

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 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 39	
2. P.O. Box 355 Pittsburgh, Pennsylvania 15230-0355	4. Expiration Date November 30, 2005	
	5. Docket No. 70-1151 Reference No.	
6. Byproduct Source, and/or Special Nuclear Material	7. Chemical and/or Physical Form	8. Maximum amount that Licensee May Possess at Any One Time Under This License
A. U-235	A. Any	A. [REDACTED]
B. U-235	B. Any, except metal enriched to not more than 5.0 w/o	B. [REDACTED]
C. U-233	C. Any	C. [REDACTED]
D. Pu-238, Pu-239	D. Sealed sources	D. [REDACTED]
E. Plutonium	E. Feedstock with transuranics and fission products	E. [REDACTED]
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.		

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11. Deleted by Amendment 20, dated November 1999.

FOR THE NUCLEAR REGULATORY COMMISSION

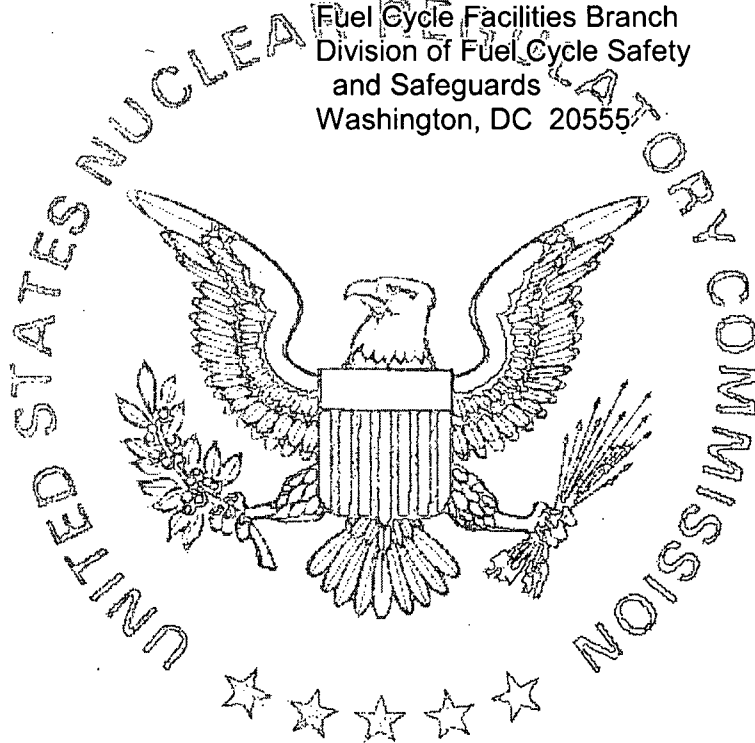
August 31, 2004

Date: _____

/RA/

By: _____

Gary Janosko, Chief
Fuel Cycle Facilities Branch
Division of Fuel Cycle Safety
and Safeguards
Washington, DC 20555



