

MATERIALS LICENSE

70-36
6-7-94

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, 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 set forth 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. Combustion Engineering, Inc.

3. License number SNM-33
Amendment No. 282. P. O. Box 107
Hematite, Missouri 63047

4. Expiration date December 31, 1989

5. Docket or
Reference No. 70-366. Byproduct, source, and/or
special nuclear material7. Chemical and/or physical
form8. Maximum amount that licensee
may possess at any one time
under this licenseA. Uranium enriched to
maximum 5.0 weight
percent in the U-235
isotopeA. Any, excluding metal
powderA. 8,000 kilograms
contained U-235B. Uranium, any U-235
enrichment

B. Any

B. 350 grams

C. Source material
(Uranium and Thorium)C. Any, excluding metal
powder

C. 50,000 kilograms

D. Cobalt-60

D. Sealed sources

D. 40 millicuries,
total

E. Americium-241

E. Solid sources

E. 200 microcuries

F. Cesium-137

F. Sealed sources

F. 500 millicuries

G. Californium-252

G. Sealed sources

G. 4 milligrams

9. Authorized place of use: The licensee's existing facilities in Hematite, Missouri, as described in the referenced license renewal application.

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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.

NUCLEAR REGULATORY COMMISSION

FOR THE NUCLEAR REGULATORY COMMISSION

Date: 7 JUNE 1994

By: Robert C. Pierson
Division of Fuel Cycle Safety
and Safeguards, NMSS
Washington, DC 20555

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SAFETY CONDITIONS

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SAFETY CONDITIONS

- S-1. Authorized use: For use in accordance with the statements, representations, and conditions contained in Part I of the licensee's renewal application dated February 26, 1982, and supplements dated July 21, 1982; February 21, 1983; May 31, 1984; April 29, June 6, and October 11, 1988; February 10, March 22, May 1, August 18, October 23, October 26, and November 8, 1989 (2); January 3, January 12, March 16, and September 4, 1990; August 12, 1991; August 5 and November 6, 1992; February 19, March 2, July 19, two dated October 28 (one which is effective 180 days from the issuance of Amendment 25), and December 16, 1993; and March 22, and May 4, 1994; and letters dated February 29, 1984, January 20, 1986, and March 30, 1987.
- S-2. A written report shall be made by the NLS&A Supervisor to the Plant Manager every 6 months reviewing employee radiation exposure (internal and external) and effluent release data to determine:
 - a. if there are any upward trends developing in personnel exposure for identifiable categories of workers, types of operations, or in effluent releases;
 - b. if exposures and releases can be lowered in accordance with the ALARA commitment; and
 - c. if equipment for effluent and exposure control is being properly used, maintained, and inspected.
- S-3. Sealed byproduct material sources shall be subject to the leak testing and actions specified in the attached "License Condition For Leak Testing Sealed Byproduct Material Sources," dated April 1993.
- S-4. Release of equipment, facilities, or packages to the unrestricted area or to uncontrolled areas onsite shall be in accordance with the attached "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material," dated April 1993.
- S-5. Pursuant to 10 CFR 20.302, the licensee is authorized to treat waste and scrap materials containing uranium enriched in U-235 and/or source material by incineration.
- S-6. The licensee shall survey spent limestone rock discharge from each HF scrubber for beta contamination. Rock with beta contamination which exceeds five times the background of fresh rock shall not be used for landfill.

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- S-7. The licensee shall decontaminate the two evaporation ponds such that the average residual contamination in each pond does not exceed the appropriate limit of either 250 picocuries of insoluble uranium or 100 picocuries of soluble uranium per dry gram of soil. The Tc-99 concentrations in a composite sample for each pond shall be determined.
- S-8. a. If the radioactivity in plant gaseous effluents exceeds 150 μCi per calendar quarter, the licensee shall, within 30 days, prepare and submit to the Commission a report which identifies the cause for exceeding the limit and the corrective actions to be taken by the licensee to reduce the release rates. If the parameters important to a dose assessment change, a report shall be submitted within 30 days which describes the changes in parameters and includes an estimate of the resultant change in dose commitment.¹
- b. In the event that the calculated dose to any member of the public in any consecutive 12-month period is about to exceed the limits specified in 40 CFR 190.10, the licensee shall take immediate steps to reduce emissions so as to comply with 40 CFR 190.10. As provided in 40 CFR 190.11, the licensee may petition the Nuclear Regulatory Commission for a variance from the requirements of 40 CFR 190.10. If a petition for a variance is anticipated the licensee shall submit the request at least 90 days prior to exceeding the limits specified in 40 CFR 190.10.
- S-9. The licensee shall maintain and execute the response measures of his Radiological Contingency Plan submitted to the Commission by letters dated December 28, 1987, and August 23, 1990. The licensee shall also maintain implementing procedures for his Radiological Contingency Plan as necessary to implement the Plan. The licensee shall make no change in his Radiological Contingency Plan that would decrease the response effectiveness of the Plan without prior Commission approval as evidenced by a license amendment. The licensee may make changes to his Radiological Contingency Plan without prior Commission approval if the changes do not decrease the response effectiveness of the Plan. The licensee shall furnish the Chief, Licensing Branch, Division of Fuel Cycle Safety and Safeguards, NMSS, U. S. Nuclear Regulatory Commission, Washington, DC 20555, a report containing a description of each change within 6 months after the change is made.
- S-10. At the end of the plant life, the licensee shall decontaminate the facilities and site in accordance with the general decommissioning plan submitted in the enclosure to the letter dated January 12, 1979, so that these facilities and grounds can be released to unrestricted use. The financial commitment to assure that funds will be available for decommissioning in the letter dated March 8, 1979, is hereby incorporated as a condition of the license.

