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January 11, 1993
ML-93-003

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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 Limited Authorization to Introduce Special Nuclear Material in Buildings 230 and 256-1**

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 (C-E) to J. W. Hickey (NRC), ML-92-047, dated October 9, 1992

(C) Letter, J. F. Conant (C-E) to J. W. Hickey (NRC), ML-92-049, dated October 30, 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 the modified Building 256-1 and the new Building 230. We also indicated several startup activities that are necessary for the timely completion of the Consolidation Project. In References (B) and (C) we requested temporary license conditions associated with the rod scanner and the use of source material for startup testing. In this letter, we request temporary authorization in order to support pre-production activities as follows:

Introduction of Special Nuclear Material in Buildings 256-1 and 230 for the purpose of the loading the Kardex storage unit with fuel pellets.

M-82

Combustion Engineering, Inc.
1000 Prospect Hill Road
Post Office Box 500
Windsor, Connecticut 06095-0500
Telephone (203) 688-1911
Fax (203) 285-9512
Telex 99297 COMBEN WSOR

In Enclosure I to this letter, we have summarized the planned loading of the Kardex storage unit in Building 230 and the related pellet handling and transfer from Building 256-1 to Building 230. Enclosure I also describes the criticality, radiological and industrial safety precautions that will be taken. Enclosure II identifies sections of the consolidation license amendment (Reference A) 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-33, which will allow the objectives above to be accomplished with appropriate controls.

With respect to an environmental assessment regarding the requested action, supplemental environmental information for the Hematite Consolidation project was provided in our letters of June 19, 1992, and November 12, 1992. The NRC recently published a finding of no significant impact (57 Federal Register 62392, December 30, 1992).

As a result of our projected start-up schedule we request the temporary license condition be issued before April 15, 1993, and scheduled to expire at the end of one year.

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.

John F. Conant
Manager,
Nuclear Materials Licensing

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

Enclosure 1 to
ML-93-003

COMBUSTION ENGINEERING INC.

HEMATITE NUCLEAR FUEL MANUFACTURING FACILITY

REQUEST FOR AUTHORIZATION

TO INTRODUCE SNM IN BUILDINGS 256-1 AND 230

January 1993

HEMATITE NUCLEAR FUEL MANUFACTURING FACILITY
REQUEST FOR AUTHORIZATION
TO INTRODUCE SNM IN BUILDINGS 256-1 AND 230

Combustion Engineering, Inc. requests authorization to introduce Special Nuclear Material (SNM) into Buildings 256-1 and 230 to load the Kardex storage unit with fuel pellets. The nominal form of the SNM will be UO_2 fuel pellets. 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.

Purpose:

To load the Building 230 Kardex storage unit prior to beginning production associated with the new Building 230 equipment and processes

Beginning of Period of Requested Authorization:

April 1993

Description:

The Kardex storage unit will be installed in Building 230. The existing pellet line in Building 254 will be used to manufacture enriched uranium fuel pellets which will be transferred to the modified Building 256-1 where they will be inspected, loaded onto Kardex pans and dried. The Kardex pans will be placed in transport boxes and loaded via the isolating transfer port onto a transportation vehicle in Building 256-2. The vehicle route to Building 230 is described in our August 5, 1992 amendment request. In Building 230, the transport boxes will be unloaded from the vehicle and transferred to the Pellet Handling Area where they will be loaded into the Kardex storage unit.

The preoperational test program discussed in our letter of October 30, 1992, is intended to perfect these and other operations using Uranium source material prior to actual production using enriched Uranium. Loading of the Kardex storage unit with enriched fuel pellets must be performed prior to beginning production in Building 230.

Criticality Safety

The criticality safety issues associated with pellet handling and Kardex storage are discussed in our August 5, 1992 amendment application. The criticality safety concerns associated with pellet handling are not different than those of the

existing licensed facility. The issues with respect to the Kardex storage unit are discussed in detail in Section 8.3.9 of the consolidation license amendment.

Radiological Safety

The radiological controls to be used during the period of the requested authorization are the same as currently in use throughout the entire facility. The special radiological controls of our October 30, 1992, letter concerning the preoperational testing program for Building 230 operations should uncover any unforeseen radiological conditions such that additional controls during the requested authorization period should not be necessary.

Industrial Safety

The industrial safety issues associated with the pellet handling and Kardex storage 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-93-003

COMBUSTION ENGINEERING INC.

HEMATITE NUCLEAR FUEL MANUFACTURING FACILITY

REQUEST FOR AUTHORIZATION

TO INTRODUCE SNM IN BUILDINGS 256-1 AND 230

REFERENCE LICENSE AMENDMENT PAGES

January 1993

COMBUSTION ENGINEERING INC.
HEMATITE NUCLEAR FUEL MANUFACTURING FACILITY
REQUEST FOR AUTHORIZATION
TO INTRODUCE SNM IN BUILDINGS 256-1 AND 230

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 Buildings 256-1 and 230.

Section	Pages	Title
Part I		
4.2.2	I.4-3	Basic Assumptions and Methods
4.2.3 d), s) & t)	I.4-5 through I.4-6a	Safety Margins for Individual Units
4.2.4	I.4-6a(3)	Limits for Safe Individual Units (SIUs)
Table I.4.2.4	I.4-6a(4)	Uranium Oxide Handling and Storage Limits
Part II		
7.11	II.7-25 through II.7-28	Critical and Subcritical Limits for Unclad $U(5)O_2$ Pellets
7.12	II.7-28	Effective Density of Randomly Stacked Pellets in Pellet Pans
Table II.7-7	II.7-31	Summary of Data on Randomly Stacked UO2 Pellets in 2x5x10" Pellet Pans Having Volume of 1422 cc
8.3.7	II.8-11aa(1) through II.8-11aa(26)	Building 256-1 Pellet Alignment, Drying and Packaging
8.3.8	II.8-11aa(27) through II.8-11aa(37)	Pellet Transportation
8.3.9	II.8-11aa(37) through II.8-11aa(47)	Building 230 Pellet Handling Facilities

Enclosure III to
ML-93-003

COMBUSTION ENGINEERING INC.

