

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, *Code of Federal Regulations*, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the U.S. Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. Westinghouse Electric Company, LLC	3. License Number: SNM-1107
	Amendment 28
2. P.O. Box 355	4. Expiration Date: September 30, 2027
Pittsburgh, Pennsylvania 15230-0355	5. Docket No. 70-1151

6. Byproduct Source, and/or Special Nuclear Material

A. U-233

B. U-235 in uranium of any enrichment

C. Uranium enriched to ≤ 5 percent, including any uranium daughter isotopes

D. Pu-238/239

7. Chemical and/or Physical Form

A. Any chemical or physical form, limited to laboratory use as individual 1-gram maximum quantities in ventilated hoods, glove boxes, or other enclosures

B. Any chemical or physical form

C. Any chemical or physical form except metal

D. Sealed sources

8. Maximum amount that the Licensee may possess at any one time under this License

A. [Security-Related Information - Withheld Under 10 CFR 2.390]

B. [Security-Related Information - Withheld Under 10 CFR 2.390]

C. [Security-Related Information - Withheld Under 10 CFR 2.390]

D. [Security-Related Information - Withheld Under 10 CFR 2.390]

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D. Transuranic elements
and fission products

E. Any

E. [Security-Related
Information - Withheld
Under 10 CFR 2.390]F. Natural (or depleted)
UraniumF. Any chemical or physical
form except metalF. [Security-Related
Information - Withheld
Under 10 CFR 2.390]

G. Depleted uranium

G. Flywheel

G. [Security-Related
Information - Withheld
Under 10 CFR 2.390]

H. Byproduct Material

H. Surface contamination on
returned fuel assemblies,
fuel rods, equipment, and
associated miscellaneous
componentsH. [Security-Related
Information - Withheld
Under 10 CFR 2.390]

9. Authorized place of use: The licensee's existing facilities at Columbia, South Carolina.
10. This license shall be deemed to contain two sections: Safety Conditions and Safeguards Conditions. These sections are part of the license and the licensee is subject to compliance with all listed conditions in each section.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date: October 12, 2021

By: _____

Jacob I. Zimmerman, Chief
Fuel Facility Licensing Branch
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

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SAFETY CONDITIONS

- S-1 Authorized Use: For use in accordance with statements, representations, and conditions in the license application, dated June 27, 2007; or as revised, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 70.32 or 10 CFR 70.72, and the supplements, dated July 18, 2007; September 13, 2007; April 21, 2008; June 10, 2008; September 30, 2008; August 30, 2010; October 4, 2010; September 7, 2010; November 22, 2010; December 15, 2010; February 22, 2011; April 8, 2011; and April 28, 2011; license application (Revision 2.0) dated June 29, 2012, June 29, 2012; November 9, 2012; April 5, 2012, July 6, 2012, October 4, 2012, November 13, 2012, and December 3, 2012; December 12, 2012, and January 15, 2013; Letters dated January 3, 2014, and March 24, 2014; July 2, 2014, July 18, 2014, and October 8, 2014; July 8, 2014; November 11, 2014, November 21, 2014, January 26, 2015, February 27, 2015, June 5, 2015, June 18, 2015, August 30, 2016, September 8, 2016, July 25, 2019, March 4, 2020, May 8, 2020, September 22, 2020, October 12, 2020, February 8, 2021, June 1, 2021, and September 14, 2021.
- S-2 The licensee shall maintain and execute the Site Emergency Plan for the Columbia Fuel Fabrication Facility, Revision 19, dated December 18, 2018, or as further revised by the licensee consistent with 10 CFR 70.32(i).
- S-3 Notwithstanding the requirements of 10 CFR 70.22(i)(3), the Site Emergency Plan is temporarily changed to allow the periodicity for performance of the independent audits of equipment readiness and elements of the program that have had weakness identified during exercises or drills from annual to biennial. After these independent audits are completed in 2021, this temporary change will be eliminated, and the periodicity of these independent audits will go back to annual.
- S-4 Removed
- S-5 For nuclear criticality safety, as changes are implemented in the second Nuclear Criticality Safety Improvement Program (NCSIP-II) and other future such programs, the licensee shall incorporate justification for determining that accident sequences are incredible, specifically listing which item under Section 1.1.6.22 of the Application applies and a justification for using the item, documented in sufficient detail so that results can be reviewed.
- S-6 Removed
- S-8. Removed

