



Westinghouse Electric Company LLC  
Columbia Fuel Site  
5801 Bluff Road  
Hopkins, South Carolina 29061-9121  
USA

Director, Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Document Control Desk  
11555 Rockville Pike  
Rockville, Maryland 20852-2738

Direct tel: 803-647-3338  
Direct fax: 803-695-3964  
e-mail: parrnb@westinghouse.com  
Your ref:  
Our ref: LTR-RAC-14-56

November 21, 2014

SUBJECT: ADDITIONAL INFORMATION TO SUPPORT LICENSE SNM-1107 AMENDMENT REQUEST (DOCKET 70-1151 and TAC # L33353)

Westinghouse Electric Company LLC (Westinghouse) herein provides the following additional information to support our license amendment request submitted on 11/11/14 per LTR-RAC-14-55. This amendment request was to increase the existing material possession limit.

#### Overview

Approval of the possession limit increase will enable Westinghouse to expand the existing Uranium Hexafluoride (UF<sub>6</sub>) Pad Annex, also known as the "auxiliary UF<sub>6</sub> storage pad." UF<sub>6</sub> storage is currently an authorized process in our SNM-1107 license, and existing programs and procedures are in place to assure the safety and security of this activity. This expansion will occur within the existing Controlled Access Area (CAA) fence and will provide for an additional storage capacity of approximately 600 full 30B UF<sub>6</sub> cylinders. These cylinders will be certified to ANSI N14.1 and 10CFR49 Part 173 requirements. They will be received, inspected, stored and secured in the same manner that full cylinders are handled today at the Columbia Fuel Fabrication Facility (CFFF).

Inside the CAA fenced area, horizontal storage racks will be installed on the concrete surface to expand the existing Pad Annex. These are the same racks currently in use and are capable of holding the cylinders in a single layer horizontal orientation. Bollards will be installed as needed to provide impact protection from truck traffic.

There is no time limit that a cylinder can be stored on-site. With the additional storage, CFFF would only have locations for about 15 months of production. Therefore, it is rare for cylinders to remain unused for more than 2 years without a specific customer request. Increasing the available storage area will also help with the logistics of stock rotation.

As of November 2014, there are around 1,000 cylinders containing SNM on site. Most of the cylinders (74%) on site are owned by enrichers (USEC, Urenco, Areva, TENEX, CNEIC). The balance is a combination of Transporters (8%), Department of Energy (6%) and Westinghouse (12%). Also, under certain storage arrangements with our utility customers, they may provide the cylinders. We would expect these ratios would stay about the same with the expansion, but over time, the United States Government owned percentage of DoE material could increase.

#### Material Control & Accounting

The Fundamental Nuclear Material Control Plan (FNMCP) for the CFFF, Revision 42 describes the nuclear material control and accounting practices in use today for each UF<sub>6</sub> cylinder received. Only administrative changes to the existing FNMCP would be expected in support of this amendment request to update the site

map and quantity of UF<sub>6</sub> material. Expansion of the Pad Annex will not change any of the existing approved methods. Each cylinder will be received, inspected, stored and secured in the same manner that full cylinders are handled today. Pages 6.7 - 6.9 of the FNMCP provide a description of the item control practices, and chapter 4.0 describes the material control and accounting practices. Shipper/receiver differences are addressed in chapter 7.0, and reporting in the Nuclear Material Management and Safeguards System will be the same as it is done today. If any cylinder is found to not be certified by the American Society of Mechanical Engineers (ASME) code, Westinghouse would expect that the cylinder would be handled as non-conforming material by performing the appropriate steps of notification, documentation, de-progression, segregation and labeling. Also, the appropriate regulatory agencies would be informed to discuss how to best respond to the specific circumstances of the unusual occurrence.

#### Radiation Safety

There is no expected change in the 10CFR20 dose to the public, the workers or the environment for the project to expand the Pad Annex. Also, Integrated Safety Analysis (ISA) Summary, Revision 9 for the Conversion Process includes the process safety analysis for the storage activity on pages 54-59. These same controls will be in place for the Pad Annex.

#### Decommissioning Costs

The value of the material inside the cylinders exceeds the cost of removal. The contents of a full cylinder are valued at today's price of \$2.5M per cylinder, and a cylinder heel would be worth approximately \$17k. The cost of loading and transporting the cylinders should not exceed \$5k per cylinder. Therefore, removal of an additional 600 cylinders would be approximately \$3M. With a 25% contingency added, removal of the cylinders would cost approximately \$3.75M.

#### Criticality Safety

Integrated Safety Analysis (ISA) Summary, Revision 9 for the Conversion Process includes the process safety analysis for the storage activity on pages 178-180. These same controls will be in place for the expansion of the Pad Annex. The Criticality Safety Analysis for the storage pad evaluation uses an infinite array. The criticality alarm system coverage, however, is based on the actual configuration of the pad. Prior to the expansion, the criticality alarm system coverage will be evaluated, and coverage will be expanded if needed to meet requirements for this additional storage area.

#### Environmental Review

There are no changes to waste streams expected for this storage activity. Minimal construction waste (e.g., soil or concrete) will be surveyed per current procedures and disposed of appropriately. Also, there are no effluent (liquid or gaseous) changes for this activity.

#### Fire Safety

Integrated Safety Analysis (ISA) Summary, Revision 9 for the Conversion Process includes the process safety analysis for the storage activity on pages 54-59. These same controls will be in place for the Pad Annex, including combustible material controls such as housekeeping and combustible loading requirements. For the Pad Annex expansion, the pad will be sloped to prevent any pooling. While no additional vehicles are planned for these expansion activities, if they were purchased, they would be reviewed through the 10CFR70.72 review process, and the impact on the Fire Hazard Analysis would be considered.

#### Physical Security

The same physical security controls in use today as described in the Physical Security Plan, Revision 43 will also be in place for expansion of the Pad Annex. Only administrative changes may be required to the plan to update the site map and quantity of UF<sub>6</sub> material. A cursory discussion of the pad expansion was held with a NRC Physical Security Inspector at the CFFF in October 2014.

Emergency Planning

The Material Possession Limits on page 1-2 and the Pad Annex quantity on page 1-6 in the Site Emergency Plan, Revision 17 will be updated on approval of the amendment request. The emergency scenarios associated with the storage activities will remain the same, and the Site Fire Pre-Plan will be updated as necessary.

Lastly, upon approval of the amendment request, any updates to site maps and the quantity of material in the ISA will be submitted as part of the next annual ISA Summary update.

Please let me know if you have any additional questions or concerns.

Sincerely,



Nancy Blair Parr  
Licensing Manager  
Westinghouse Columbia Fuel Fabrication Facility  
Docket 70-1151 License SNM -1107

cc:

U. S. Nuclear Regulatory Commission  
11555 Rockville Pike  
Rockville, Maryland 20852-2738  
Attn: Mr. Christopher Ryder  
Mail Stop: EBB 2C40M

U. S. Nuclear Regulatory Commission, Region II  
245 Peachtree Center Avenue NE, Suite 1200  
Atlanta, GA 30303-1257  
Attn: Mr. Manuel Crespo