HEMATITE NUCLEAR FUEL MANUFACTURING FACILITY

REQUEST FOR AUTHORIZATION

TO INTRODUCE SNM IN BUILDINGS 256-1 AND 230

SUGGESTED MATERIALS LICENSE CONDITION

January 1993

HEMATITE NUCLEAR FUEL MANUFACTURING FACILITY
REQUEST FOR AUTHORIZATION
TO INTRODUCE SNM IN BUILDINGS 256-1 AND 230

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 Buildings 256-1 and 230 for the purpose of loading the Kardex storage device with enriched uranium dioxide fuel pellets prior to fuel assembly production:
>
> 1. No greater than 8,000 kilograms of contained U-235 in Uranium enriched to a maximum of 5.0 weight percent in the U-235 isotope. This limit does not increase the quantity limit for special nuclear material in the existing license.
>
> This condition relies upon the statements and representations of the existing license plus the licensee's letter dated January 11, 1993, 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."

The enclosed responses represent the majority of the requests for additional technical information. The balance of the requested information should be provided in approximately one month. 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.

John F. Conant
Manager
Nuclear Materials Licensing

JFC:cr

Enclosures: As Stated

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

Enclosure I to
ML-92-045

COMBUSTION ENGINEERING, INC.

HEMATITE NUCLEAR FUEL MANUFACTURING FACILITY

RESPONSE TO NRC QUESTIONS ON THE

LICENSE RENEWAL APPLICATION

INDIVIDUAL RESPONSES

October 1992

Request for Additional Information
Application Dated November 22, 1989
Combustion Engineering, Inc.
Docket No. 70-36

General

1. On March 21, 1989, the NRC published the "Guidance On Management Controls/Quality Assurance, Requirements for Operation, Chemical Safety, and Fire Protection for Fuel Cycle Facilities" 51 Federal Register 11590 (attachment 1). CE should evaluate its safety program in accordance with this guidance, propose license conditions, and commit to addressing these conditions within 1 year. If additional time is required, provide justification.

   Response:

   The response to this question will be provided in the second submittal.

2. Modify the license conditions section to incorporate all appropriate license amendments that were issued. Include the license conditions that were imposed in the amendments and commitments made in support of the amendment application.

   Response:

   The License Renewal Application has been revised to incorporate all appropriate license amendments that have been approved (through Amendment #20). Change pages are enclosed. In addition, the following Conditions from the Materials License have been incorporated into the Renewal Application.

   CONDITIONS INCORPORATED INTO THE LICENSE APPLICATION

Condition No.	*Section No.*
12	*3.1.1*
14	*3.2.6.2*
15	*1.6(a)*
20a	*5.1.2*
21	*Chapter 8*

CONDITIONS INCORPORATED INTO THE LICENSE APPLICATION

Condition No.	*Section No.*
22	*Chapter 7*
31	*4.2.3.2(a)*
32	*4.2.1.1;4.2.2*
33	*2.6(b)*
39	*4.2.4(i)*

The following additional Conditions are scheduled to be addressed in the second submittal: No. 13, 16, 17, 18, 19, 20b, 23, 24, 25, 26, 27, 28, 29, 30 and 34 (Conditions 11, 35, 36, 37 and 38 have previously been deleted).

3. NRC staff has determined that the licensee should establish greater formality in programs related to nuclear criticality safety (NCS). The application should provide further details of management programs and the administrative and operational requirements stemming from these programs, such as safety analyses, configuration control, maintenance and surveillance, training, and audits. The programs should be documented by written policies, procedures, or instructions. The programs should provide control over activities affecting the safety systems.

   Many of these requests require only formalization and documentation of existing practices into auditable programs. Commitment to programs and administrative and operational requirements should be in Part I of the application. Discussion and description of programs may be summarized in Part II of the application provided internal documentation can be referenced for detailed information.

   Some of the requests for additional information will require significant commitment to time and resources. Completion of all requests is not required for renewal. Some replys may propose license conditions accompanied with conditional phrases specifying completion within a particular timeframe. Such license conditions may be required for issues related to the safety analysis, configuration control, and maintenance and surveillance. Separate discussions for these topics are enclosed with this request (attachment 2).

   Response:

   The response to this question will be provided in the second submittal.

Specific

Page Comment

1-1

A. Section 1.3 may be revised to request a 10-year license as NRC has allowed.

Response:

Section 1.3 has been revised to indicate a license renewal period of ten (10) years.

B. The section should be revised to add that at not more than 1-year intervals from the license issuance date, the demonstration section will be updated to reflect the current operations as appropriate. The updates should, as a minimum, include information for the health and safety section as required by 10 CFR 70.22(a) through (f) and 70.22(i), and operational data, and information on environmental releases.

Response:

C-E has added in Section 1.6 of Part I of the renewal application a commitment to the affect that updates will be provided at 2 year intervals from the date of renewal approval, except that the renewal application at the end of the 10 year renewal period may replace that update.

It is C-E's position that a two year update frequency is satisfactory when considering the types of low level activities carried out at the facility and the types of changes that are anticipated to occur over the next ten years. Furthermore, a two year update frequency is consistent with the staff's proposed rulemaking (57 FR 27187, June 18, 1992) which would allow a period of up to two years for Final Safety Analysis Report (FSAR) Updates.

Page Comment

1-2 Section 1.5 should describe the activities that use uranium enriched greater than 5 weight percent in U-235 and the licensed activities in Building 110 and 240-1. Identify the location(s) where the Co-60 and mixed activated and fission product calibration sources will be stored and used. In describing the utilization of each building, reference Figure 9-4.

Response:

Building 110 and 240-1 are not normally places where large quantities of SNM are used. At times however, samples may be present in this area for miscellaneous purposes. Calibration sources or laboratory standards may be used anywhere within the facility provided they are handled following proper procedures, and by authorized personnel. We do not think it is appropriate to reference a Figure from Part II of the license application in this section.

1-3 Section 1.6 discusses disposal of radioactive waste by incineration. In Part II, provide the information in attachment 3, "Information Required for Approval of Disposal by Incineration."

Response:

Following are responses to the questions presented in Attachment 3, "Additional Information Required for Approval of Disposal by Incineration".