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- S-9 Notwithstanding the requirements of 10 CFR Part 20.1703(c)(5), Westinghouse may use a licensed health care professional to determine the medical fitness of personnel at the Columbia Fuel Fabrication Facility to use respiratory protection equipment. The respiratory protection program must be designed by, and under the supervision of, a physician. Though the physician need not administer each determination personally, the physician is ultimately responsible for the fitness determination. The physician is to be involved in the supervision of the fitness program, the review of overall results, individual cases that fall outside certain predetermined parameters, and supervision of personnel performing the tests.
- S-10 The increase in the possession limit, authorized by Amendment 18, is for the storage of uranium hexafluoride cylinders.
- S-11 The licensee is granted an exemption from the requirements of 10 CFR 30.3, pursuant to 10 CFR 30.11 and 10 CFR 70.11, to allow it to transfer, for disposal, specific waste material from a) the East Lagoon, b) the East Lagoon liner, c) soils excavated from below the liner, d) solid CaF_2 sludge previously dredged from the Calcium Fluoride Lagoons on the site and placed in a storage pile (all of this material is known to contain <0.5 weight percent U-235) and e) UF_6 cylinders previously used for shipping that have gone through an internal wash/rinse process following their last use and are internally contaminated with SNM to the US Ecology Idaho, Inc. (USEI) Resource Conservation and Recovery Act (RCRA) Subtitle C disposal facility near Grand View, Idaho as described in its submittals of May 8, 2020, September 22, 2020, October 12, 2020 and February 8, 2021.
- S-12 The licensee is granted an exemption from 10 CFR 20, Appendix G, Section III.E. Under the exemption, WEC would not be required to report a low-activity radioactive material (containing byproduct and special nuclear material shipment) shipment which exceeded 20 days in accordance with 10 CFR 20, Appendix G, Section III.E unless a copy of the signed NRC Form 540 (or NRC Form 540A, if required) acknowledging receipt has not been received within 45 days of the shipment leaving the CFFF facility as described in its submittal dated June 1, 2021.
- S-13 The licensee is granted an exemption from the requirements of 10 CFR 70.3 and 10 CFR 30.3, pursuant to 10 CFR 30.11 and 10 CFR 70.11, to allow it to transfer, for disposal, 133,000 ft^3 of solid Calcium Fluoride waste material (all of this material is known to contain <0.5 weight percent U-235), to the US Ecology Idaho, Inc. (USEI) Resource Conservation and Recovery Act (RCRA) Subtitle C disposal facility near Grand View, Idaho as described in its submittal dated September 14, 2021.

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SAFEGUARDS CONDITIONS**SECTION 1.0 – MATERIAL CONTROL AND ACCOUNTING**

- SG-1.1 The licensee shall follow its "Fundamental Nuclear Material Control Plan for the Columbia Fuel Fabrication Facility," which has been revised as indicated by Revision 43, dated December 17, 2018. Any further revision to this plan shall be made only in accordance with, and pursuant to, either the provisions of 10 CFR 70.32(c) or 70.34.
- SG-1.2 Operations involving special nuclear material which are not referenced in the Plan identified in Condition SG-1.1 shall not be initiated until an appropriate safeguards plan has been approved by the U.S. Nuclear Regulatory Commission (NRC).
- SG-1.4 Removed
- SG-1.5 Removed
- SG-1.6 Removed
- SG-1.7 Removed

SECTION 2.0 – PHYSICAL PROTECTION OF SNM OF LOW STRATEGIC SIGNIFICANCE

- SG-2.1 The licensee shall follow the physical protection plan entitled, "Physical Security Plan," Revision 47, dated August 15, 2019, and as it may be further revised in accordance with the provisions of 10 CFR 70.32(e).

SECTION 3.0 – INTERNATIONAL SAFEGUARDS

- SG-3.1 The licensee shall follow Codes 1 through 6 of Transitional Facility Attachment No. 5A dated August 31, 1988, to the U.S./IAEA Safeguards Agreement. Such Transitional Facility Attachment shall be interpreted in accordance with Conditions SG-3.1.1 through SG-3.1.7.
- SG-3.1.1 With respect to Transitional Facility Attachment Code 2:
- The reference design information is that dated by the licensee on October 14, 1985. Information on the Facility also includes other facility information submitted via Concise Notes in accordance with 10 CFR 75.11(c).

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SG-3.1.2 With respect to Transitional Facility Attachment Code 2.2:

Substantive changes to the information provided in the Columbia Plant Design Information Questionnaire (DIQ) means those changes requiring amendment of the Transitional Facility Attachment. Such changes shall be provided by letter to the NRC's Office of Nuclear Material Safety and Safeguards at least 70 days in advance of implementation.

Non-substantive changes to the information in the DIQ means those changes not requiring amendment of the Transitional Facility Attachment. Such changes shall be provided by Concise Note (from DOE/NRC-740M) within 30 days after the change is completed.

