



Westinghouse Electric Company
Nuclear Fuel
Hematite Fuel Manufacturing

3300 State Rd. P
Festus, MO 63028
USA

June 2, 2000

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

Director
Office of Nuclear Materials Safety and Safeguards
U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Subject: **Amendment Request to License SNM-33 Application Pages**

Reference: U.S. Nuclear Regulatory Commission License, SNM-33,
Docket No. 70-36.

Gentlemen:

As discussed with Mr. Edwin Flack, et. al. of the NRC, Hematite will scale down and begin to phase out manufacturing operations over the next eighteen months. Certain commitments currently in the license related to ISAs, license updates, environmental monitoring and the former retention ponds require revision in light of this plan. Also included is a minor change regarding organization titles. Proposed changes are described in Enclosure I. A listing of affected pages is included in Enclosure II. The revised pages are provided in this enclosure. Also, Enclosure III contains an updated listing of effective pages for the SNM-33 license application. Provided for your use are six copies of this transmittal.

If you have any questions please contact me at (636) 937-4691, Ext. 399.

Sincerely,

CE Nuclear Power LLC

Robert W. Sharkey
Director, Regulatory Affairs

6-2-00
Date

Enclosures

cc: Edwin Flack

RA00/079

11
NMSOIA Public

Enclosure I to RA00/079

CE Nuclear Power LLC Description of Changes Date: June 2, 2000

The Hematite Fuel Manufacturing Operations will scale down and discontinue manufacturing operations over approximately the next eighteen months. As discussed with the NRC, certain commitments currently in the license related to integrated safety assessments, license updates and environmental monitoring and the former evaporation ponds require revision in light of this announcement. A minor change in organization titles is included. These changes are described below:

1. Section 1.6 (d) : This section requires updating of the demonstration sections of the license application at 2 year intervals. The next update is due in July, 2000. Since operations will be ramping down with a goal of discontinuing manufacturing operations at Hematite by the end of 2001, this update is not considered necessary. It is proposed that section 1.6(d) be deleted.

2. Section 1.6 (e) : This section requires performance of Integrated Safety Assessments (ISAs) for plant processes. As shown in the chart included with this enclosure, ISAs have been performed for plant processes considered to be more risk significant, including the oxide conversion process, recycle/recovery, and the pellet plant front end. An ISA was also performed on Fuel Rod Loading and Bundle Assembly when this facility was licensed and is included in Part II of the license application. Activity on the Criticality Safety Program Update (CSPU) which has progressed in conjunction with the performance of ISAs will be reduced to completion of the Floor Storage Arrays and Ventilation Systems analyses. Performing ISAs and criticality analysis updates for the balance of the plant seems unnecessary in consideration of the schedule for closing the plant. It is proposed that section 1.6(e) be deleted.

3. Evaporation Pond Decommissioning: The Evaporation pond decommissioning plan is presently incorporated in the license by amendments No. 4 and No. 18, by revising Safety Condition S-1 to include the dates of October 26, 1994, March 10, 1995, and May 30, October 22, and December 19, 1997. The majority of the contamination has been removed from the former evaporation ponds, the ponds and surrounding areas have been characterized and ground water flow determined. It is proposed that references to the Decommissioning Plan for the Hematite Evaporation Ponds be deleted as this plan will now be incorporated into the general site decommissioning plan upon cessation of operations.

4. Burial Pit Sample Wells: Ground water monitoring wells for the burial ground have been sampled monthly for many years. It is proposed that the sample frequency of the wells be changed to quarterly and the number of sample wells reduced to three. A hydrogeologic investigation was conducted at the site, which included a thorough examination of the hydrodynamic effect the unconsolidated sediments and the upper bedrock unit has on ground water within. Ground-water quality, elevation, flow rates and direction was suitably established by aquifer testing and quarterly monitoring over a period of one year. Ground-water flow rate, elevation and direction is now well understood, therefore monthly monitoring of ground water for gross alpha and gross beta levels, in three monitoring wells related to the former evaporation ponds, the south vault monitoring well and four burial area monitoring wells is no longer warranted.