1. *Section 15.7.1.2, Waste Incineration, has been revised to include the information requested.*

2. *The limits specified in Appendix B, Table II of 10 CFR Part 20 are for assessment and control of dose to the public and are usually applied at the site boundary. Combustion Engineering controls these limits at the stack, which demonstrates compliance with the ALARA philosophy.*

3. *The concentration of radioactive material (uranium) in the ash is determined by withdrawing a representative sample from each container of ash and analyzing for percent uranium.*

4. *Procedures are described in Sections 10.4.2 and 15.7.1.2. Packaging of combustibles in plastic bags, use of ventilated hoods to prepare charges for incineration, and ash removal by a vacuum collection system limit exposure of personnel.*

Page Comment

5. Combustion Engineering currently complies with state and local regulations concerning incineration of radioactive material. The state of Missouri has promulgated new regulations on incinerators which are scheduled for implementation during 1993. Modifications to increase the temperature of the secondary combustion chamber are anticipated in order to comply with these regulations when they become effective.

6. Fire safety controls are discussed in Sections 10.6 and 15.7.1.2.

2-1 Chapter 2 should be revised to include the organizational changes authorized by Amendment 20.

Response:

Chapter 2 has been updated to incorporate the changes authorized by amendment #20. Change pages have been provided.

2-3

A. In Section 2.3, formal review and approval for process, equipment, and procedural changes should involve the Safety Review Committee. Conditions for which NRC approval is required should be established.

The licensee may make facility, structural, process, equipment, and procedural changes without license amendment provided that any proposed change does not involve (i) a modification to the conditions of this license or Part I of the referenced application; (ii) a significant increase in occupational radiation exposures; (iii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite; or (iv) an unreviewed safety question. For facility, structural, process, equipment, and procedural changes not requiring a license amendment in accordance with the above criteria, an evaluation should be required. Such evaluations should be reviewed and approved by the safety manager and Hematite Plant Safety Committee.

The evaluations should provide the basis for determining that the change will not involve a modification to the conditions of this license or Part I of the referenced application, a significant increase in occupational radiation exposures, a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or an unreviewed safety question. A change should be deemed to involve an unreviewed safety question if an accident analysis for the change (i) results in

Page Comment

consequence values exceeding the values of the accident analyses described in Chapter 16 of the referenced application or the probability of occurrence for the types of events therein evaluated is judged to increase; or (ii) reveals a possibility for an accident of a different type than previously evaluated. The licensee should maintain records of approvals and evaluations of facility, structural, process, and equipment changes until termination of the license. Records of procedural changes should be maintained for a minimum of 5 years.

Response:

The response to this question will be provided in the second submittal.

B. Within Section 2.5, requirements should be established for the training program and should include: (1) responsibilities for development, implementation, and coordination of NCS training; (2) NCS staff participation in development and implementation of the training program; (3) retraining following revision to equipment, processes, or operating procedures (retraining should be conducted prior to operation of installed equipment or use of revised procedures); (4) training for supervisors, maintenance personnel, engineers, NCS staff, management, and the Safety Review Committee; (5) assessing training effectiveness; (6) auditing the training programs at least annually; (7) updating training courses to reflect plant modifications and changes to procedures; and (8) troubleshooting activities for process abnormalities in operations training.

Response:

Regulatory Guide 3.52 describes the content requirements for Section 2.5 of the License Renewal Application. Our current discussion on "Training" in the renewal application complies with the suggested content of this Regulatory Guide. In Section 2.5, C-E has made a commitment to provide training to employees on radiological safety, criticality safety, and special skills. Employees are retrained biennially in radiological and criticality safety, and tested. This training is documented.

We have added training responsibilities in Section 2.1.2 for the Manager, NLS&A position as emphasis to the importance of safety training.

With regard to the Nuclear Criticality Specialist, Section 2.2 and Table 2-1 currently require that the person filling this position have a Bachelor's Degree in Science or Engineering, plus at least 2 years experience in nuclear

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criticality evaluations. The education and experience requirements should ensure sufficient training for the NCS.

2-4 In Section 2.6, Operating Procedures, the excerpt "limits and controls required by the license" should read "limits and controls identified in the NCS evaluations."

Requirements should be established for the contents of operating procedures. The contents should include process operating limits, sequence of steps to be taken under upset conditions, safety systems and functions, precautions, and warnings. The procedures should address all aspects of operation including startup, temporary operation, and shutdown. Instructions and criteria for shutdown and actions to be taken during abnormal operations should be specified, including the limits selected for a commitment to action.

Further requirements should be established for developing, approving, and updating procedures. Supervision should be involved with the development of operating procedures. Biennial review of procedures should include line and nuclear safety management. The procedures should be approved at least by the NCS Function Manager and the Operating Group Manager. The approval process should be established by the plant manager. New or revised procedures should be reviewed by NCS staff. When process and equipment changes occur, changes to procedures should be preceded by a safety analysis, management approval, preoperational testing and inspection, and training.

Response:

The response to this question will be provided in the second submittal.

2-5 Management should examine the manageability of programs related to NCS, establish management controls to monitor the programs' effectiveness, and ensure adequate implementation. The status and adequacy of the programs should be reviewed at least biennially. Thus, within Section 2.7, a requirement should be established for assessing management programs and policies. A safety oversight group should assess the manageability, implementation, and effectiveness of programs instituted for audits and inspections, corrective actions, design basis documentation, maintenance and surveillance, training, configuration control, and safety analyses. The assessment should include an intensive and systematic examination and

Page Comment

should be conducted by a team with multidisciplined personnel possessing the expertise necessary for proper review of the programs.

An action plan, including follow-up and tracking, should be developed to address concerns resulting from the self-assessment. Items requiring corrective action should be documented in a report to management. The program should possess requirements to follow-up the report. The follow-up should determine completion of corrective action and document resolutions to deficiencies. The follow-up actions taken by the responsible manager should be documented.

Requirements established for audits and inspections should include: guidance provided for conducting audits; the format (procedure or checklist), staffing, scheduling, and verification methods prior to conducting the audits; responsibilities for root cause analysis, designating corrective actions, tracking, and documentation; the system to ensure corrective action; and the level of management to which results are reported. Corrective actions and their status should be maintained in the audit records.

