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Security Related Information Notice

Enclosure 4 to this letter contains security related information which is to be withheld from public disclosure in accordance with 10 CFR 2.390. The balance of this letter may be considered public upon removal of Enclosure 4 and Proprietary Enclosures 1, 2 and 3.

June 9, 2023

SUBJECT: Request for Modification to Temporary License Conditions for Sampling, Analysis and Disposition of Hematite Ash Material (Docket No. 70-1151, License SNM-1107)

REFERENCES: 1) Westinghouse letter to NRC dated December 2, 2022, Request for Temporary License Amendment for Storage of Hematite Ash (Docket No. 70-1151, License SNM-1107)
 2) NRC letter to Westinghouse dated May 5, 2023, Westinghouse Electric Company, LLC – Revision to Temporarily Store Hematite Ash Above License Limits and Removal of Uranium Flywheel (EPID L-2022-LLA-0177 and L-2022-LLA-0154)

On December 2, 2022, Westinghouse Electric Columbia LLC (Westinghouse) Columbia Fuel Fabrication Facility (CFFF) requested a temporary license amendment to License SNM-1107 for possession and storage of the Hematite ash material in Reference 1. The NRC Office of Nuclear Material Safety and Safeguards Division of Fuel Management (NMSS/DFM) granted a temporary license amendment on May 5, 2023 (Reference 2). As a follow-on action to the amendment, in accordance with 10 CFR 70.34, Westinghouse requests review of the enclosed materials and modification of temporary license conditions S-19 and S-20, as necessary, to authorize handling, sampling, analysis and downblend processing of the ash material, to less than 5 wt% U235 if necessary. As noted in Reference 1, sample analysis results of the potentially greater than 5 wt% U235 materials are expected to be found less than 5 wt% U235. However, CFFF procedures and a Nuclear Criticality Safety (NCS) Basis update have been generated to handle any Hematite ash materials with confirmed analyses greater than 5 wt% U235. Background information on our sampling, testing and blending plans was previously discussed with the NRC Staff on February 8, 2023, via a Microsoft Teams teleconference. An outline of the Hematite Ash disposition process for the material potentially greater than 5 wt% U235 is covered below:

- The bags of Hematite ash material with potentially greater than 5 wt% U235 will be brought into a hood one at a time and duplicate samples will be pulled from each bag of residue.
- The residue bag will be resealed and returned to its parent container.
- The CFFF Chemistry Laboratory will analyze the sampled ash material for uranium isotopic compositions.

- After receipt of the uranium isotopic analyses, Nuclear Criticality Safety Engineering and Uranium Recycle and Recovery Services (URRS) staff will determine the disposal path for the material. Hematite Ash material with analytical results of less than 5 wt% U235 will be processed under the existing procedures for the URRS C-4 Dissolvers process.
- Any Hematite Ash material with an analytical result of greater than 5 wt% U235 will be blended with a predetermined amount of lower enrichment material from the same shipping container into polypaks.
- After mixing of the blended polypaks, duplicate samples will be pulled and taken to the Chemistry Laboratory for isotopic analysis.
- Following confirmation of analyses to less than 5 wt% U235 for a blended polypak by NCS staff and URRS staff, the blended Hematite ash materials will be moved to the URRS C-4 Dissolver process for dissolution under existing URRS procedures.

Westinghouse is providing three enclosures associated with the activities outlined above for NRC Staff review. Enclosure 1 to this letter contains the Westinghouse Chemical Operating Procedure (COP) specific to sampling of the nine containers of Hematite ash materials. This procedure also includes instructions for blending to less than 5 wt% U235 of any ash material confirmed by laboratory analysis to be greater than 5 wt% U235. Enclosure 2 contains the Westinghouse Chemistry Laboratory Special Operating Instruction (SOI) for safe handling, testing and disposal of the ash material samples potentially greater than 5 wt% U235. Enclosures 1 and 2 are pre-release versions and final versions will be released following NRC approval of the amendment request. Enclosure 3 contains the Westinghouse Criticality Safety Evaluation for sampling and testing of ash material potentially greater than 5 wt% U235.

In addition to support this request, Westinghouse has prepared a revised Integrated Safety Analysis (ISA) 04 Summary, *Safe Geometry Dissolver System* (Enclosure 4), which provides an update to the process description to include sampling handling, storage and blending of ash material with verified lower enrichments with any material with a confirmed enrichment greater than 5 wt% U235. The Items Relied on for Safety (IROFS) table was also updated to include controls added to the safety basis by Enclosure 3. The ISA Summary did not require any revisions in analysis to address Radiological Safety, Chemical Safety, Environmental Safety or Fire Safety for the proposed activities. Updates to the ISA 04 Summary are highlighted in yellow in the relevant sections of Enclosure 4.

Since the Site Emergency Plan (SEP) for the CFFF and internal procedures already address the response to radioactive material powder spills, an update to the SEP is not required. Additionally, no updates to the CFFF Fundamental Nuclear Material Control Plan or CFFF Physical Security Plan are needed to support the activities described above. As a result, storage of the subject material will not be inimical to the common defense and security.

Pursuant to 10 CFR 51.22(b), no environmental assessment or environmental impact statement need be prepared in connection with approval of this request. The license amendment request is categorically excluded under 10 CFR 51.22(c)(11) because the requested license amendment involves no significant change in the types or significant increase in the amounts of any effluents that may be released offsite; no significant increase in individual or cumulative public or occupational radiation exposure; no significant construction impact; and no significant increase

in the potential for or consequences from radiological accidents. There are no extraordinary circumstances present that would preclude reliance on this categorical exclusion.

This submittal contains proprietary information of Westinghouse Electric Company LLC. In conformance with the requirements of 10 CFR 2.390, as amended, of the Nuclear Regulatory Commission's ("Commission's") regulations, we are enclosing with this submittal an Affidavit. The Affidavit sets forth the basis on which the information identified as proprietary may be withheld from public disclosure by the Commission.

Correspondence with respect to the proprietary aspects of this submittal or the Westinghouse Affidavit should reference AW-23-020 and should be addressed to Jeff Ferguson at (803) 647-1929.

Please contact me at (803) 647-1929 should you have questions concerning the license amendment request.

Jeffery Ferguson
Jeffery Ferguson (Jun 9, 2023 13:42 EDT)

Jeff Ferguson

Manager, Regulatory Compliance and Environmental Health and Safety
Westinghouse Columbia Fuel Fabrication Facility
Docket 70-1151, License SNM-1107

cc:

NRC, Ms. Jennifer Tobin
NRC, Mr. Thomas Vukovinsky

Enclosure 1: COP-836085, Processing of >5% Enrichment Material (Proprietary)

Enclosure 2: SOI-CL-0057, Chem Lab Requirements for Potentially >5% Enrichment Material
(Proprietary)

Enclosure 3: CSE-4-J, Criticality Safety Evaluation (CSE) for Processing Suspect >5 wt% Ash
(Proprietary)

Enclosure 4: Revised ISA 04 Summary (Security-Related Information)

Enclosure 5: Affidavit (AW-23-020) for Withholding of Proprietary Information (Non-Proprietary)