



70-36

October 23, 1996

Docket No. 70-36

License No. SNM-33

Mr. Robert C. Pierson, Chief  
Licensing Branch  
Division of Fuel Cycle Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

Subject: **HEMATITE INCREASED POSSESSION LIMIT**

Dear Mr. Pierson:

As discussed with Dr. Sean Soong of your staff, the current license possession limit for the Hematite facility will be a problem by December of this year because of delays in shipping finished fuel assemblies and receipts of  $UF_6$  and other shipments to be delivered during the same period. This license amendment request is provided to increase our possession limit in order to eliminate undue burdens with respect to managing the special nuclear material inventory.

Enclosure I provides an explanation of the requested change and a justification for a categorical exclusion with respect to the need for an environmental assessment in accordance with 10 CFR 51.22(c)(11). Enclosure II provides a revised page to the license application with the change denoted by a vertical line in the right hand margin. Six copies of these documents are provided for your use.

If there are any questions regarding this amendment request, please contact me or Mr. Hal Eskridge of my staff. We appreciate your early attention to this matter.

Very truly yours,

COMBUSTION ENGINEERING, INC.

Robert W. Sharkey  
Director, Regulatory Compliance

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ABB CENO Fuel Operations

Combustion Engineering, Inc.

3300 State Road P  
Post Office Box 107  
Hematite, MO 63047

Telephone (314) 937-4691  
(314) 296-5640  
Fax (314) 937-7955

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PDR ADOCK 07000036  
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**COMBUSTION ENGINEERING, INC.**  
**HEMATITE NUCLEAR FUEL MANUFACTURING FACILITY**  
**REQUEST FOR INCREASED POSSESSION LIMIT**

**EXPLANATION AND JUSTIFICATION OF CHANGE**

Currently the Hematite license limits possession of special nuclear material (SNM) to 12,000 kilograms (kg) of  $^{235}\text{U}$  in uranium enriched up to a maximum of 5%. The movement of the rod loading and fuel bundle assembly operations from our former Windsor Nuclear Fuel Fabrication Facility to Hematite (i.e., the Consolidation Project) resulted in the need to hold finished fuel pellets, sealed fuel rods and bundle assemblies on site until our customers required delivery. Consequently, Combustion Engineering submitted an application to increase our  $^{235}\text{U}$  possession limit from 8,000 kg to 12,000 kg on February 27, 1995. This amendment (No. 5) was approved on May 11, 1995.

Although the 12,000 kg limit was sufficient for normal operations, two of our customers have recently requested that we delay shipping their finished fuel assemblies until after the first of the year. In addition,  $\text{UF}_6$  and other shipments are scheduled to be delivered during the same period. Under the current schedule we would exceed our license limit for  $^{235}\text{U}$  in December of this year. We therefore make this request to increase our possession limit to 20,000 kg  $^{235}\text{U}$ .

The Consolidation project did not result in increased throughput; but only increased inventory. This request also is not for the propose of increasing the production throughput. The plant throughput is limited by the oxide conversion process capacity. The increased possession limit will have no impact on criticality or radiological safety, and will not increase environmental releases. The major portion of the inventory is in closed containers (e.g.,  $\text{UF}_6$  cylinders, powder cans and bulk storage hoppers), in finished pellets (which are benign to the environment due to their ceramic form and structural integrity), stored in devices which maintain the material intact (e.g., the Kardex storage devices), and in finished sealed fuel rods and in finished fuel assemblies (some of which may be stored in approved shipping packages).

The only license application page affected by this requested change is that of the specified possession limits in Part I, Section 1.4. This revised page (Revision 2) is provided in Enclosure II, with the possession limit for  $^{235}\text{U}$  changed from 12,000 kg to 20,000 kg.

This request for an increased possession limit for SNM is subject to a categorical exclusion with respect to the need for an environmental assessment in accordance with 10 CFR 51.22(c)(11). The change is administrative in nature, and:

- (i) **there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.**

As mentioned above, the increased possession of SNM is not expected to result in any significant change in the amounts of effluents released since the production throughput is not changing. Production throughput of the Hematite facility will not be changed as a result of the increased possession limit because throughput is limited by the physical capacity of the oxide conversion process. Neither will the types of effluents be affected, as there will be no change associated with the increased possession limit in the nature of plant processes. Any increased quantity of SNM in the form of powder or pellets will be stored in areas of the plant already served by air effluent controls, e.g., HEPA filters. The increased quantity of SNM contained in finished fuel rods and assemblies is encapsulated in sealed fuel rods. SNM in the form of  $UF_6$  is stored in approved transportation cylinders.

- (ii) **there is no significant increase in individual or cumulative occupational radiation exposure.**

While the increased quantity of SNM in inventory may result in a very small increase in the gamma radiation dose rate in the immediate areas where the material is stored, this would not be a significant change. It will not result in a significant change in individual or cumulative occupational radiation exposure. As mentioned above, the SNM in inventory is stored in containing devices; hence, the increased inventory will not result in increased airborne exposures.

- (iii) **there is no significant construction impact.**

No construction changes or planned or required as a result of the increased possession limit. While the total quantity of SNM in storage may increase, the existing plant facilities used for storage need not be changed to accommodate this.

- (iv) **there is no significant increase in the potential for or consequences from radiological accidents.**

The increased possession limit does not significantly increase the potential for or consequences from radiological accidents. The existing radiological and criticality safety controls are sufficient for the increased possession of SNM. Since the increased possession limit will not result in changes to plant processes, procedures or equipment, existing safety analyses will remain valid.

**COMBUSTION ENGINEERING, INC.  
HEMATITE NUCLEAR FUEL MANUFACTURING FACILITY  
REQUEST FOR INCREASED POSSESSION LIMIT**

**AFFECTED PAGES**

Combustion Engineering, Inc., provides a change to the Hematite license application for a request to increase the SNM possession limit. The only affected page is listed below:

List of Affected Pages

<u>Delete Page</u>			<u>Add Page</u>		
<u>Page No.</u>	<u>Rev.</u>	<u>Date</u>	<u>Page No.</u>	<u>Rev.</u>	<u>Date</u>
1-2	1	2/27/95	1-2	2	10/23/96

### 1.3 License Number and Period of License

This application is for renewal of Special Nuclear Material License (SNM) No. SNM-33 (NRC Docket 70-36). Renewal is requested to cover a period of ten (10) years.

### 1.4 Possession Limits

Combustion Engineering, Inc. requests authorization to receive, use, possess, store and transfer at its Hematite site, the following quantities of SNM and source materials:

<u>Material</u>	<u>Form</u>	<u>Quantity</u>
Uranium enriched to maximum of 5.0 percent in the $^{235}\text{U}$ isotope	Any *	20,000 kilograms $^{235}\text{U}$
Uranium to any enrichment in the $^{235}\text{U}$ isotope	Any *	350 grams $^{235}\text{U}$
Source material Uranium and Thorium	Any *	50,000 kilograms
Cobalt 60	Sealed sources	40 millicuries total
Cesium 137	Sealed sources	500 millicuries total
Mixed Activation and Fission Product Calibration Sources Including $^{241}\text{Am}$	Solid Sources	200 microcuries total
Californium 252	Sealed Sources	4.0 milligrams total

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\* Excluding metal powders