Requirements should be established to ensure that the periodic review of existing processes includes verification of the conditions and assumptions used in the safety analyses and absence of unapproved alterations to processes, equipment, or procedures. Efforts in review of engineered controls should involve evaluation of the programs established for maintenance, surveillance, and functional testing. Requirements should be established for auditing the maintenance and surveillance of engineered controls.

Response:

The response to this question will be provided in the second submittal.

2-6 Within Section 2.8, the investigation program should be further established and include provisions for root cause analysis and tracking of corrective actions.

Requirements should be established for incident investigation procedures that address such issues as team members, reporting, information dissemination, recommendations, and incident pattern; training team members in investigation techniques; tracking and correcting identified deficiencies; and a system to promptly address and resolve the incident report findings and recommendations. Problem identification, reporting,

Page Comment

resolution, tracking, trending and root cause analysis systems should be adequately developed to allow management to monitor corrective actions. There should be a formal management program to evaluate operating experiences and improve safety.

Response:

Section 2.8, "Investigations and Reporting" currently states that reportable events shall be investigated and reported and non-reportable events shall be investigated and documented as appropriate. The level of investigations performed in order to understand the cause of the incident is proportionate to the severity or potential severity. Not every incident will require proceduralized root cause analysis.

The intent of investigations and reporting is the same as the intent of the Branch Technical Position on Management Controls, i.e., to identify items important to safety, recognize their potential significant failures and provide feedback to assess management program effectiveness. It is more appropriate for the prescriptive actions described above to be implemented on a case by case basis than to make them conditions of the license.

3-1
A. In Section 3.1.2, review the Special Evaluation Traveler for industry safety. A member of the radiation safety and protection functions shall monitor the work areas under a Special Evaluation Traveler.

Response:

Section 3.1.2 states that the same approvals are required for Special Evaluation Travelers as for Operation Sheets. Section 2.6 states that the Manager of NLS&A (among others) approves Operation Sheets, and Section 2.1.2 states that the Manager, NLS&A manages industrial safety. Therefore, a further commitment to review Special Evaluation Travelers for industrial safety should not be required.

The Special Evaluation Traveler is used for all operations not covered by an Operation Sheet. Radiological monitoring is not always required for the operation; more often than not, the Special Evaluation Traveler does not require special monitoring. If special monitoring is required, the Special Evaluation Traveler specifies the requirements. Therefore, Section 3.1.2 has not been revised to specify that work areas under a Special Evaluation Traveler be monitored by Health Physics.

Page Comment

B. In Section 3.2.1, indicate that a routine review will be conducted to verify that signs, labels, and other access controls are properly posted and operative. The review should be documented. A minimum frequency for the review may be specified in Part II of the application.

Response:

This requirement is satisfied through the inspections/audits conducted in accordance with Section 2.7 of the license application. Additionally, Health Physics technicians review access controls during their daily rounds of the facility.

3-2

A. Section 3.2.2 should state the following:

(1) In process areas, the HEPA system shall be equipped with an indicator for pressure-drop across the filter(s) to provide an early indication of a reduction in air flow. The pressure reading should be checked at least weekly. Deviation from this requirement should be justified.

Response:

Weekly air velocity measurements are made for ventilated hoods to ensure adequate air flow. This procedure checks the entire ventilation system, including the HEPA filters. HEPA filter and pre-filter banks are provided with differential pressure gauges for diagnostic purposes. Section 3.2.2 has been revised to describe this.

(2) The HEPA filter shall be replaced when the pressure differential across the filter exceeds 4 inches of water or the manufacturer's recommended level.

Response:

Filters or pre-filters are normally changed if the differential across the filter exceeds six inches of water. Experience with multi-bank, multi-filter systems equipped with pre-filters has demonstrated that this value is appropriate. Section 3.2.2 has been revised to specify this differential pressure limit.

(3) The ventilation system shall be in-place leak tested after each HEPA filter replacement or after completion of major repair work.

Page Comment

Response:

Ventilation systems in the Oxide Conversion Building and New Pellet Plant (Building 254) are DOP (Dioctylphthalate) tested in place after any disturbance of the HEPA filters. New systems with this provision for testing will be installed by the end of 1993 in Building 255 and Building 240. Section 3.2.2 has been revised to specify that ventilation systems capable of being DOP tested will be tested after any disturbance, and that new HEPA systems will have DOP testing provisions.

(4) The direction of air flow in the process buildings shall be checked at least monthly and documented. If the air flow direction is not acceptable, action shall be taken.

Response:

The direction of air flow will be checked on annual basis in accordance with the new regulatory guide on air sampling. Section 3.2.2 has been revised accordingly.

(5) The specific glovebox pressure differential between the glovebox and the work area and the frequency for checking it.

Response:

The Hematite facility is eliminating use of static pressure glove boxes, therefore it is not necessary to add this requirement to the license application. Section 3.2.2 has been revised to delete the discussion on glove boxes.

B. Section 3.2.2 should clarify if the air in the processing areas will be recycled. If so, a monitoring program should be established to control the spreading of contaminated air.

Response:

The response to this question will be provided in the second submittal.

3-3

A. In Section 3.2.3.1, an alarm setpoint should be established for the continuous air monitors to provide an early warning of unexpected releases in the work areas. You should state that a means for measuring the flow

Page Comment

rate (such as rotameter or critical orifice) will be installed at each fixed air sampling head.

Response:

The response to this comment will be provided in the second submittal.

B. In Section 3.2.3.2, item (b) should be revised to state that when the individual's internal exposure (MPC-hours) exceeds 20 percent of 10 CFR 20.103 limits, corrective actions to the cause and personnel exposure evaluation will be required. Item (c) should be deleted because it is repetitive. Item (d) should state that an evaluation of the individual's internal exposure to airborne radioactivity should be based on breathing zone sampling data, which is obtained by continuous sampling during his/her presence in a work area where unclad radioactive material is handled. The survey frequency shall be in accordance with Table 1 of Regulatory Guide 8.24. Item (f) should state that the locations of the fixed air sampling heads shall be reexamined for representativeness at least every 13 months or whenever licensed process or equipment changes are made or at the commencement of operations in an area that has been shut down for more than 6 months, whichever comes first. Item (g) should state that during operations, the airborne radioactivity concentration in the process areas shall be assessed by continuous air monitors to identify any unexpected concentration level of radioactive material.

