**U. S. NUCLEAR REGULATORY COMMISSION**

**REGULATORY AUDIT PLAN FOR THE WESTINGHOUSE ELECTRIC COMPANY**

**TOPICAL REPORT CENPD-289-P/NP, SUPPLEMENT 1, REVISION 0, "USE OF INERT REPLACEMENT RODS IN CE 16X16 NEXT GENERATION FUEL (CE16NGF™)"**

**(EPID L-2022-TOP-0042)**

**DOCKET NO. 99902038**

## 1.0 BACKGROUND

By letter dated August 4, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22217A038), Westinghouse Electric Company (Westinghouse) submitted Topical Report (TR) CENPD-289-P/NP, Supplement 1, Revision 0, "Use of Inert Replacement Rods in CE 16x16 Next Generation Fuel (CE16NGF™)" (ADAMS Package No. ML22217A037), to the U.S. Nuclear Regulatory Commission (NRC) for review and approval for licensing applications.

Because the initial submittal of the Westinghouse CENPD-289-P/NP, Supplement 1, Revision 0, TR required additional information for the NRC staff to begin its review, the NRC staff has proposed to conduct a regulatory audit to increase efficiency, facilitate discussion, and clarify issues identified during the staff's initial review. The NRC staff will conduct this virtual audit under the guidance provided in LIC-500, Revision 9, "Topical Report Process," and LIC-111, Revision 1, "Regulatory Audits."

## 2.0 REGULATORY AUDIT BASES

The audit is needed to ensure the NRC staff has adequate information to make a safety evaluation with respect to the criteria outlined in Sections 4.2, "Fuel System Design," 4.3, "Nuclear Design," and 4.4, "Thermal and Hydraulic Design," of NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition."

## 3.0 REGULATORY AUDIT SCOPE

The NRC staff will conduct a two-day audit online. The following areas are requested to be discussed or made available via calculation files.

Effect of Rod Replacement on Neutronic Performance

- **[** **]**
- Basis of **[** **]** constraint.
- Basis of the number of inert rods directly adjacent (face-to-face) to any inert rod is less than or equal to **[** **]**

Effect of Rod Replacement on Thermal Hydraulic Performance:

- Basis of number of inert rods directly adjacent (face-to-face) to any fuel rod is less than or equal to **[ ]**
- Applicability of departure from nucleate boiling correlation to subchannels with **[ ]**

Effect of Rod Replacement on Mechanical Performance:

- No areas identified.

Effect of Rod Replacement on Plant Safety Analysis:

- Basis of the total number of inert rods in the core must be less than **[ ]**

## 4.0 INFORMATION NEEDS

The NRC staff requests Westinghouse make available appropriate engineer(s) with knowledge of the TR to address questions by the NRC staff.

Documents referenced in the TR and other key supporting documents should also be made available via electronic reading room.

## 5.0 TEAM ASSIGNMENTS

Jeremy Dean, Technical Reviewer (NRR/DSS/SFNB)
Scott Krepel, BC (NRR/DSS/SFNB)
Ekaterina Lenning, Project Manager (NRR/DORL/LLPB)

## 6.0 LOGISTICS

Audit Dates: Wednesday, December 7, 2022 – Thursday, December 8, 2022

Time will be allocated for specific topics during each day of the audit as presented below:

Agenda for the Day 1:

| Time | Topic | Speaker |
|---|---|---|
| 8:30 am – 8:45 am | Regulatory audit entrance meeting/Introductions/Opening remarks | NRC, Westinghouse |
| 8:45 am - 10:00 am | Proprietary discussion on the audit framework/ Proprietary document review | NRC, Westinghouse |
| 10:00 am - 10:15 am | Break | |
| 10:15 am – 12:00 pm | Proprietary document review/Proprietary discussion | NRC, Westinghouse |
| 12:00 pm – 12:45 pm | Lunch | |

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|---|---|---|
| 12:45 pm - 2:15 pm | Proprietary document review/Proprietary discussion | NRC, Westinghouse |
| 2:15 pm – 2:25 pm | Break | |
| 2:25 pm – 4:00 pm | Proprietary document review/Proprietary discussion | NRC, Westinghouse |
| 4:00 pm - 4:30 pm | Wrap up discussion/Conclusion of Day 1 | NRC, Westinghouse |
| 4:30 pm | Adjourn | |

Agenda for the Day 2:

| **Time** | **Topic** | **Speaker** |
|---|---|---|
| 8:30 am – 8:45 am | Opening remarks | NRC, Westinghouse |
| 8:45 am - 10:00 am | Proprietary discussion/ Proprietary document review | NRC, Westinghouse |
| 10:00 am - 10:15 am | Break | |
| 10:15 am – 12:00 pm | Proprietary document review/Proprietary discussion | NRC, Westinghouse |
| 12:00 pm – 12:45 pm | Lunch | |
| 12:45 pm - 2:15 pm | Proprietary document review/Proprietary discussion | NRC, Westinghouse |
| 2:15 pm – 2:25 pm | Break | |
| 2:25 pm – 4:00 pm | Proprietary document review/Proprietary discussion | NRC, Westinghouse |
| 4:00 pm - 4:30 pm | Wrap up discussion – open items, next steps/Conclusion of the audit/ Regulatory audit exit | NRC, Westinghouse |
| 4:30 pm | Adjourn | |

## 7.0 DELIVERABLES

A regulatory audit summary will be provided within 90 days of the completion of the audit.

## 8.0 REFERENCES

1. CENPD-289-P/NP, Supplement 1, Revision 0, “Use of Inert Replacement Rods in CE 16x16 Next Generation Fuel (CE16NGF™)” (ADAMS Package No. ML22217A037).

2. NRC, NUREG-0800, “Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants,” June 1987.

3. NRC, NUREG-0800, Section 4.2, “Fuel System Design,” March 2007 (ADAMS Accession No. ML070740002).

4. NRC, NUREG-0800, Section 4.3, “Nuclear Design,” March 2007 (ADAMS Accession No. ML070740003).

5. NRC, NUREG-0800, Section 4.4, “Thermal and Hydraulic Design,” March 2007 (ADAMS Accession No. ML070550060).