¹The report or petition should be submitted to the Director, Office of Nuclear Material Safety and Safeguards, with a copy to the Regional Administrator, Region III.

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- S-11. The licensee shall continue the soil sampling program for the spent limestone fill areas, as described in the letter dated February 29, 1984, until discontinuance is authorized by the Commission.
- S-12. The monitoring program for the spent limestone shall include measurement of the uranium activity on the surface of the spent limestone. Prior to conducting such a program, the licensee shall submit the sampling and analytical program to the NRC for approval.
- S-13. Processing of UF_6 in 10-ton cylinders is not authorized.
- S-14. The 10-ton UF_6 cylinders shall be equipped with valve protectors.
- S-15. The concrete pad for storage of UF_6 cylinders and the surrounding area shall be sloped or graded so that any spilled combustible fluids would not be confined to the storage area.
- S-16. No combustibles shall be stored on the concrete pad.
- S-17. A CO_2 fire extinguisher shall be readily available near the storage pad.
- S-18. In addition to the controls in Section I of the enclosure to the letter dated March 30, 1987, UF_6 cylinders which are in transport and containing UF_6 heels shall be either sealed, in sealed overpacks, or in sealed vehicles.
- S-19. Notwithstanding the statement in Section 4.2.3 of the application, the k-effective of a unit or an array of units shall not exceed 0.95 unless specifically authorized by the license.
- S-20. Nuclear criticality safety evaluations performed by the licensee in accordance with Section 2.7, Part I of the application, shall be based on assumptions of optimum moderation and reflection of individual safe units and of arrays.
- S-21. Nuclear criticality safety evaluations involving k-effective calculations performed by a Nuclear Criticality Specialist shall be independently reviewed and approved by an individual having, as a minimum, the qualifications of a Nuclear Criticality Specialist.
- S-22. For uranium enriched to more than 4.1 w/o U-235, the licensee shall limit the agglomeration/granulation process, each agglomerated powder storage location, and the pellet pressing operation to safe mass units as specified in Table 4.2.4, Part I of the application.
- S-23. At all times, the licensee shall limit moderating material (solutions and powders), except poreformer and lubricant, to not more than two 5-gallon pails on each of the second and third floors of Building 254.

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- S-24. The incumbent Superintendent, Production, identified in the amendment application dated August 12, 1991, is deemed to satisfy the education requirements for the position because of the incumbent's experience in the position since 1981 and his plant experience since 1974.



Attachments:

1. License Condition for Leak Testing...
2. Guidelines for Decontamination...

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SAFEGUARDS CONDITIONS

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Section 1.0 - Material Control & Accounting

SG-1.1 The licensee shall adhere to the commitments in Part I, Chapters 1.0 through 9.0, and Part II, Chapters 1 through 5, of its Fundamental Nuclear Material Control Plan dated January 1986, as revised by pages dated June 1987, May 1990, and April, May, September, and December 1993.

Future revisions to this Plan shall be made in accordance with 10 CFR 70.32(c) or 70.34.

Section 2.0 - Physical Protection for SNM of Low Strategic Significance

SG-2.1 The licensee shall follow the security plan entitled, "Physical Security Plan for Protection of Nuclear Material of Low Strategic Significance" dated May 1980, as revised by Revision 3 dated November 1992 (letter dated November 12, 1992), and as revised in accordance with the provisions of 10 CFR 70.32(e).

SG-2.2 The licensee shall ensure that the surveillance tour, conducted by the guards or authorized person in accordance with Section 3.1.1, includes surveillance over the UF₆ outdoor storage area.

Section 3.0 - Reserved for International Safeguards