Response:

The 10 CFR Part 20 criteria will achieve the exposure limits of this comment. While Section 3.2.3.2, item (b), has not yet been revised, it will be revised before the new 10 CFR Part 20 becomes effective.

Item (c) in Section 3.2.3.2 has been deleted in the enclosed page changes.

With respect to items (d), (f) and (g), responses will be provided in the second submittal.

3-4 Section 3.2.4 should state that the air flow or volume metering devices for the air sampling program shall be calibrated at least once every 6 months, with exception of permanently installed effluent monitors which may be calibrated once every 18 months. Provide the minimum detectibility for all measurement instruments, and state that the accuracy of the calibration sources should be as a minimum ± 5 percent of the stated value and

Page Comment

traceable to the National Institute of Standards and Technology (formerly the National Bureau of Standards).

Response:

The response to this question will be provided in the second submittal.

3-5

A. Section 3.2.5 should state that the personnel radiation exposure levels shall be reviewed at least monthly by the Health Physics function.

Response:

Personnel radiation exposure levels are reviewed periodically by the Health Physics Supervisor and the Manager, NLS&A. In times of greater plant activity or special evolutions, this frequency is more than in times of inactivity. The adequacy of the frequency is evidenced by the ability to maintain exposures ALARA. The frequency of this review should not be a specific requirement of the license since Section 3.2.5 already requires an investigation for exposures in excess of 25% of the applicable limit, and Section 3.1.1 requires a radiation exposure report every six months.

B. In Section 3.2.6, provide a date for decontaminating the areas adjacent to Building 240, 253, and 256.

Response:

The response to this question will be provided in the second submittal.

3-6

A. In Section 3.2.6.2, references to contamination limits for release of equipment and material should be deleted. This information is in Section 1.6.

Response:

The references to contamination limits has been removed from Section 3.2.6.2.

B. In accordance with columns 2 and 4, Table I, of Regulatory Guide 8.24, establish the frequency for surface contamination surveys. State that cleanup action shall be started no later than the beginning of the next

Page Comment

workshift when surface contamination exceeds the limits in Table 2 of Regulatory Guide 8.24.

Response:

The response to this question will be provided in the second submittal.

C. Section 3.2.6 should state that change areas, where personnel exit from the contaminated areas, will be surveyed daily for removable alpha contamination.

Response:

The frequency of surveys is inappropriate as a condition in Part I of the license renewal application. As currently stated in Section 3.2.6.2: "The frequency of survey depends upon the contamination levels common to the area, the extent to which the area is occupied, and the probability of personnel exposure." In lieu of a specific survey frequency condition for the change areas, we have revised Section 12.14 to describe the general practice of surveying the change area on a daily basis.

D. Since Regulatory Guide 8.11 does not apply to bioassay for highly soluble uranium material (i.e., UF_6 or UO_2F_2), in Section 3.2.7, establish a program for detecting the workers' intake of the highly soluble uranium compounds.

The program should include the following:

(1) Criteria for determining who is required to participate in the program.

(2) Frequency for bioassay, action levels, and action to be taken at each level.

(3) Criteria for determining when a diagnostic bioassay measurement should be initiated.

Response:

The response to this question will be provided in the second submittal.

E. Justification should be provided for an annual frequency of in-vivo lung counts rather than semiannual.

Page Comment

Response:

The response to this question will be provided in the second submittal.

F. Section 3.2.8 should clarify whether protection factors for respirator equipment will be used in estimating exposures to individuals.

Response:

Additional detail has been added to Section 3.2.8 regarding protection factors.

4-1

A. In Section 4.1.1, because of the conditional phrase, incorporation of the double contingency principle is not explicitly expressed. An unconditional process design philosophy should be established. Also, favorable geometry should be established as the preferred method of control.

Response:

Section 4.1.1, "Process Design Philosophy", has been updated to more explicitly address use of the double contingency principle and indicate favorable geometry is the preferred method of control.

B. In Section 4.1.2, no position in the license application has been assigned the responsibility for establishing policies and practices implementing the NCS requirements. Management personnel responsible for formulating and implementing NCS policy should be indicated.

A specific procedure has not been established that ensures management approval of designs in which favorable geometry is not used as the method for criticality control. Use of nuclear criticality controls, other than favorable geometry, should require documented justification and management approval.

Response:

Section 2.1.1 currently identifies the Plant Manager as the management position with overall responsibility for safe operation, including criticality safety. The responsibility of the Plant Manager therefore includes that of NCS policies and practices.

Page Comment

Sections 4.1.1b) and 4.1.2 have been revised to address the second part of this NRC comment.

C. In Section 4.1.3, requirements should be established to ensure appropriate documentation of each analysis and review and to identify the personnel responsible for documentation.

Requirements should be established to perform a formal and comprehensive multidisciplinary safety analysis. (See Safety Analysis Discussion in Attachment 2.)

Response:

The response to this question will be provided in the second submittal.

4-2

A. In Section 4.1.4, procedures and guidelines should be established for routine activities of the Nuclear Criticality Safety Function, including participation in inspections, audits, NCS evaluations, and NCS training programs. The routine activities of the NCS function should be performed in accordance with written procedures which have been approved by the NCS function manager.

The development, review, change, approval, and implementation practices for all facility operating, maintenance, and testing procedures should be established. Documentation that provides requirements and guidance for identification, format, review and approval, distribution, and control of procedures should be identified.

The Nuclear Manufacturing Program documentation system that describes administrative and technical procedures relating to nuclear criticality safety should be a commitment within Part I. Specific authorities, responsibilities, and duties should be defined in the written administrative procedures. Such procedures should prescribe methods for formulating, implementing, and changing management safety programs.

Response:

The response to this question will be provided in the second submittal.

Page Comment

B. In Section 4.1.7, additional requirements should be established for preoperational testing of new equipment or processes. Preoperational testing and inspection should be documented and maintained as a record. Documentation should include deficiencies identified in the engineered safety systems or tests, resolutions to the deficiencies, and any retesting performed. "Substantially modified process" should be defined. The NCS analyst or reviewer should participate in the preoperational inspection. Thus, within this section of the application, "NLS & A" should be "NCS analyst or reviewer" and the "and/or" should be "and".

