



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 7, 2021

Mr. James Barstow
Vice President, Nuclear Regulatory
Affairs and Support Services
Tennessee Valley Authority
1101 Market Street, LP 4A-C
Chattanooga, TN 37402-2801

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION ANALYSIS OF TENNESSEE VALLEY AUTHORITY'S INITIAL AND UPDATED DECOMMISSIONING FUNDING PLANS FOR INDEPENDENT SPENT FUEL STORAGE INSTALLATIONS AT BROWNS FERRY NUCLEAR PLANT AND SEQUOYAH NUCLEAR PLANT

Dear Mr. Barstow:

By letter dated December 17, 2012 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML12356A039), Tennessee Valley Authority (TVA) submitted initial decommissioning funding plans (DFPs) for the independent spent fuel storage installations (ISFSIs) at Browns Ferry Nuclear Plant (BFN) and Sequoyah Nuclear Plant (SQN), respectively, for U.S. Nuclear Regulatory Commission (NRC) staff review and approval.

By letter dated December 17, 2015 (ADAMS Accession No. ML15352A046), TVA submitted updated DFPs for the ISFSIs at BFN and SQN for NRC staff review and approval. By letter dated May 17, 2018 (ADAMS Accession Package No. ML18138A109), the NRC issued a request for additional information (RAI) regarding TVA's update to its DFPs. By letter dated July 23, 2018 (ADAMS Accession No. ML18205A476), TVA responded to the NRC staff's RAI.

Pursuant to 10 CFR 72.30(b), each holder of, or applicant for, a license under Part 72 must submit for NRC review and approval a DFP containing information on how reasonable assurance will be provided that funds will be available to decommission its ISFSIs. The DFP must contain a detailed DCE, in an amount reflecting: (1) the cost of an independent contractor to perform all decommissioning activities, (2) an adequate contingency factor, and (3) the cost of meeting the 10 CFR 20.1402 unrestricted use criteria (or the cost of meeting the 10 CFR 20.1403 restricted use criteria, provided the licensee can demonstrate its ability to meet these criteria). The licensee's DFP must also identify and justify using the key assumptions contained in the DCE. Further, the DFP must describe the method of assuring funds for ISFSI decommissioning, including means for adjusting cost estimates and associated funding levels periodically over the life of the ISFSI. Additionally, the DFP must specify the volume of onsite subsurface material containing residual radioactivity that will require remediation to meet the criteria for license termination, and contain a certification that financial assurance for ISFSI decommissioning has been provided in the amount of the DCE.

The NRC staff reviewed and analyzed the information submitted by TVA in its Initial DFPs on how reasonable assurance will be provided that funds will be available to decommission the ISFSIs, including the amount of the DCE and the method of assuring funds for decommissioning.

In its initial DFPs, TVA estimated that the total cost to decommission the ISFSIs at BFN and SQN, for unrestricted use, is \$7,435,000 and \$4,728,100, respectively, in 2012 dollars. Based on its analysis of TVA's Initial DFPs, the NRC staff finds that the submitted DCEs are based on reasonable costs of a third-party contractor, include an adequate contingency factor, and are based on reasonable and documented assumptions. Therefore, the NRC finds that the DCEs adequately estimated the cost to carry out required ISFSI decommissioning activities prior to license termination, and that the DCEs are acceptable.

For its initial DFPs, TVA relied on Statement of Intent as financial assurance for ISFSI decommissioning, a method authorized by 10 CFR 72.30(e)(4), for BFN and SQN. The NRC staff finds that the aggregate dollar amount of the licensee's financial instrument provides adequate financial assurance to cover its cost estimates, and therefore, that these financial instruments are acceptable. Based on its review, the NRC staff finds that the initial DFPs contain the information required by 10 CFR 72.30(b) and that TVA has provided reasonable assurance that funds will be available to decommission the ISFSIs at BFN and SQN.

Pursuant to 10 CFR 72.30(c), at the time of license renewal and at intervals not to exceed 3 years, the initial DFP required to be submitted by 10 CFR 72.30(b) must be resubmitted with adjustments as necessary to account for changes in costs and the extent of contamination in an updated DFP. The updated DFP must update the information submitted with the original or prior approved plan. In addition, the updated DFP must also specifically consider the effect of the following events on decommissioning costs, as required by 10 CFR 72.30(c)(1)-(4): (1) spills of radioactive material producing additional residual radioactivity in onsite subsurface material, (2) facility modifications, (3) changes in authorized possession limits, and (4) actual remediation costs that exceed the previous cost estimate.