Quarterly monitoring is justified because hydrodynamic data of the comprehensive hydrogeologic investigation shows that ground-water elevation, flow rate and direction are very consistent through time, while gross alpha and gross beta analytical ground-water data show no valid statistically significant changes in any single quarter with comparison to the other three quarters of data, throughout the site. The upper portion of the unconsolidated sediments are primarily clay and silty clay in which the burial area and former evaporation ponds area are situated. These clayey units have a strong sorbing capacity to keep uranium transport largely attenuated, while ground-water particle flow has been measure to be less than three feet per year. Fluctuations in gross alpha and gross beta levels in ground water is expected to be slow and gradual and therefore not expected to be noticeable using data acquired monthly.

With the detailed hydrogeologic data now available as described above, three sample wells provide sufficient sample data for the burial area.

Table 5-1, Environmental Monitoring Program, has been changed to show 3 burial ground monitoring wells with a collection and analysis frequency of quarterly for all wells.

5. Organization Title Change: The position of Vice President, Fuel Operations has been changed to Plant Manager. The appropriate pages of Section 2, " Organization and Administration" have been revised to reflect this change.

INTEGRATED SAFETY ASSESSMENT (ISA) AND CRITICALITY SAFETY PROGRAM UPDATE (CSPU) STATUS

AREA	ISA STATUS	CRITICALITY ANALYSIS UPDATE STATUS
Oxide Conversion	Complete	Complete
Recycle/Recovery	Complete	Complete
Pellet Front End	Complete	Complete
Storage Units	N/A	30%
• Kardex System		15% No Further Action Planned (NFA)
• South Vault		10% NFA
• Floor Storage Arrays		70% Planned Completion by 8/1/00
• Conveyer Storage		0% NFA
• Shelf Storage		10% NFA
• Fuel Rod Storage Matrix ^{1,2}		75% NFA
• Fuel Assembly Storage Rack ^{1,2}		75% NFA
• Miscellaneous Storage		10% NFA
Fuel Rod Loading and Bundle Assembly	Complete¹	0% NFA
Miscellaneous Systems	ISA only for	5%
• Ventilation Systems	Erbia and	60% Planned Completion by 8/1/00
• Pellet Furnaces ¹ , Grinders ¹ , Erbia, Chem. Labs, Utility Hoods, and Vacuum Cleaners	Pellet Furnaces	0% NFA

1. A previous ISA (different format from current) was performed and included in Part II of previous revisions of the SNM-33 License.

2. The calculational analysis and write-up is complete.

Enclosure II to RA00/079

**CE Nuclear Power LLC
List of Affected Pages
Date: June 2, 2000**

CE Nuclear Power LLC provides those pages affected by the requested amendments, and a revised list of effective pages. The replacement pages are provided in this enclosure.

<u>Delete Page</u>			<u>Add Page</u>		
<u>Page</u>	<u>Rev.</u>	<u>Date</u>	<u>Page</u>	<u>Rev.</u>	<u>Date</u>
1-6	5	4/07/00	1-6	6	6/2/00
1-7	5	4/07/00	1-7	6	6/2/00
2-1	2	8/08/97	2-1	3	6/2/00
2-2	2	8/08/97	2-2	3	6/2/00
2-5	2	8/08/97	2-5	3	6/2/00
2-11	2	8/11/97	2-11	3	6/2/00
5-4	0	4/20/94	5-4	1	6/2/00

(d) (deleted)

(e) (deleted)

(f) (deleted)

(g) (deleted)

(h) CE Nuclear Power LLC is authorized to release hydrofluoric acid manufactured as a byproduct of the uranium hexafluoride to uranium oxide conversion process for unrestricted commercial use providing the following conditions are met:

1. A representative sample of each batch of hydrofluoric acid product shall be obtained and analyzed for uranium.
2. A batch shall be no larger than 20,000 liters.
3. The specific activity of any batch released for unrestricted Use shall be < 3 pCi/ml.

2.1 Organizational Responsibilities and Authority

The Plant Manager has complete responsibility for ensuring that operations related to nuclear fuel manufacturing are conducted safely and in compliance with applicable regulations. The Plant Manager has delegated the safety and compliance responsibility for nuclear fuel manufacturing and support activities to the Director of Uranium Operations, and the Director of Regulatory Affairs.

2.1.1 Director of Uranium Operations

The Director of Uranium Operations reports to the Plant Manager. The Director of Uranium Operations has the overall responsibility for safe operation of the Hematite facility. This includes criticality safety, radiological and industrial safety, environmental protection, production, accountability, packaging SNM and waste for transport, training, materials handling and storage, process and equipment engineering and maintenance.

