



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

July 12, 2021

MEMORANDUM TO: Christopher M. Regan, Deputy Director
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

FROM: Pierre Saverot, Project Manager
Storage and Transportation Licensing Branch
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

SUBJECT: SUMMARY OF JUNE 24, 2021 MEETING WITH
WESTINGHOUSE ELECTRIC COMPANY LLC

A handwritten signature in black ink, appearing to read "Pierre Saverot".

Signed by Saverot, Pierre
on 07/12/21

Background

On June 24, 2021, an Observation Public Meeting was held by teleconference between the NRC staff and representatives from Westinghouse Electric Company LLC (Westinghouse) to discuss a pending amendment request for the Model No. Traveler STD and XL packages. This pre-application meeting was noticed on June 4, 2021 (ADAMS Accession No. ML21155A009).

The meeting attendance list and the presentation are provided as Enclosure Nos. 1 and 2, respectively.

Discussion

Westinghouse is planning to submit an amendment request for its Model No. Traveler STD and XL packages (Docket No. 71-9380) by mid-July 2021. The amendment request will include a new bottom support spacer for a new fuel assembly 4-legged skirted bottom nozzle design, a new chromium-coated cladding and optimized-ZIRLO liners (OZL), an aluminum and stainless-steel cladding for the loose rods, ADOPT UO₂ fuel, 7% enrichment loose fuel rods and 6% enrichment fuel assembly as authorized contents.

Regarding the new bottom support spacer, Westinghouse benchmarked the current design drop test, determined the impact force applied to the fuel assembly, and compared the impact limiter crush depth to the physical test. Westinghouse then re-run the finite element analysis with the new support spacer design and compared the impact limiter crush distance to the benchmarked analysis and physical tests.

CONTACT: Pierre Saverot, NMSS/DFM
301-415-7505

Regarding the new cladding material, Westinghouse explained that the A2T1-H cladding is an aluminum-magnesium-chromium alloy that is 96.7% weight percent aluminum, while the stainless-steel cladding is an annealed Type 304 stainless steel. Westinghouse said that the structural properties, total strain energy absorption, and melt temperatures of the new cladding materials were compared to, and are bounded by, the package HAC tested Zircaloy cladding and that the maximum temperature of the fuel cladding is the 104°C temperature inside the clam shell, as observed during hypothetical accident conditions. Westinghouse explained that the low tin in the OZL zirconium-tin-iron alloy liner provides corrosion resistance and lower growth in the rod assembly. Westinghouse also explained the various chromium coating methods, i.e., cold spray polishing process and pressure vapor deposition (PVD) and said that autoclave tests were done for both methods.

In response to a staff's question, Westinghouse confirmed that about 20 additional benchmark experiments were added for enrichments above 5%. Staff asked Westinghouse to clarify why it appeared that the expanded pitch modeling under HAC had been apparently removed from the model in order to reduce k-eff. Similarly, staff noted that the applicant also removed conservatisms in the polyethylene modeling in order to reduce k-eff, and asked Westinghouse to identify in the application a technical basis for doing so. Finally, staff asked if the applicant did any sensitivity/uncertainty (i.e., TSUNAMI) calculations to determine the applicability of experiments currently in the suite, as well as of the newly added higher enriched experiments, to the 6% and 7% enriched contents, and Westinghouse confirmed there was no such calculation made.

A shipment from the United Kingdom (U.K.) to a U.S. reactor is scheduled in early 2023. Due to the time required by the U.K Regulatory Authorities to revalidate the NRC certificate, Westinghouse will need the revised CoC by January 2022.

No regulatory commitments were made during this meeting.

Docket No. 71-9380
EPID L-2021-LLA-0102

Enclosures: 1- Meeting Attendees
2- Presentation

**Meeting Between Westinghouse Electric Company LLC
and the
Nuclear Regulatory Commission
June 24, 2021
Meeting Attendees**

NRC/NMSS/DFM

Pierre Saverot
Patrick Koch
Jeremy Smith
Andrew Barto
Darrell Dunn
Chris Sydnor

WESTINGHOUSE

Tanya Sloma-DeLosier
Wes Stilwell
Brian Millare
Charlie Murphy (Daher-TLI)
Hawk Rochow (NovaTech)

Meeting Summary with Westinghouse for the Model No. Traveler STD and XL Packages DATE July 12, 2021

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MKunowski, R-III/DNMS/MIB

GWarnick, R-IV/DNMS/RIB

ADAMS Accession No.: ML21183A061; Memo ML21183A062

OFFICE	NMSS/DFM/STLB	NMSS/DFM/STLB	NMSS/DFM/STLB	NMSS/DFM/STLB
NAME	PSaverot <i>PS</i>	PSaverot <i>PS</i>	JMcKirgan <i>JM</i>	SFiguroa <i>SF</i>
DATE	Jul 5, 2021	Jul 6, 2021	Jul 7, 2021	Jul 12, 2021
OFFICE	NMSS/DFM/STLB			
NAME	PSaverot <i>PS</i>			
DATE	Jul 12, 2021			

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