



October 30, 1992
ML-92-049

Docket No. 70-36
License No. SNM-33

Mr. John W. Hickey, Chief
Fuel Cycle Safety Branch
Division of Industrial and Medical Nuclear Safety
Office of Nuclear Materials Safety and Safeguards
U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington D.C. 20555

Subject: **Request for Authorization to Perform Preoperational Startup Testing**

References: (A) Letter, A. E. Scherer (C-E) to J. W. Hickey (NRC), RA-92-011
dated August 5, 1992
(B) Letter, J. F. Conant to J. W. Hickey (NRC), ML-92-047, dated
October 9, 1992

Dear Mr. Hickey:

In Reference (A) we provided a license amendment request for consolidated nuclear fuel manufacturing operations at our Hematite, Missouri facility and described operations that will be performed in Building 230, currently under construction. We also indicated several startup activities which are necessary for the timely completion of the Consolidation Project. In Reference (B) we requested temporary license conditions associated with the first two milestones. In this letter we request temporary authorization in order to support the use of source material as follows:

Use of Uranium Source Material in Building 230 for startup testing purposes.
Startup testing may begin as early as January 1993.

040014
ABB Combustion Engineering Nuclear Power

Combustion Engineering Inc.
9211050052 921030
PDR ADDCK 07000036
C PDR

1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500

Telephone (203) 685-1911
Fax (203) 285-9512
Telex 99297 COMBEN WSDR

NFC4 1/1

Mr. John W. Hickey
October 30, 1992

ML-92-049
Page 2 of 3

In Enclosure I to this letter, we have summarized the planned testing program for the rod and bundle assembly processes in Building 230, including criticality, radiological and industrial safety precautions that will be taken. Enclosure II identifies sections of the consolidation license amendment that provide additional detail for the activities for which we are requesting the temporary authorization. Enclosure III provides a suggested temporary condition for Materials License No. SNM-3C, which will allow the objectives above to be accomplished with appropriate controls.

The equipment to be installed in the new Building 230 will be arriving in the next few months; no license condition is needed for the basic installation, with the exception of the rod scanner as requested in Reference (B). The testing program planned for the balance of the Building 230 processes involves the use of natural or depleted Uranium pellets and rods and fuel assemblies loaded with such pellets. There is obviously no criticality concern with this source material. The additional radiological controls described in Enclosure I (i.e., in addition to those already described in the license) and committed to in Enclosure III will ensure the source material is appropriately controlled for the limited period of its utilization.

In our evaluation this amendment request meets the requirements of a categorical exclusion from requiring an environmental review in accordance with 10 CFR 51.22(c)(11). With respect to this amendment, there is no significant change in effluents, no significant increase in occupational radiation exposure, no significant construction impact, and no significant change in the potential for or consequences from radiological accidents. The only construction impact results from our consolidation activities and not from the test program for which authorization is currently being requested, therefore a finding of "no significant construction impact" can be made for the test program. With regard to the separate topic of the consolidation activities themselves, supplemental environmental information has been provided in our letter of June 19, 1992.

As a result of the startup schedule outlined above, we therefore request the temporary license condition be issued on or before January 1, 1993, and scheduled to expire at the end of one year.

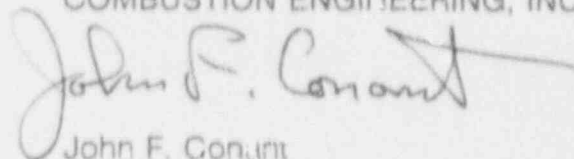
Mr. John W. Hickey
October 30, 1992

ML-92-049
Page 3 of 3

If you have any questions regarding this request, please do not hesitate to call me or Mr. Mark Michelsen of my staff at (203) 285-5261.

Very truly yours,

COMBUSTION ENGINEERING, INC.

A handwritten signature in dark ink, appearing to read "John F. Conant", with a stylized flourish extending from the end.

John F. Conant
Manager,
Nuclear Materials Licensing

JFC:cr

cc: Mr. S. Soong (NRC Headquarters)
Mr. G. France (NRC Region III)

Enclosure I to
ML-92-049

COMBUSTION ENGINEERING INC.
HEMATITE NUCLEAR FUEL MANUFACTURING FACILITY
REQUEST FOR AUTHORIZATION
TO PERFORM STARTUP TESTING

OCTOBER 1992

**HEMATITE NUCLEAR FUEL MANUFACTURING FACILITY
REQUEST FOR AUTHORIZATION
TO PERFORM STARTUP TESTING**

Combustion Engineering, Inc. requests authorization to perform startup testing using the newly installed equipment in Building 230 and Uranium Source Material in simulated fuel pellets, rods and assemblies. The following summarizes the activities which will be performed. Enclosure II identifies those pages from the August 5, 1992 Consolidation License Amendment request which provide additional detail related to this request.

