



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

April 8, 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: SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2 – REGULATORY AUDIT
SUMMARY RELATED TO REQUEST TO TRANSITION TO WESTINGHOUSE
FUEL (EPID L-2020-LLA-0216)

Dear Mr. Barstow:

By letter dated September 23, 2020, Tennessee Valley Authority (TVA) submitted a license amendment request for Sequoyah Nuclear Plant, Units 1 and 2, that would revise the Technical Specifications (TS) to allow the use of Westinghouse RFA-2 fuel with Optimized ZIRLO™ cladding. Further, the proposed amendments would revise TS 5.6.3, “Core Operating Limits Report,” to replace the loss-of-coolant accident analysis evaluation model references with the FULL SPECTRUM™ Loss-of-Coolant Accident Evaluation Model. Finally, the proposed amendments would revise the TSs to permit the use of 52 full-length control rods with no full-length control rod assembly in core location H-08.

To enhance the review of TVA’s request, the U.S. Nuclear Regulatory Commission (NRC) staff conducted an audit of supporting documents from February 4, 2021, through March 12, 2021. The NRC staff audited the requested documents to confirm certain information relied upon in the license amendment request. A summary of the regulatory audit is enclosed. The NRC staff did not identify any significant issues during the audit. However, the staff did identify the need for additional information related to the topic of the audit. The NRC staff’s request for additional information was transmitted via email dated April 5, 2021.

Sincerely,

/RA/

Michael J. Wentzel, Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-327 and 50-328

Enclosure:
Regulatory Audit Summary

cc: Listserv



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REGULATORY AUDIT SUMMARY

LICENSE AMENDMENT REQUEST TO TRANSITION TO WESTINGHOUSE FUEL

TENNESSEE VALLEY AUTHORITY

SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NOS. 50-327 AND 50-328

1.0 BACKGROUND

A regulatory audit is an activity undertaken by the U.S. Nuclear Regulatory Commission (NRC) staff to examine and evaluate licensee information with the intent to gain an understanding of, verify, or identify information that will require docketing to support the basis of a licensing or regulatory decision.

On September 23, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20267A617), the Tennessee Valley Authority (TVA, the licensee) submitted a license amendment request (LAR) for Sequoyah Nuclear Plant, Units 1 and 2 (Sequoyah). The proposed amendments would revise Technical Specifications (TS) to allow the use of Westinghouse RFA-2 fuel with Optimized ZIRLO™ cladding. Further, the proposed amendments would revise TS 5.6.3, "Core Operating Limits Report," to replace the loss-of-coolant accident analysis evaluation model references with the FULL SPECTRUM™ Loss-of-Coolant Accident Evaluation Model. Finally, the proposed amendments would revise the TSs to permit the use of 52 full-length control rods with no full-length control rod assembly in core location H-08.

The NRC staff performed a preliminary review of the LAR and determined that a regulatory audit would assist in the timely completion of the review. The regulatory audit was performed consistent with the NRC Office of Nuclear Reactor Regulation Office Instruction LIC-111, "Regulatory Audits," Revision 1, dated October 31, 2019 (ADAMS Accession No. ML19226A274). The NRC staff conducted a regulatory audit that consisted of a remote audit, including discussions with the licensee, from February 4, 2021, through March 12, 2021. The audit plan was provided to TVA on February 4, 2021 (ADAMS Accession No. ML21036A109). The list of documents uploaded by the licensee in response to the NRC staff's request and examined by the audit team is provided in Section 5.0.

2.0 AUDIT ACTIVITIES AND OBSERVATIONS

The remote audit was conducted using an online portal and teleconferencing capabilities. The purpose of the audit was to (1) confirm internal licensee information that supports statements made in the LAR, and (2) determine whether the information included in the documents is necessary to be submitted to support a safety conclusion.

Discussions on the topics identified in the attachment of the audit plan were held with the licensee during audit calls conducted on February 4 and March 3, 2021. The NRC staff assessed the information provided during the audit to determine whether additional information would be needed to support a regulatory finding, and therefore, would need to be submitted for review.

3.0 RESULTS OF THE AUDIT

During the audit, the NRC staff confirmed information that supported statements made in the LAR. However, the staff identified additional information that is needed to support the staff's regulatory findings. The NRC staff finalized requests for additional information, which were issued to TVA by email dated April 5, 2021 (ADAMS Accession No. ML21095A048).

4.0 AUDIT PARTICIPANTS

NRC and Contractor	TVA and Westinghouse
Robert Beaton	Christopher Carey
John Grasso	Kasey Decker
Charley Peabody	Thomas Gerlowski
Shie-Jeng Peng	John Moorehead
Muhammad Razzaque	Andrew Taylor
Michael Wentzel	
Yuken Wong	

5.0 LIST OF DOCUMENTS AND MATERIALS REVIEWED DURING THE AUDIT

- Westinghouse Electric Company, LLC., Calculation CN-SQN-RTSR-036, "Transition Core DNB Penalty Calculation for the Sequoyah RTSR," November 2019.
- Westinghouse Electric Company, LLC., Calculation CN-SQN-RTSR-004, Revision 1, "Thimble Bypass Flow Calculation for the Sequoyah RTSR – Short Form Revision," April 2020.
- Westinghouse Electric Company, LLC., Calculation WCAP-10886, "Characterization of V. C. Summer VANTAGE 5 Demonstration Assemblies," August 1985.
- Westinghouse Calculation PPE-06-37, "Wolf Creek EOC 14 Robust Fuel Assembly-2 (RFA-2) Fuel Examination Report," April 2006.
- Drawing 686J347, RV General Assembly – Section View – Reactor Vessel
- Drawing 6467E13, Sequoyah Unit 2 Support Pin Replacement UHI Guide Tube/Flow Column General Assembly.
- Drawing 5D63967, Part Length Guide Tube Restrictor and Removable Cover Plate Outline.

SUBJECT: SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2 – REGULATORY AUDIT SUMMARY RELATED TO REQUEST TO TRANSITION TO WESTINGHOUSE FUEL (EPID L-2020-LLA-0216) DATED APRIL 8, 2021

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***by e-mail**

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