Response:

Section 4.1.7, "Preoperational Testing and Inspection", has been revised to more clearly address the requirements for preoperational testing and inspection for new or modified processes.

4-3

A. In Section 4.1.8, internal procedures that will be used for evaluating NCS of new processes or changes to existing processes should be identified. "Appropriate" safety review should be defined. The program for ensuring preparation of safety analyses and documentation of facility design should be identified.

Response:

Section 4.1.8, "Criticality Safety Design", has been updated to address internal procedures used for evaluating the nuclear criticality safety of new processes or changes to existing designs.

B. Proposed conditions regarding the use of approved written procedures for activities related to NCS design should include configuration control. Requirements should be established to develop and implement program and procedures for configuration control. (See configuration control discussion in Attachment 2.)

Criteria for approving NCS controls should be specified.

Response:

The response to this question will be provided in the second submittal.

Page Comment

4-6

A. In Section 4.2.3, the calculational methods that have been validated should be identified, and the contents of the validation report should be summarized.

Requirements should be established to ensure all calculational methods used to provide safety limits have a method validation study, including range of applicability and biases.

Written criteria and procedures for developing and approving criticality data sources and validation techniques for criticality calculations should be identified.

Requirements should be established to institute a validation program to update computer codes by reconfirming mathematical operations following changes in the computer program.

Response:

The response to this question will be provided in the second submittal.

B. In Section 4.3.4, special controls should be specified for solution transfer from favorable to nonfavorable geometry vessels, preventing the accumulation of fissile material in process equipment, verifying the isotopic content of incoming cylinders, and backflow prevention.

Response:

Additional detail has been added to Section 4.2.4 to discuss special controls.

C. Requirements should be established for measurement control. Measurement techniques employed should be identified and the technical basis for their validity provided.

Response:

The response to this question will be provided in the second submittal.

Page Comment

5-1 In Section 5.1.2, "150 Ci" should be 150 microcuries.

Response:

Section 5.1.2 has been revised to read "150 μCi".

6-1

A. In Section 6.2, propose license conditions to establish, document, and implement a fire protection program. The program should include:

(1) Maintenance of the fire protection equipment, including the fire water system, automatic alarm system, and portable extinguishers. Such maintenance shall be performed in accordance with the applicable industry codes (e.g., the NFPA codes).

(2) Quarterly fire safety reviews by the Plant Safety Review Committee and follow-up actions on the findings.

(3) Weekly fire safety audits by the Fire Safety Supervisor and follow up actions on the findings.

(4) Performance of an initial (within 6 months and thereafter) biennial fire hazard analysis of the facility. This should be performed by qualified fire protection professionals. Address the findings of the analysis and implement corrective measures, where necessary, within a reasonable time. Any major modifications of the facility or the processes should necessitate a fire hazard analysis.

(5) In addition to the Emergency Plan, within 6 months, the establishment and maintenance of a current Pre-Fire Plan.

(6) A fire brigade training program, including curricula, examinations, and records. Include provisions for annual refresher training.

(7) Maintenance of documentation to evidence performance of the above activities.

Response:

The response to this question will be provided in the second submittal.

Page Comment

B. Describe in Part II, the existing fire protection equipment and those planned for within 1 year. Approximate completion dates for the installation of new equipment should be given.

Response:

Section 10.5 has been updated to include a description of fire protection equipment that has been recently added to the facility. There are no plans to add further equipment to the existing Hematite facility within the next year. Fire protection equipment for buildings being added as part of the Consolidation Project is described in the Consolidation License Amendment.

C. In Section 6.3, the emergency electric generators should be tested for operability at least weekly.

Response:

There is no significant safety benefit of requiring frequent tests of the emergency generator for a low enrichment fuel manufacturing facility such as Hematite. Nevertheless, Section 10.2.1 describes the normal plant practice of weekly startup testing of the emergency generator. During weeks when the plant is shut down for holidays or extended maintenance, testing of the generators is not performed. We do not recommend that this test be a commitment in Part I of the license.

7-1 Update Chapter 7 and provide a decommissioning funding plan in accordance with 10 CFR 70.25. This regulatory requirement was addressed in our letters dated June 27 and October 17, 1991.

Response:

As indicated in M. Tokar (NRC) letter to J. A. Rode (CE), dated February 26, 1992, the scheduled submittal on or about December 31, 1992 of a decommissioning funding plan for the Hematite Fuel Facility is acceptable. We have updated Chapter 7 to include reference to our most recent financial assurance letter dated July 19, 1990. We suggest that changes to Chapter 7 of the license application to reflect the updated decommissioning funding plan be made after its submittal.

Page Comment

8-1 Chapter 8 should be revised to reflect the changes authorized in Amendment 19 and to conform to the regulatory requirements in 10 CFR 70.22.

Response:

Page 8-1 of the Renewal Application has been revised to reflect the changes authorized in Amendment 19.

The Emergency Plan submitted April 6, 1992, has not yet been approved by the NRC. When the Emergency plan was submitted, we indicated the Plan would be implemented within 180 days after NRC approval. It is therefore our intent to submit an amendment to the license reflecting implementation of the Plan within 180 days after NRC approval.

10-3 In Section 10.2.6, provide a map indicating the locations of the chemical materials which are stored onsite. For each chemical material, indicate the maximum capacity of the onsite storage.

Response:

Section 10.2.6 has been revised to indicate the quantity of each significant chemical stored on the Hematite site. Figure 10-3, "Chemical and Other Hazardous Materials Storage Locations" has been added. Subsequent figures were re-numbered to reflect this addition.

10-4 Section 10.3 should indicate the locations (stack, process areas, or equipment) where the air cleaning equipment, as described in Section 3.2.2, is being used.

Response:

Section 10.3 has been revised to indicate the locations where air cleaning equipment is used.

10-5 Section 1.6 should address the use of radioactive contaminated calcium fluoride and limestone as fill material.

Response:

Section 10.4.2 has been revised to delete the discussion on the use of spent limestone as clean fill material on the Hematite site. Section 1.6 has been revised to discuss the use of spent limestone as fill material. Any material

Page Comment

used for fill will be surveyed to demonstrate contamination levels are less than 30 picocuries/gram.