TEST PROGRAM

Purpose:

To perform preoperational startup testing of the new Building 230 equipment and processes

Beginning of Test:

January 1993

Test Description:

The fuel rod and bundle assembly equipment will be delivered to the Hematite facility and installed in Building 230. Test rods will arrive by truck, in approved shipping packages. Test pellets, rods and assemblies will contain Uranium Source Material (natural or depleted Uranium).

The pellet handling, rod loading, rod storage, bundle assembly, bundle inspection and storage operations are described in Part II Section 8.3 of the August 5, 1992, license amendment application concerning the Consolidation Project. It is the intent of the test program to perfect these operations using Uranium source material prior to actual production using enriched Uranium. Other than the Uranium enrichment, the processes to be tested are the same as our August 5, 1992, submittal.

Criticality Safety

There are no criticality safety issues associated with this test program.

Radiological Safety

The radiological controls to be used for this test program are the same as currently in use throughout the entire facility, with the exception of some additional measures to ensure contamination is controlled during the test period. Test personnel will wear film badges to detect beta/gamma exposure, and other special dosimetry may be used during the program to determine exposures from processes in the new building.

Since depleted uranium can result in higher exposures and greater surface contamination from beta radiation than natural or slightly enriched uranium, more frequent beta exposure surveys will be performed for the activities in Building 230 with unencapsulated pellets than is currently practiced in the rest of the plant.

There is much experience with the use of depleted uranium at the Hematite facility. Depleted uranium is often used during preoperational testing of new or modified equipment. The most recent large scale test program using depleted uranium was for the new pellet plant, Building 254.

Combustion Engineering proposes to include additional radiological monitoring in Building 230 during test program as follows. For each work station that involves the handling of unclad uranium pellets, the area will be surveyed on a daily basis when handling pellets and alpha and beta contamination will be determined. The survey frequency will revert to the normal survey requirements of the facility (i.e., weekly contamination surveys) after 30 operational days of testing.

Industrial Safety

The industrial safety issues associated with this test program are the same as discussed Part II Section 8.3 in the August 5, 1992, Consolidation license amendment application (under the headings "Industrial Safety" in the Integrated Safety Assessments for each process).

Enclosure II to
ML-92-049

COMBUSTION ENGINEERING INC.
HEMATITE NUCLEAR FUEL MANUFACTURING FACILITY
REQUEST FOR AUTHORIZATION
TO PERFORM STARTUP TESTING
REFERENCE LICENSE AMENDMENT PAGES

OCTOBER 1992

**COMBUSTION ENGINEERING INC.
HEMATITE NUCLEAR FUEL MANUFACTURING FACILITY
REQUEST FOR AUTHORIZATION TO PERFORM STARTUP TESTING**

REFERENCE LICENSE AMENDMENT PAGES

Following is a list of pages from the Consolidation License Amendment dated August 5, 1992 applicable to the limited authorization which is requested. These pages include specific detail on the processes performed in Building 230.

Section	Pages	Title
8.3	II.8-11 through II.8-11aa(137)	Pelletizing, Rod Loading, Bundle Assembly and Storage Operations

Enclosure III to
ML-92-049

COMBUSTION ENGINEERING INC.
HEMATITE NUCLEAR FUEL MANUFACTURING FACILITY
REQUEST FOR AUTHORIZATION
TO PERFORM STARTUP TESTING
SUGGESTED MATERIALS LICENSE CONDITION

OCTOBER 1992

**HEMATITE NUCLEAR FUEL MANUFACTURING FACILITY
REQUEST FOR AUTHORIZATION
TO PERFORM STARTUP TESTING**

SUGGESTED MATERIALS LICENSE CONDITION

The following provides a suggested temporary license condition for Materials License No. SNM-33 which will provide the appropriate controls while allowing the accomplishment of the objectives of the accompanying letter:

"The licensee is authorized to receive, possess, process and transfer the following in the existing licensed facility or in Building 230 for testing purposes:

1. No greater than 50,000 kg Uranium Source Material in the form of Uranium Dioxide pellets, fuel rods and fuel assemblies. This limit does not increase the quantity limit for source material in the existing license.

This condition relies upon the statements and representations of the existing license plus the licensee's letter dated October 30, 1992, which references in part the supplemental license application of the licensee's letter dated August 5, 1992. This condition shall remain in effect no more than one year from the date of issuance of this amendment."