



R3/D2 #46

November 12, 1992
ML-92-052

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
Attn: Document Control Desk
Washington, D.C. 20555

Subject: Response to NRC Request for Additional Information Concerning the
Hematite Consolidation Environmental Assessment

Reference: (A) Letter, M. Tokar (NRC) to J. A. Rode (C-E),
dated October 13, 1992
(B) Letter, A. E. Scherer (CE) to J. W. Hickey (NRC),
RA-92-011, dated August 5, 1992
(C) Letter, J. F. Conant (CE) to J. W. Hickey (NRC),
ML-92-033, dated June 19, 1992

Dear Mr. Hickey:

Reference (A) requested additional information regarding the Hematite Consolidation license amendment application of Reference (B). Reference (C) provided the supplemental environmental information associated with the Consolidation Project. The information requested in Reference (A) is provided herein as Enclosure I. Six (6) copies of this document are provided for your use.

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ABB Combustion Engineering Nuclear Power

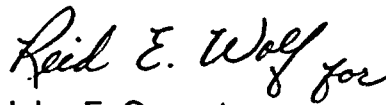
Mr. John W. Hickey
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If there are any questions or comments concerning this matter, please do not hesitate to call me or Mr. Mark A. Michelsen of my staff at (203) 285-5261.

Very truly yours,

COMBUSTION ENGINEERING, INC.

A handwritten signature in cursive script that reads "Reid E. Wolf for".

John F. Conant
Manager
Nuclear Materials Licensing

Enclosures: As Stated

cc: G. France (NRC - Region III)
S. Soong (NRC)
E. Keegan (NRC)

**Enclosure I to
ML-92-052**

COMBUSTION ENGINEERING, INC.

HEMATITE NUCLEAR FUEL MANUFACTURING FACILITY

RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION ON THE

HEMATITE CONSOLIDATION LICENSE AMENDMENT

INDIVIDUAL RESPONSES

November 1992

**REQUEST FOR ADDITIONAL INFORMATION
APPLICATION DATED AUGUST 5, 1992
COMBUSTION ENGINEERING, INC.
DOCKET NO. 70-36**

1. In accordance with requirements of 10 CFR 51.45(b):

a. What is the need for the proposed action?

Response:

The proposed action is needed for the commercial competitiveness of ABB Combustion Engineering Nuclear Fuel. It will reduce the number of Special Nuclear Materials Licenses issued to ABB as well as the transportation of radioactive materials between sites. The Consolidation Program is designed to improve quality, efficiency and productivity in the fuel manufacturing processes, and therefore to improve the competitiveness of ABB in the marketplace.

b. What are the alternatives and their environmental impacts to the proposed action?

Response:

The alternative to the proposed action is to deny it. The total environmental impact of denying the action is negative relative to approving it, since the proposed action would result in a net positive reduction in the environmental impact from the combined Windsor and Hematite manufacturing operations if from nothing else than the reduction in shipments of enriched uranium pellets and recycle scrap. Furthermore, the consolidation project includes several Hematite facility improvements relative to Windsor operations such that the total Hematite plus Windsor radioactive effluents will likely be less after consolidation than before.

c. What is the relationship between local short term use of the environment and the maintenance and enhancement of long term productivity?

Response:

The local short term uses of man's environment associated with the Hematite Consolidation Project includes some additional land use and a potential effect on airborne effluents, liquid effluents and solid waste.

The additional land use is approximately three acres on the more than 200 acre site. This land use includes the newly constructed Rod Load and Assembly Building 230, along with a security fence enclosed trailer truck parking lot. Additional employee parking is also provided.

The potential effect on airborne effluents, liquid effluents and solid waste resulting from the Building 230 processes is at worst negligible, since the processes are simply being moved from the Windsor facility to the Hematite facility. In consideration of the improvements being made in the Hematite plant ventilation systems and elimination of the need to transport pellets and recycle scrap between Windsor and Hematite, the Consolidation Project will likely benefit the environment.

Long term productivity will be both maintained and enhanced as a result of the Consolidation Project. The automated rod line minimizes the formerly manual labor intensive operations associated with fuel rod manufacturing. This automated rod line will increase productivity and ensure uniformly high quality rod manufacturing. In addition to the automated rod line, the overall improved rod loading and bundle assembly manufacturing line is also designed for enhanced productivity and quality as compared to the former Windsor operations.

Therefore, the relationship between use of the environment and productivity is that the environment will not be adversely impacted, while productivity will be improved as a result of the Hematite Consolidation Project.

d. What would the socioeconomic impacts on the Hematite area be if CE were to shut down?

Response:

ABB Combustion Engineering is the area's largest employer. There would be a negative socioeconomic impact to the area if CE were to shut down.

2. Provide environmental data from rod assembly operations at the Windsor, CT facility.

Response:

Environmental data from the rod assembly operations at the Windsor, CT facility is provided below. It should be noted that prior to 1990, pelletizing of fuel was also performed in Windsor, so earlier data would not be as representative of rod assembly operations as current data.