11-1 In Section 11.1, the management program for assessing the criticality safety program should be described.

The audit and inspection program should be described in detail. The description should include the following: (1) responsibilities of staff positions and committees; (2) reporting levels; (3) corrective action program including responsibilities for designating actions, determining sufficiency of actions, tracking actions, and performing root-cause analysis; (4) methods established for observing operations to verify that the conditions and assumptions used in the safety analyses are valid and are controlled by operating procedures and design documents; and (5) review of engineered controls by evaluation of programs established for maintenance, surveillance, and functional testing.

Response:

The response to this question will be provided in the second submittal.

11-3 Update the names and resumes of key personnel.

Response:

Section 11.3, "Education and Experience of Key Personnel", has been updated to reflect organizational changes since the initial submittal of the Renewal Application.

11-18

A. In Section 11.4, the management control program for procedures should be discussed and the methods and practices for development, revision, review, approval, and implementation of written procedures for plant operations, including maintenance and surveillance, should be described. The discussion should include the periodic review used to ensure continued applicability and adequacy of procedures and the responsibilities for updating procedures.

Response:

The response to this question will be provided in the second submittal.

Page Comment

B. In Section 11.5, the program for nuclear criticality safety (NCS) training, including the responsibilities of the NCS staff, should be described. The following should be discussed: personnel responsible for content of NCS training, responsibilities for evaluating NCS training program, guidance to aid supervision in conducting on-the-job training; training requirements for supervision, maintenance personnel, engineering, and management; and the system for maintaining training records.

Response:

The response to this question will be provided in the second submittal.

C. Section 2.5 of the license application states that training is supplemented by regularly scheduled meetings conducted by line supervision and specialists. "Regularly" should be defined and any guidance provided to supervision for conducting the meetings should be identified.

Response:

Section 2.5, "Training", has been revised to indicate on-the-job training is supplemented by specialized training in various safety topics. The term "Regularly" has been deleted since it is not defined. Although the specialized training is conducted frequently, it would not be correct to state that it is performed on a monthly, quarterly, or annual basis.

D. In Section 11.6, the configuration control program should be described. The administrative control program and procedures instituted for keeping design basis documentation current should be discussed. (See configuration control discussion in Attachment 2.)

Response:

The response to this question will be provided in the second submittal.

Page Comment

12-1

A. Section 12.1 should describe the administrative procedures for implementing the ALARA policy and for issuing the RWPs.

Response:

Section 12.1 has been revised to include the ALARA program and to list the procedures which are used to implement it. The Special Evaluation Traveler, which is used as an RWP, is described in Section 3.1.2.

B. Section 12.1 should contain a list of health and safety procedures that are being used for the health physics program.

Response:

Section 12.1 has been revised to include a list of many of the health and safety procedures which are in place.

C. Section 12.3 should describe the monitoring program for verifying that the shallow dose equivalent received by personnel handling uranium material meets the provisions in 10 CFR 20.101(a).

Response:

The response to this question will be provided in the second submittal.

12-2

A. Expand Section 12.4 to describe how the radiological survey will be performed. Indicate the instruments or equipment used in conducting measurements for external radiation dose rates, airborne radioactivity concentrations, surface contamination, protective clothing contamination, and personnel contamination.

Response:

The response to this question will be provided in the second submittal.

Page Comment

B. Section 12-4 should contain a plant layout identifying the contaminated areas and their exit point(s) where radiation monitoring is provided.

Response:

The response to this question will be provided in the second submittal.

12-3 Section 12.10.1 should provide the personnel exposure results including shallow-dose equivalent for 1989 through 1991. Specific dose ranges above 0.5 Rem should be included.

Response:

Section 12.10.1 has been updated to include more recent external exposure data for Hematite workers. Shallow-dose equivalent information has not been provided, however, since it is not readily available in a reduced form. Film badge data is reviewed each month and transposed to the individual workers records. This information is available for review during the periodic NRC inspections.

12-4 In Section 12.10.2, provide internal exposure records for 1989-1991. Provide weekly internal exposure records (mpc-hr) for the past 3 years for those workers who handled the soluble uranium material.

Response:

Section 12.10.2 has been updated to include more recent internal radiation exposure data for Hematite workers.

We have not provided weekly internal exposure records for workers handling soluble uranium materials because we do not have any process areas in which the workers are strictly dedicated to those activities and measured for soluble exposures. Internal exposure data for workers is tracked in reference to insoluble uranium exposure limits, which are more limiting than soluble limits.

Page Comment

12-5 Describe specific changes to equipment and procedures to reduce airborne exposures. Provide data showing the effectiveness of the changes.

Response:

Changes to equipment and procedures have not been described in Part II of the license application since the Part II Safety Demonstration is meant to describe current processes. To describe changes with respect to the past or planned changes for the future would confuse the Safety Demonstration. In lieu of revising the license application we offer the following description in response to this comment:

Extensive improvements have been made to the ventilation systems at the Hematite facility, and the improvements are still ongoing. Older facilities are in the process of being upgraded with new HEPA filter systems. The new pellet plant in Building 254 includes numerous process improvements which results in reduced exposures. A new enclosure has been installed over the pellet press to reduce airborne exposure. In general, systems which could result in airborne contamination are modified to enclose them, such as the use of large closed blenders for UO_2 powder mixing, in lieu of small open containers. In addition, the centrifuge in the wet recovery area has been improved by enclosing its discharge.

While the above improvements are designed to reduce airborne exposures, data showing the effectiveness of the changes has not been collected. There is little advantage in collecting such data.

12-6

A. Describe the methodology used in assessing personnel internal exposure levels. Include bioassay (in-vivo and in-vitro measurements) and airborne sampling results.

Response:

The response to this question will be provided in the second submittal.

Page Comment

B. Section 12.12 should contain a quality assurance program for in-vitro and in-vivo measurements performed by the licensee and vendors.

Response:

The response to this question will be provided in the second submittal.

C. Section 12.13 should describe the following:

(1) The method(s) used in determining the locations of the breathing zone air samplers for their representativeness.

(2) The airborne radioactive concentration level that would require shutting down the operations.

Response:

The response to this question will be provided in the second submittal.