In its updated 2015 DFPs, TVA estimated that the total cost to decommission its ISFSI at BFN is \$22,226,000 in 2015 dollars. For SQN, TVA estimated that the total cost to decommission the ISFSI is \$11,045,000 in 2015 dollars. In its July 23, 2018, response to the NRC staff's RAI, dated May 17, 2018, TVA provided a narrative for each of the requirements in 10 CFR 72.30(c)(1)-(4).

Based on its review of TVA's submittal, the NRC staff finds that the updated DCEs: (1) are based on reasonable costs of a third-party contractor, (2) include an adequate contingency factor, (3) reflect the cost of meeting the 10 CFR 20.1402 criteria for unrestricted use, and (4) are based on reasonable and documented assumptions. Therefore, the NRC staff finds that the 2015 updated DCEs adequately estimate the cost to carry out required ISFSI decommissioning activities prior to license termination, and that the updated DCEs are acceptable.

In its 2015 updated DFPs, TVA again relied on Statement of Intent as financial assurance for ISFSI decommissioning, a method authorized by 10 CFR 72.30(e)(4), for BFN and SQN, respectively. The NRC staff reviewed the licensee's 2015 decommissioning Funding Status Report and finds that the aggregate dollar amount of the licensee's financial instruments provides adequate financial assurance to cover its DCE. Therefore, the NRC staff finds that these financial instruments are acceptable.

The NRC staff reviewed the initial and updated DFPs submitted by TVA, including the initial and updated DCEs and the method of assuring funds for decommissioning, in accordance with 10 CFR 72.30(b) and (c) and NUREG-1757, Vol. 3, Rev. 1, "Consolidated Decommissioning Guidance." Based on its review, the NRC staff finds that the initial and updated DFPs contain the information required by 10 CFR 72.30(b) and (c) and, that TVA has provided reasonable

assurance that funds will be available to decommission the ISFSIs at BFN and SQN, respectively. Therefore, the NRC staff finds that the DCEs adequately estimated the cost to carry out required ISFSI decommissioning activities prior to license termination, and that the DCEs are reasonable.

In addition to the NRC staff's review of the aforementioned initial and updated DFPs, the NRC staff completed an environmental review for BFN ISFSI (ADAMS Accession No. ML21246A293) and SQN ISFSI (ADAMS Accession No. ML21246A279), respectively. The NRC staff published a summary of the results of the environmental reviews (ADAMS Accession No. ML21251A557) in the *Federal Register* on October 7, 2021, for the ISFSIs at BFN and SQN. The environmental assessments and findings of no significant impact for BFN and SQN ISFSIs are available in <https://www.regulations.gov> under the Docket ID: NRC-2021-0187. The NRC staff determined that there was no environmental impact from the NRC staff's review and approval of TVA's initial and updated DFPs.

If you have any questions regarding this matter, please contact me at (301) 415-5722 or John.McKirgan@nrc.gov.

Sincerely,

John B. McKirgan, Chief
Storage and Transportation Licensing Branch
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

Docket Nos.: 72-34, 72-52
License Nos.: SFGL-27, SFGL-20
EPID Nos.: L-2017-FPR-0009,
L-2017-FPR-0064

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION ANALYSIS OF TENNESSEE VALLEY AUTHORITY'S INITIAL AND UPDATED DECOMMISSIONING FUNDING PLANS FOR INDEPENDENT SPENT FUEL STORAGE INSTALLATIONS AT BROWNS FERRY NUCLEAR PLANT AND SEQUOYAH NUCLEAR PLANT

DOCUMENT DATE: October 7, 2021

DISTRIBUTION:

PUBLIC
DFM r/f
SHarwell, NMSS
FMiller, NMSS
MHenderson, NMSS
PBuckberg, NRR
KGreen, NRR
NMertz, OGC
PJehle, OGC
YChen, NMSS
RidsNmssRefsFab Resource
RidsNrrPMBrownsFerry Resource
RidsNrrPMSequoyah Resource

ADAMS Accession Number: ML21250A340

***via email**

| | | | | |
|---------------|----------|------------|------------|------------|
| OFFICE | NMSS/DFM | NMSS/DFM | OGC/NLO | NMSS/STLB |
| NAME | TLiu | WWheatley* | EAnderson* | JMcKirgan* |
| DATE | 9/3/2021 | 9/9/2021 | 9/27/2021 | 10/7/2021 |

OFFICIAL RECORD COPY