2.1.2 (Deleted)

2.1.3 Director of Regulatory Affairs

The Director of Regulatory Affairs reports to the Plant Manager. He manages radiological protection, industrial safety, SNM accountability, criticality safety, licensing, emergency planning, environmental protection, laboratory services, security, and their associated training programs. His activities include review and approval of procedures for control, sampling, measurement and physical inventory of SNM; shipping, receiving, and transportation of SNM products and waste; and auditing of plant operations. He reviews results from personnel and environmental monitoring and facility activities to ensure compliance with the requirements of License No. SNM-33. To enforce compliance, he has authority to halt any operation at the Hematite facility, and the operation shall not restart until approved by the Director of Regulatory Affairs.

- o Environmental protection trends
- o Radiation safety trends
- o Criticality safety practices
- o Industrial safety trends
- o Adequacy of emergency planning and drills
- o Effectiveness of ALARA program
- o Internal inspection and audit reports
- o Abnormal occurrences and accidents including recommendations to prevent recurrence
- o Review of significant physical facility changes in the pellet shop and significant changes to operations involving radiation and/or nuclear criticality safety.

The review of findings and recommendations of corrective action shall be reported to the Director of Uranium Operations and to the Director of Regulatory Affairs for action.

The Committee Chairman determines which committee members, as a minimum, shall attend each quarterly meeting, according to the topics to be considered. The Committee submits a quarterly meeting report to the Hematite manager level personnel and the Plant Manager. The Committee Chairman appoints the committee members to represent, as a minimum, engineering, production, health physics, and criticality safety. He or she may also approve alternate(s) for the members.

Daily checks for safety related problems are made by Health Physics Technicians, who observe, note and make general observations in addition to their other duties.

Problems are normally corrected on the spot by the Production Supervisor. More significant problems are listed in the daily exception report distributed to the Director of Uranium Operations and manager level staff. The Director of Uranium Operations is responsible for corrective action.

Planned and documented quarterly inspections cover criticality control and radiation safety. The inspection of criticality control shall be performed by an individual meeting at least the education and experience requirements of a Nuclear Criticality Specialist. The inspection of radiation safety shall be performed by an individual meeting at least the education and experience requirements of a Health Physicist. Items requiring corrective action are documented in a report distributed to the Director of Uranium Operations and manager level staff. The Director of Uranium Operations is responsible for corrective action, except where another manager is specifically designated. Follow-up actions taken by the Director of Uranium Operations, or other responsible manager, shall be documented.

Annual audits, in which the results of previous inspections or audits are reviewed, are conducted as an evaluation of the effectiveness of the program. These audits may also involve a detailed review of non-safety documents such as operation procedures, shop travelers, etc., and are documented by a formal report to the Plant Manager. Annual audits are performed by

Table 5-1
Environmental Monitoring Program

Sample Medium	Sampling Points	Collection & Analysis Frequency	Sample Type	Type of Analysis	Action Level	Table No. - Note (4)
<u>Operational Effluents Monitoring Program:</u>						
Air Effluent	Exhaust Stacks	Continuous & Analyze Weekly	Particulate	Note (1)	5×10^{-14} $\mu\text{C/ml}$ - Note (2)	13-1
Air Effluent	Conversion Offgas Stack	Continuous & Analyze Weekly	Gaseous &	Note (1) Particulate		13-17 - Note (5)
Liquid Effluent	Site Dam	Continuous & Analyze Weekly	Composite	Note (1)	3×10^{-7} $\mu\text{C/ml}$ - Note (3)	13-3, 13-18
	Sewage Treatment Outfall	Weekly	Grab	Note (1)	3×10^{-7} $\mu\text{C/ml}$ - Note (3)	13-14
<u>Operational Environmental Monitoring Program</u>						
Air	3 On-site Remote	Continuous & Analyze Weekly	Particulate	Note (1)		13-2
Surface Water	Joachim Creek Above & Below Site Creek Outfall	Monthly	Grab	Note (1)		13-4, 13-5
	Joachim & Site Creek Confluence	Quarterly	Grab	Note (1)		13-6
Ground Water	Plant Well	Monthly	Grab	Note (1)		13-10
	Offsite Well (Hematite)	Quarterly	Grab	Note (1)		13-6
	3 Monitoring Wells For Evaporation Ponds	Quarterly	Grab	Note (1)		13-7, 13-8, 13-9
	South Vault Sample Monitoring Well	Quarterly	Grab	Note (1)		13-11
	3 Burial Ground Monitoring Wells	Quarterly	Grab	Note (1)		13-12, 13-13
Soil	4 Locations Surrounding Plant	Quarterly	Grab	Note (1)		13-15
Vegetation	4 Locations Surrounding Plant	Quarterly	Grab	Note (1)		13-16, 13-19
Sediment	Site Creek Below Site Dam	Annual	Grab	Note (1)		