14-1

A. In Section 14.1, the Nuclear Fuel Manufacturing Program (NFMP) documentation system describes administrative and technical procedures related to NCS. The NFMP should be endorsed in Chapter I. The administrative and technical procedures should be identified in this section.

Response:

The response to this question will be provided in the second submittal.

B. Management control programs addressing the establishment and implementation of design basis documentation, process safety analyses, operating procedures, training, configuration control, incident investigations, audits, maintenance and surveillance should be described. This section should discuss information pertaining to the programmatic framework for administrative and procedural controls and the organizational framework that allows the staff to implement programs. Enough detail should be provided to allow assessment of the organizational and programmatic structure to justify reliance on administrative and operational controls. Methods of implementation should be described.

Page Comment

Response:

The response to this question will be provided in the second submittal.

14-7 In Section 14.3.2, the accident analysis process should be outlined.

Response:

The response to this question will be provided in the second submittal.

14-16 In Section 14.4, the maintenance for borosilicate glass raschig rings should be described.

Response:

Section 14.4, "Fixed Poisons", has been revised to update the requirements for maintenance of borosilicate glass raschig rings. Regulatory Guide 3.1, Revision 2 has been referenced.

14-19

A. In Section 14.6.2, discuss the written report that demonstrates the validation of analytical methods and establishes the range of applicability and biases.

Response:

The response to this question will be provided in the second submittal.

B. In Section 14.7, special controls used to ensure nuclear safety should be described.

(1) For fissile transfers to unfavorable geometry vessels, a physical barrier should prevent the inadvertent transfer of fissile solutions. Solution transfers should be limited so that vessels never contain more than a fraction of the calculated minimum critical mass. Uranium concentration should be limited by controlled and verified chemical characteristics of the materials involved. Two independent methods for determining concentration should be provided to confirm that the limit is satisfied. Uranium concentration should be limited by on-line measurement, and if the limit is reached, automatic controls should prevent continued release.

Page Comment

(2) Techniques used for the investigation of SNM accumulations and for safe removal of any accumulated material should be described. Procedures should include the components to be inspected, specific action levels, inspection frequencies, and response actions.

(3) The program which demonstrates that equipment and instrumentation used for measuring process variables meets safety and design criteria discussed in the safety analyses should be described.

Instruments used to detect process conditions and the systems used to control processes should be discussed, including testability, redundancy, and failure conditions. Process instruments that are used to sense and control parameters should be discussed and the mechanism employed to ensure the proper functioning condition, e.g., functional testing and calibration, should be described.

The program that ensures that adequate sampling measurements, control instrumentation, and safety monitoring capabilities are provided and maintained operational should be described. Provisions for obtaining samples for process analysis and controls necessary to ensure that operations are within prescribed limits should be discussed. The facilities and analytical equipment used to perform the analyses should be described. The laboratory analyses that provide confirmation of process conditions should be described.

The program for improving the analytical methods and measurements for maintaining such a program and for incorporating improvements into the analytical and measurements methods should be described.

Systems should be designed so that when sampling is part of a control, representative sampling may be obtained.

Response:

The response to this question will be provided in the second submittal.

15-1 In Section 15.1, the dry powder criterion relies on moisture analysis. The measurement techniques employed should be described, and the technical basis for their validity should be discussed. The limits and technical basis for UO2 additives and moisture control should be discussed. The controls that designate moderation control areas should be discussed. The controls preventing pneumatic transfer of moderators should be described.

Page Comment

Response:

Section 15.1, "Process Outline and Moderation Control", has been updated to include additional detail regarding moderation control.

15-2 In Section 15.2.1, the controls used to verify the isotopic contents of cylinders should be described.

Response:

Section 15.2.1 has been revised to describe our use of DOE or other independent test results for verification of isotopic content.

15-3 In Section 15.2.2.1, the "valving arrangement" that prevents the interconnection of two cylinders should be described. The dimensions of the steam chamber, condensate drain line, and piping insulation should be provided.

Response:

Section 15.2.2.1 has been updated to include a description of the valving arrangement between the two cylinders. Dimensions have also been provided in this section.

15-5

A. The nuclear safety of the steam chamber should be analyzed for uranyl fluoride solution.

Response:

Section 15.2.2.1, under "Nuclear Safety", has been updated to include a discussion of the safety analysis for a scenario in which UF_6 leaks into the steam chamber.

B. The controls used to prevent backflow of moderating materials from conversion lines to UF6 cylinders should be described.

Response:

Section 15.2.2.1, under "Safety Features", has been revised to include a discussion of the controls for preventing the backflow of moderating materials to the UF_6 cylinders.

Page Comment

15-23 In Section 15.3.4, indicate that batch control uses an interlock.

Response:

Section 15.3.5 has been revised to indicate that the criticality safety of the entire system is independent of batch control. Analysis has been performed and documented in Section 15.3.5.4 which demonstrates the system can be full of UO_2 without presenting a criticality concern.

Enclosure II to
ML-92-045

COMBUSTION ENGINEERING, INC.

HEMATITE NUCLEAR FUEL MANUFACTURING FACILITY

RESPONSE TO NRC QUESTIONS ON THE

LICENSE RENEWAL APPLICATION

LIST OF AFFECTED PAGES

October 1992

COMBUSTION ENGINEERING, INC.

HEMATITE NUCLEAR FUEL MANUFACTURING FACILITY

RESPONSE TO NRC QUESTIONS ON THE

LICENSE RENEWAL APPLICATION

LIST OF AFFECTED PAGES

Combustion Engineering, Inc. is responding to an NRC request for additional information on our Hematite License Renewal Application dated November 22, 1989, supplemented June 17, 1991. Several responses to the NRC requests have resulted in changes being made to the existing license renewal application. The following identifies the changed license pages. The affected pages are provided as change pages in Enclosure III.

The license application pages affected are as follows:

Delete Page			Add Page		
Page No.	Rev.	Date	Page No.	Rev.	Date
PART I			PART I		
Chapter 1			Chapter 1		
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Chapter 2			Chapter 2		
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Chapter 5			Chapter 5		
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Chapter 7			Chapter 7		
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Chapter 8			Chapter 8		
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PART II			PART II		
Chapter 10			Chapter 10		
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Chapter 11			Chapter 11		
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