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SAFETY CONDITIONS

- S-1. Authorized use: For use in accordance with statements, representations, and conditions in the license application dated April 30, 1995, and supplements dated August 4 and 25, September 25, 1995; August 30, 1996; July 14, 1997; name change amendment December 22, 1997; June 30, July 23, 1998; name change amendment September 28, 1998; August 16, 1999; and January 28, July 24, September 8, November 21, 2000; and January 12, February 19, March 12, March 20, and March 27, April 30, October 15, and December 7, 2001; February 28, and August 9, August 15, 2002; March 13, April 8, and November 21, 2003.
- S-2. Criticality Safety Evaluations (CSEs) and Criticality Safety Analyses (CSAs) will define the interim criticality safety bases utilized throughout the CFFF. All CSEs/CSAs will be upgraded and/or completed in accordance with all applicable commitments in Chapter 6.0 of the License Application and all other regulatory requirements. Summaries of the CSEs/CSAs (in the format of License Annexes) will be submitted to NRC for review and approval. All completed CSEs/CSAs will be independently peer-reviewed in accordance with all applicable regulatory requirements and related procedures. Configuration control data packages for ongoing changes to facility structures, systems and components, and controls, will be filed with their respective CSEs/CSAs to provide a substantially complete "living" framework for system Integrated Safety Assessments (ISAs) that will ultimately become the Final CFFF Design Safety Basis described in Chapter 4.0 of the License Application.
- S-3. The licensee shall maintain and execute the response measures in the Site Emergency Plan, dated April 30, 1990, and revisions dated March 31, and September 30, 1992; March 25, August 15, and September 30, 1994; January 9, February 17, August 17, and October 23, 1995; June 14 and June 26, 2002; January 23, 2004; or as further revised by the licensee consistent with 10 CFR 70.32(i).
- S-4. Deleted by Amendment 12, April 1998.
- S-5. By December 31, 2000, tables of Environmental/Radiological and Chemical/Fire controls will be added to the blank sections titled "Environmental Protection and Radiation Safety Controls" and "Chemical Safety and Fire Safety Controls" in the Enhanced Criticality Safety Evaluation License Annexes submitted in accordance with Safety Condition S-2.
- S-6. For Amendment - 29, any "additional safety margin" information that the licensee provided to the NRC (see Table XII) to demonstrate an adequate safety basis, shall be identified and have sufficient management measures to ensure that the margin being relied upon is maintained.
- S-7. In accordance with the information provided to the NRC during their site visit, the licensee shall maintain the following "additional safety margin" for Moderation control in the mixer by: (1) maintaining a low amount of moisture during the normal process; (2) having a low amount of poreformer added (i.e., only need up to 1 kg poreformer) to the mixer during the normal process; (3) allowing only 45% of the NCS k-effective poreformer limit available to the operator at any one time; and (4) allowing only one polypak of poreformer to be scanned/dumped into one mix of the blender.
- S-8. Prior to the introduction of Special Nuclear Material into the nuclear absorber mixer / erbia blender;
- A. the licensee shall demonstrate to the NRC that the NCS computer code functions correctly at low H/X ratios, specifically, that the k-effective limits described in the submittal for the mixer are accurate.

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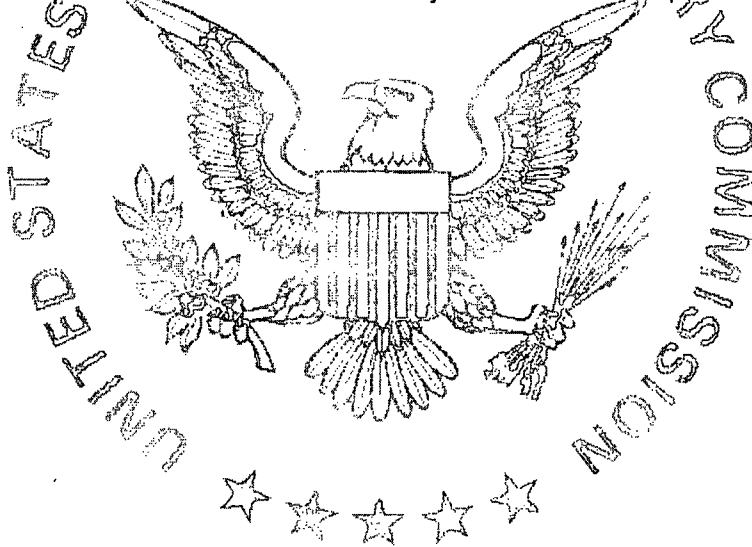
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- B. (1) ChAMPS shall be fully tested (i.e., verification and validation) and (2) the Auto Dump Interlock shall be fully tested for erbia/uranium powder blending (i.e., similar to the functional verification and testing being performed for the current ADU Auto Dump Interlock).
- C. the licensee shall verify; (1) the availability and reliability of necessary administrative and engineered fire protection controls identified as safety significant controls (SSC's) or items relied on for safety (IROFS), and, (2) fire protection design features and controls important for defense-in-depth for fire protection and the acceptable risks for operations.
- S-9: Westinghouse Electric Company is exempt from fissile material classification and from the fissile material package standards of 10 CFR 71.55 and 71.59 for the transport of certain bulk materials. The materials are listed in Table 1 of the attachment to Westinghouse Electric Company's application dated August 15, 2002, and are subject to the additional limits and controls listed in Table 2 of the same document. Shipment of the materials is subject to all other requirements of 10 CFR Part 71.