The types of modifications with respect to which information is required under 10 CFR 75.11, to be submitted in advance, are those items stated in Code 2.2, specifically:

(a) Any change in the purpose of type of facility means:

Any deviation from the described activities involving Special Nuclear Materials (SNM) and any change to the maximum enrichment and/or quantities of U-235 currently authorized by License No. SNM-1107, and/or as described in Paragraph 5 of the DIQ dated October 14, 1985, or as modified in accordance with 10 CFR 75.11(c). Included also is any deviation from the described SNM production activities described in Paragraph 6 of the DIQ dated October 14, 1985, or as modified in accordance with 10 CFR 75.11(c).

(b) Any changes in the layout of the facility which affects safeguards implementation of the provisions of the Protocol means:

Any change in the existing facility and/or site layout or new addition affecting any activity involving SNM as described in Paragraphs 10 and 11 (per the referenced attachments of the DIQ dated October 14, 1985, or as modified in accordance with 10 CFR 75.11(c). Included also is any modification to, or deviation from, the data provided in Paragraphs 13 and 14 (per the referenced attachments) of the DIQ dated October 14, 1985, or as modified in accordance with 10 CFR 75.11(c).

(c) Any change that makes the selected Key Measurement Points (KMPs) (as described in Code 3.1.2) inadequate for the Agency's accounting purpose means:

Any change to the KMPs as described in Code 3.1.2 of the Westinghouse-Columbia Transitional Facility Attachment to the U.S./IAEA Safeguards Agreement, or as modified in accordance with 10 CFR 75.11(c), that results in any KMP alteration affecting the purpose of KMPs as stipulated by 10 CFR 75.4(m).

(d) Any change in the physical inventory procedures that would adversely affect the inventory taking for the agency's accounting purposes means:

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Any change to the description data contained in Paragraph 34 (per the referenced attachments) of the DIQ dated October 14, 1985, or as modified in accordance with 10 CFR 75.11(c), that would not permit the agency to conclude an SNM material balance for the Westinghouse-Columbia facility.

- (e) Introduction of a significantly less accurate analytical method for accounting purposes means:

Any recalculation of the Relative Errors-Random and Systematic as listed in Attachment 36.2 referenced in Paragraph 36 of the DIQ dated October 14, 1985, or as modified in accordance with 10 CFR 75.11(c), that results in the estimates of the random and systematic errors being affected by a factor of two or more.

- (f) Decrease in the frequency of calibrating measuring equipment if it significantly decreases the accuracy of the materials accounting system means:

Any change that result in the estimates of the systematic error being affected by a factor of two or more.

- (g) Any change in the statistical procedures used to combine individual measurement error estimates to obtain limits of error for shipper/receiver differences and material unaccounted for means:

Any deviation from (or modification of) the equations and/or calculations outlined in Attachments 37.1, 37.2, and 37.3 referenced in Paragraph 37 of the DIQ dated October 14, 1985, or as modified in accordance with 10 CFR 75.11(c).

SG-3.1.3 With respect to Transitional Facility Attachment Code 3.1.2:

KMP* - This is a KMP in which all shipper receiver differences (SRDs) must be recorded and reported, even if numerically zero. SRDs are computed and reported by the Nuclear Materials Management and Safeguards System upon receipt of the receiver's measurement results.

SG-3.1.4 With respect to Transitional Facility Attachment Code 4:

The licensee shall use the material composition codes documented in the DIQ dated October 14, 1985, and as modified by Concise Notes. Further, notwithstanding any other requirements for advance notification and/or reporting, the licensee may add or delete composition codes for nuclear material routinely processed and on inventory at Columbia Fuel Fabrication Facility immediately upon telephone notification to the Office of Nuclear Material Safety and Safeguards. Follow-up documentation, in the form of a Concise Note accompanied by appropriate changes to Table 1 of Attachment 34.8 to the DIQ shall be submitted within three regular workdays of the telephone notification.

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SG-3.1.5 With respect to Transitional Facility Attachment Code 4.1:

Measured discards should be reported as a shipment to non-safeguards facility when shipped offsite to an authorized burial ground. (The IAEA system will not process measured discards as loss/disposal when they are shipped offsite.)

SG-3.1.6 With respect to Transitional Facility Attachment Code 5.1.1:

For inventory changes, time of recording, upon means no later than the next regular workday (Monday through Friday).

For those occasions where natural or depleted uranium is inadvertently enriched above 0.711 percent through commingling with residual enriched uranium in process equipment, the resultant product shall be considered as being produced through a blending operation and the material category change shall be recorded upon obtaining measurement confirmation that a material category change has occurred.

SG-3.1.7 With respect to Transitional Facility Attachment Code 6.2.2:

For Concise Notes describing the anticipated operational programme, anticipated operational programme means: Anticipated physical inventory schedule