0.0	\$447.5		\$0.0	\$275.9		\$0.0	\$262.8		\$0.0	\$349.6		\$0.0	\$132.1	\$0.0	\$0	\$0	\$2,468	
2032		\$0.0	\$531.8		\$0.0	\$518.3		\$0.0	\$469.9		\$0.0	\$289.7		\$0.0	\$275.9		\$0.0	\$367.1		\$0.0	\$138.7	\$0.0	\$0	\$0	\$2,591	
2033		\$0.0	\$557.6		\$0.0	\$544.3		\$0.0	\$493.4		\$0.0	\$304.1		\$0.0	\$289.7		\$0.0	\$385.5		\$0.0	\$145.6	\$0.0	\$0	\$0	\$2,720	
2034					\$0.0	\$557.6		\$0.0	\$518.1		\$0.0	\$319.3		\$0.0	\$304.2		\$0.0	\$404.7		\$0.0	\$152.9	\$0.0	\$0	\$0	\$2,257	
2035						\$0.0	\$544.0		\$0.0	\$544.0		\$0.0	\$335.3		\$0.0	\$319.4		\$0.0	\$160.6		\$0.0	\$160.6	\$0.0	\$0	\$1,781	
2036			\$113.5			\$0.0	\$557.6		\$0.0	\$352.1		\$0.0	\$335.4		\$0.0	\$335.4		\$0.0	\$168.6		\$0.0	\$168.6	\$0.0	\$0	\$1,527	
2037	\$671.1		\$671.1			\$113.5			\$0.0	\$369.7		\$0.0	\$352.2		\$0.0	\$352.2		\$0.0	\$177.0		\$0.0	\$671.1	\$0	\$0	\$1,683	
2038				\$671.1		\$671.1			\$0.0	\$388.2		\$0.0	\$369.8		\$0.0	\$369.8		\$85.9		\$0.0	\$185.9	\$671.1	\$0	\$0	\$1,701	
2039								\$113.5		\$0.0	\$407.6		\$0.0	\$388.3		\$0.0	\$388.3	\$508.0		\$508.0		\$0.0	\$195.2	\$508.0	\$0	\$1,613
2040								\$671.1	\$671.1		\$0.0	\$422.1		\$0.0	\$407.7		\$0.0	\$422.1		\$0.0	\$204.9	\$671.1	\$0	\$0	\$1,706	
2041																				\$0.0	\$215.2	\$0.0	\$0	\$0	\$637	
2042																				\$0.0	\$225.9	\$0.0	\$0	\$0	\$226	
2043												\$85.9								\$0.0	\$237.2	\$0.0	\$0	\$0	\$323	
2044												\$508.0	\$508.0		\$85.9					\$0.0	\$249.1	\$508.0	\$0	\$0	\$843	
2045														\$508.0		\$508.0				\$0.0	\$261.5	\$508.0	\$0	\$0	\$770	
2046																				\$0.0	\$274.6	\$0.0	\$0	\$0	\$275	
2047																				\$0.0	\$288.4	\$0.0	\$0	\$0	\$288	
2048																				\$0.0	\$302.8	\$0.0	\$0	\$0	\$303	
2049																				\$0.0	\$317.9	\$0.0	\$0	\$0	\$318	
2050																				\$0.0	\$333.8	\$0.0	\$0	\$0	\$334	
2051																				\$0.0	\$350.5	\$0.0	\$0	\$0	\$350	
2052																				\$0.0	\$368.0	\$0.0	\$0	\$0	\$368	
2053																				\$0.0	\$386.4	\$0.0	\$0	\$0	\$386	
2054																				\$0.0	\$405.7	\$0.0	\$0	\$0	\$406	
2055																				\$0.0	\$422.1	\$0.0	\$0	\$0	\$422	
																					\$0.0	\$0.0	\$0.0	\$0	\$0	
																					\$85.9	\$0.0	\$0.0	\$0.0	\$0.0	
																					\$508.0	\$508.0	\$508.0	\$508.0	\$0.0	
	\$671.1			\$671.1				\$671.1					\$508.0		\$508.0				\$508.0						\$4,045.3	