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

- SG-1.1 The licensee shall follow pages i through xxi and Chapters 1.0 through 9.0 of its "Fundamental Nuclear Material Control Plan for the Columbia Fuel Fabrication Facility," which has been revised as indicated by Revision 34 (dated March 15, 2002). Any further revision to this Plan shall be made only in accordance with, and pursuant to, either 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 Nuclear Regulatory Commission.
- SG-1.3 In lieu of the requirements contained in 10 CFR 74.13(a)(1) and (a)(2) to use the Forms DOE/NRC-742 and 742C, the licensee may use computer generated forms provided all information required by the latest printed instructions for completing the particular form is included.
- SG-1.4 In lieu of the requirements contained in CFR 70.54 and 74.15 to use the DOE/NRC Form-741, the licensee may use computer generated forms provided all information required by the latest printed instructions for completing the particular form is included.
- SG-1.5 Deleted Per Amendment 3, August 1996 Commitment now contained in licensee's Fundamental Nuclear Material Control Plan.
- SG-1.6 Notwithstanding the requirements of the FNMC Plan identified in License Condition SG-1.1, the licensee may use (1) a single standard for measurement control (including daily control limit monitoring and bias corrections) for any linear-response tube or rod scales, in any initially demonstrated to be linear over its range of use within the discrimination of the scale by calculating a bias at four levels across the range of use and demonstrating that the four results are not statistically different, and (2) that the continued linearity of response of the scales is verified by monthly calibration against at least four traceable standards covering the range of use.
- SG-1.7 Notwithstanding the requirements contained in Sections 5.2.2 and 5.2.3 of the licensee's Fundamental Nuclear Material Control Plan, the licensee is exempted from physical inventory requirements relative to the material identified in Condition S-4; provided the conditions and commitments contained in the licensee's November 30, 1993, letter (identification # NRC-93-036) are satisfied.
- SG-1.8 Notwithstanding the requirement of Section 6.2.1(a).5 of the licensee's Fundamental Nuclear Material Control Plan to unpackage and perform an item count upon receipt of special nuclear material, the licensee is exempted from such requirement relative to the material identified in Condition S-4; provided the conditions and commitments contained in the licensee's November 30, 1993, letter (identification # NRC-93-036) are satisfied.

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SG-1.9 Notwithstanding the requirement of Section II.A.7, block U, of NUREG/BR-0006, which is incorporated via 10 CFR 74.15, to complete receiver's measurements of scrap receipts (following recovery processing) within 60 days of receipt, the licensee shall not be subject to any time limit relative to recovering and measuring received UF₆ heels when the block U action code (of DOE/NRC Form 741) is used to book such receipts.

SG-1.10 With respect to Section 5.1.4 (b) of the Plan identified by Condition SG-1.1, "*allowed number*" within the phrase "*allowed number of defects*" is hereby specified as being:

(i) up to two defects when each item within a batch of items has an assigned value equal to or less than 50 grams U-235;

(ii) no more than one defect when each item within a batch of items has an assigned value of less than 500 grams U-235, but one or more items has an assigned value in excess of 50 grams U-235; and

(iii) zero defect when any item within a batch of items contains 500 or more grams U-235.

SG-1.11 Notwithstanding the first paragraph of Section 7.1 of the Plan identified by Condition SG-1.1, the licensee shall conduct shipper-receiver comparisons on all SNM materials received (regardless of whether booked on the basis of receiver's or shipper's values), except for those materials identified in Section 7.1 of NUREG-1065 (Rev. 2) as being exempted from shipper-receiver comparisons.

SG-1.12 Notwithstanding the requirement of 10 CFR 74.31(c)(5) and the commitment of Section 5.1.3 of the Fundamental Nuclear Material Control Plan identified in Condition SG-1.1 to perform a physical inventory at least every 12 months, the licensee is granted an extension of time from April 18, to May 22, 2004, for conducting its SNM physical inventory. This condition automatically expires on May 26, 2004.

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 31, dated April 30, 2004, and as it may be further revised in accordance with the provisions of 10 CFR 73.32(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 US/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 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 of receiving notification from the NRC that the facility has been identified under Article 39(b) of the US/IAEA Safeguards Agreement.

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 material 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 Design Information Questionnaire (DIQ) dated October 14, 1985, or as modified in accordance with 10 CFR 75.11(c). Included also is any deviation from the described special nuclear material (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 US/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).

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

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 results 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 (S/R) differences and material unaccounted for (MUF)" 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 CFFF 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 an SN (Shipment to non-safeguards facility) when shipped off-site to an authorized burial ground. (The IAEA system will not process measured discards as loss/disposal (LDs) when they are shipped off-site).

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).

[REDACTED]

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.