Notes:

- (1) One or more of the analysis types given in Section 5.1.3.
- (2) Action Level applies in the accessible unrestricted areas.
- (3) Action Level is average at the site boundary.
- (4) This column correlates sample points with data tables in Chapter 13 - "for information only."
- (5) Monitoring results for this stack are included in Table 13-1 as "Total Microcuries" released for all stacks.

Enclosure III to RA00/079

**CE NUCLEAR POWER LLC
HEMATITE NUCLEAR FUEL MANUFACTURING FACILITY
LICENSE APPLICATION
LIST OF EFFECTIVE PAGES
Date: 6/2/00**

CE Nuclear Power LLC provides changes to the Hematite license application. The following is a comprehensive List of Effective Pages summarizing the latest applicable submittal dates for each page of the application.

<u>Pages</u>	<u>Revision</u>	<u>Date</u>	<u>Pages</u>	<u>Revision</u>	<u>Date</u>
<u>License Application Title Page</u>			2-10	4	4/07/00
			2-11	3	6/2/00
<u>Table of Contents</u>			2-12	1	8/08/97
			2-13	1	8/08/97
i	1	2/07/00	2-14	2	8/08/97
through					
xi			<u>Chapter 3</u>		
<u>Chapter 1</u>			3-1	4	4/07/00
			3-2	1	8/08/97
1-1	4	4/07/00	3-3	0	4/20/94
1-2	5	4/07/00	3-4	1	8/08/97
1-3	3	4/07/00	3-5	0	6/14/94
1-4	0	3/21/94	3-6	0	3/21/94
1-5	0	6/14/94	3-7	0	3/21/94
1-6	6	6/2/00	3-8	1	8/08/97
1-7	6	6/2/00	3-9	1	8/08/97
			3-10	0	6/14/94
<u>Chapter 2</u>			3-11	1	8/08/97
			3-12	0	3/21/94
2-1	3	6/2/00	3-13	0	3/21/94
2-2	3	6/2/00			
2-3	1	8/08/97	<u>Chapter 4</u>		
2-4	0	4/20/94			
2-5	3	6/2/00	4-1	6	4/07/00
2-6	3	4/07/00	4-2	3	7/10/98
2-7	2	8/08/97	through		
2-8	1	8/08/97	4-6		
2-9	1	8/08/97	4-7	4	12/6/99

<u>Pages</u>	<u>Revision</u>	<u>Date</u>	<u>Pages</u>	<u>Revision</u>	<u>Date</u>
4-7a	4	12/6/99	<u>Chapter 11</u>		
4-8	3	7/10/98	11-1	1	9/28/98
through			through		
4-28			11-16		
<u>Chapter 5</u>			<u>Chapter 12</u>		
5-1	0	1/14/94	12-1	1	9/28/98
5-2	0	1/14/94	through		
5-3	1	8/08/97	12-8		
5-4	1	6/2/00			
<u>Chapter 6</u>			<u>Chapter 13</u>		
6-1	0	10/29/93	13-1	1	9/28/98
6-2	1	8/08/97	through		
6-3	0	10/29/93	13-21		
<u>Chapter 7</u>			<u>Chapter 14</u>		
7-1	5	4/07/00	14-1	1	9/28/98
<u>Chapter 8</u>			through		
8-1	4	4/07/00	14-79		
<u>Chapter 9</u>			<u>Chapter 15</u>		
9-1	1	9/28/98	15-1	1	9/28/98
through			through		
9-12			15-84		
<u>Chapter 10</u>					
10-1	1	9/28/98			
through					
10-14					