<u>Year / Quarter</u>	<u>Airborne Releases</u>	<u>Liquid Releases</u>
1990 / 1 st Quarter	1.6 grams, 3.3 μ Ci	13 grams, 26 μ Ci
1990 / 2 nd Quarter	1.6 grams, 3.3 μ Ci	11 grams, 22 μ Ci
1990 / 3 rd Quarter	0.6 grams, 1.5 μ Ci	10 grams, 27 μ Ci
1990 / 4 th Quarter	1.7 grams, 4.3 μ Ci	4.3 grams, 11 μ Ci
1991 / 1 st Quarter	1.0 grams, 2.0 μ Ci	0.6 grams, 1.1 μ Ci
1991 / 2 nd Quarter	30 grams, 61 μ Ci	150 grams, 220 μ Ci
1991 / 3 rd Quarter	0.2 grams, 0.4 μ Ci	360 grams, 720 μ Ci
1991 / 4 th Quarter	0.2 grams, 0.4 μ Ci	110 grams, 220 μ Ci

In evaluating the above effluent data for Windsor with respect to what may be expected for Hematite, it should be noted that recent Windsor liquid effluent data is not truly representative of rod handling operations. The liquid effluent data is not representative since it includes contributions from the Product Development Laboratories (i.e., in addition to the manufacturing operations) and residual material in retention tanks and pipes from prior UO₂ powder handling and pelletizing operations.

3. Approximately how much contaminated water will be generated from activities in Building 230?

Response:

The water used in Building 230 will normally not be contaminated. The potential does exist, however, that some water may be contaminated in trace quantities from sinks and showers. The total amount of water generated in Building 230 is estimated as 250 gallons per day, some of which could be contaminated with trace quantities. This potentially contaminated water is sampled to ensure liquid releases remain as low as reasonably achievable. While some potentially contaminated mop water and cleanup water will also be used in Building 230 (less than 10 gallons per day), this is evaporated and the residue is solidified for licensed burial. Since fuel pellets are encapsulated in fuel rods early in the Building 230 processes, the incremental increase of potentially contaminated water as a result of the Building 230 operations is small compared to such use in the remainder of the plant.

4. What will the impact be from diverting the ground water flow because of the new building?

Response:

The new building is an above grade structure; the only significant depth affected by its construction will be the foundation for the Kardex unit. The subsurface ground water will

not be affected by the new building. The surface runoff from the expanded parking lot and the new building will be directed via storm drains to the site pond, and thence to Joachim Creek, where the contour of the land had directed the majority of this water prior to the new building.

5. Will the NPDES permit need to be amended because of the relocation of the storm drain lines?

Response:

The NPDES permit will need to be amended and has been applied for.

6. Will the water sampler at the site creek dam be replaced?

Response:

The water sampler at the site creek will not be affected by the Consolidation Project.

7. Has the State of Missouri, Department of Natural Resources, issued any permits regarding construction of the new building?

Response:

An air pollution permit has been granted by the State of Missouri. The aforementioned NPDES permit has been applied for. In addition, a County Planning and Zoning permit has been issued.

8. Will the environmental samples be analyzed in Hematite or shipped to Windsor for analysis?

Response:

Air and some special soil samples may be analyzed at Hematite. Usually, Windsor or an independent contractor analyzes water, vegetation and soil samples.

- 9. What assurances are in place to guarantee that the filtrate solidification being done outside of Building 253 will not be spilled and contaminate the ground?**

Response:

The evaporation tanks are located on a concrete pad which has a sump and a pump to return spillage to the tank. The area around the concrete pad is asphalt. The mixer, currently on the side of the asphalt path opposite the evaporation tanks, will be moved adjacent to the tanks. The path will be decontaminated and care will be taken not to recontaminate the area.

- 10. The application for license renewal, dated November 22, 1989, indicates three stacks in the Oxide Building, #114 - Dry Scrubber Exhaust, # 106 - Oxide East, and # 103 - Powder Unload Hoods, West Bank. The supplemental information submitted for the consolidation amendment indicates four existing stacks in the Oxide Building will be eliminated and replaced by one single new stack. How many stacks will be combined in the Oxide Building?**

Response:

The reason for the difference in the number of stacks in the Oxide Building between the 1989 renewal application and the 1992 environmental information is that the Supplemental Environmental Information included the Stack No. 120, Oxide General Area Ventilation. This stack is not a process stack and was added as part of general ventilation system upgrades during the last few years. Stack No. 120 is shown on Figure 6-1, Existing Exhaust Stack Locations, of the environmental information concerning the Consolidation Project [Letter, J. F. Conant (CE) to J. W. Hickey (NRC), ML-92-033, dated June 19, 1992, "Environmental Information for Consolidation of Uranium Manufacturing Operations at Hematite"]. The stack is also shown on Figure 3, Exhaust Stack Locations and Heights, in Enclosure II of our December 16, 1991, letter concerning response to environmental questions on the renewal application [Letter, J. F. Conant (CE) to C. J. Haughney (NRC), ML-91-048, dated December 16, 1991, "Response to Environmental Questions Regarding Materials License No. SNM-33 Renewal Application"].

- 11. What assurances have been made to ensure the sample taken from the new exhaust stack in the Oxide Building will be truly representative of the combined waste streams?**

Response:

The stack sampler will be designed and located in accordance with ANSI Standard 13.1.