Westinghouse

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Westinghouse Electric Company LLC
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November 22, 2010

SUBJECT: WESTINGHOUSE RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION (TAC NO. L33020)

Westinghouse Electric Company LLC (Westinghouse) Columbia Fuel Fabrication Facility (CFFF) submitted an application to amend Nuclear Materials License SNM-1107 for the purpose of transferring control of source and byproduct materials from the South Carolina Radioactive Material License No. 094. On October 25, 2010, that application was accepted for review by the Nuclear Regulatory Commission (NRC). A Request for Additional Information (RAI) was generated as a result of the review and transmitted to Westinghouse November 16, 2010. This correspondence provides the Requested Information. The two RAI's are repeated below followed by the Westinghouse Response. Details which may make the response proprietary or security related in nature are not included. That level of detail is not necessary to adequately respond to the RAI's and will be included to the extent necessary in the ISA summary.

RAI No. 1: During the annual update, revise the Integrated Safety Analysis (ISA) Summary to include the location of the source and byproduct material used at the facility. State, for example, in the beginning of ISA, that the inventory of uranium hexafluoride (UF_6) includes both the enriched and natural uranium. Also, address the byproduct material.

Source material needs to be appropriately stored to prevent consequences exceeding the performance requirements of 10 CFR 70.61. NUREG-1520, Chapter 3, ISA and ISA summary, states that the ISA Summary should provide the list of materials (Radioactive, fissile, flammable, and toxic) including the maximum intended inventory amounts and locations of the hazardous materials at the facility.

Response: Westinghouse will include in the January 2011 ISA Summary updated additional clarification text, primarily in the Site and Structures, Final Assembly and Conversion Area ISA Summaries, the necessary information to comply with the regulations and the Westinghouse ISA Handbook required to be utilized in accordance with SNM-1107 License Application. These additions will describe inventory information as well as where the Natural and Depleted Uranium UF_6 is handled, stored and processed, and in the same manner as the SNM already licensed by the NRC. The Uranium Oxide pellets eventually manufactured are used in a variety of applications, including fuel rods, dummy fuel rods, fuel assemblies as well as test assemblies.

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Natural and Depleted Uranium in small batch quantities are occasionally received for testing, new program efforts, and other manufacturing activities related to the core fuel fabrication business. A depleted uranium flywheel, currently stored in the same area as the site's low level radioactive waste, is used when needed in proprietary testing and manufacturing activities.

The byproduct materials addressed in the license application are from radioactive contamination originating from reactor sites on fuel assemblies returned for various reasons. This is normally to allow for recovery of the uranium. Return of contaminated assemblies is a rare occurrence, on the average being one /year in recent years. The return of fuel assemblies and /or fuel rods from customer reactor sites is strictly controlled with the return requiring the approval of the Columbia Radiation Safety Officer, who ensures the license limits will not be exceeded. Typically this involves review of radiological surveys (i.e. swipes) and sample results from the storage pool water at the reactor site. Once approved for return, the fuel assemblies and/or fuel rods are controlled to ensure compliance with 10 CFR Part 20. The fuel assemblies are disassembled using standard radiological control practices to limit the potential for radiological contamination of personnel or plant equipment. This activity is normally performed in the Final Assembly area of the Columbia Plant. The contaminated components, tubes, scrap metal and handling materials (gloves, plastic sheeting, etc.,) are properly disposed of in accordance with the governing regulations.

RAI No. 2: Clarify that the hazard (Chemical, Fire) evaluation associated with the use of uranium hexafluoride includes both the enriched and natural uranium. Also address the byproduct material. During the annual ISA update, revise the ISA Summary accordingly.

Regulations in 10CFR 70.62. "Safety Program and Integrated Safety Analysis" states that the licensee shall conduct and maintain an ISA that identifies chemical hazards associated with licensed material and hazardous chemicals produced from licensed material. 70.65(b)(4) states that the IS Summary must contain information that demonstrates license compliance with the performance requirements of 70.61.

Response: Westinghouse will include in the January 2011 ISA Summary additional clarification text, primarily in the Site and Structures and Conversion Area ISA Summaries, necessary to comply with the regulations. These text additions will describe inventory information as well as where the Natural and Depleted Uranium UF_6 is handled, stored and processed, and in the same manner as the SNM already licensed by the NRC. The accident sequences which demonstrate compliance with the performance requirements already contained within the ISA Summary, other than the Criticality Safety sequences, apply regardless of whether or not the Uranium is enriched. The primary chemical hazard is the hydrofluoric acid (HF) generated as a result of the hydrolysis of UF_6 to form uranyl fluoride. The mg uranium uptake exposure criteria utilized in the existing ISA Summary to demonstrate compliance with the performance requirements is similarly based on the toxicity of the uranium which is not enrichment dependent. The bounding accidents for airborne dispersal due to a Natural Phenomena Hazard (NPH), uranium spills, fires, and other accident sequences already approved by NRC in the ISA Summary, adequately address the risk and provide where appropriate Items Relied on For Safety (IROFS).

The byproduct materials addressed in the license application are from radioactive contamination and the hazards associated with the contamination levels are minimal. They do not constitute a significant radiological hazard which has the potential to exceed the intermediate or high consequence criteria of 10 CFR 70.61 and therefore do not require IROFS.

If you have any questions pertaining to this matter, please contact me at (803) 647-2045.

Sincerely,

Gerard F. Couture, Manager
Licensing and Regulatory Programs
Westinghouse Columbia Fuel Fabrication Facility

Docket 70-1151 License SNM-1107

cc: U. S. Nuclear Regulatory Commission
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