ABB

September 13, 1996

Docket No. 70-0036
License No. SNM-33

R

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

SUBJECT: REPLY TO A NOTICE OF VIOLATION

Enclosed is Combustion Engineering's Reply to Notice of Violation dated July 19, 1996, concerning NRC Inspection Report No. 70-36/96-202.

During the August 14, 1996 meeting with the NRC, Combustion Engineering described an action plan addressing the NRC findings of this inspection as well as findings from our self assessment and corrective action program. The Criticality Safety Program Update (CSPU), described to the NRC on August 14 is designed to enhance the Criticality Safety Program and addresses corrective steps to avoid future violations in this area. During the meeting CE presented a comprehensive and measurable program which takes into account recognized industry standards and will formalize and enhance our criticality safety program. The CSPU plan and schedule will be submitted to the NRC by September 23, 1996. This reply to Notice Of Violation is being submitted per the schedule agreed upon during the August 14, 1996 meeting.

We will be glad to discuss any questions you have concerning our response. If you have any questions or need further information, please contact me or Mr. R. W. Sharkey of my staff at (314) 937-4691.

Very truly yours,

COMBUSTION ENGINEERING, INC.

Bruce J Kaiser

Bruce Kaiser
Vice President, Fuel Operations

cc: Elizabeth Q. Ten Eyck, Director
Division of Fuel Cycle Safety
and Safeguards, NMSS

NEOX 1/

Bill Beech, Regional Administrator
Region III

[redacted]

RA96/484

ABB CENO Fuel Operations

L-110

Bruce J. Kaiser
Vice President, Fuel Operations
Combustion Engineering, Inc.

3300 State Road P
PO Box 107
Hematite, MO 63047

Telephone (314) 937-4691 X324
Fax (314) 937-7955
Cellular (314) 805-3144

Enclosure to RA96/484
September 13, 1996

REPLY TO NOTICE OF VIOLATION
INSPECTION REPORT 70-36/96-202

Response to Violation No. 96-201-01

Violation:

Section 2.6 of the approved Application states, in part, that "Regulatory Compliance authorization must be obtained for every change involving nuclear safety or radiological safety. Regulatory Compliance reviews shall be documented except for minor changes within existing safety parameters. The Regulatory Compliance Manager shall grant approval only when: (a) A nuclear criticality safety evaluation has been performed based on the criteria and standards of the [license]... and be in sufficient detail to allow subsequent review; and (b) The criticality safety evaluation...includes verification of each of the following- 1) assumptions, 2) correct application of criteria of Chapter 4, 3) completeness and accuracy of the evaluation, and 4) compliance with the double contingency criteria."

Contrary to the above, as of May 24, 1996, no documented nuclear criticality safety evaluation was performed for the 1996 Oxide Conversion Process Modifications.

Response:

1. **Reason for the violation:** Failure to document the criticality safety evaluations for all of the 1996 oxide conversion facility modifications prior to startup occurred because of an oversight by the Criticality Specialist and a poor change management process. Change management is currently conducted in accordance with three procedures: 1) NIS 210, "Review of Process and Equipment/Facility Changes"; 2) QCP 502.4, "Change Control Management" and 3) NIS 216, " Hazard Evaluation".

   CE had met with the NRC licensing Branch on November 7, 1995 to describe the oxide plant changes and on December 15, 1995 submitted a license amendment which was approved on January 31, 1996. The license submittal changed the criticality safety basis of the R-3 reactor from geometry to moderation control. A revised validated computer code calculation was not considered necessary by the Criticality Specialist as one had previously been performed for R-3 in an overfilled condition of the upper 12 inch diameter section, which is the same diameter as the new R-3 reactor. Also, the diameter of the new R-2 reactor was decreased and the physical arrangement of the equipment was altered, reducing interaction. The sum total of the changes reduced the value of k_{eff} for both normal and accident conditions. The Senior Consultant, as the second reviewer, concurred with this evaluation.

On February 8, 1996 an Integrated Safety Analysis for the changes to the oxide conversion plant was completed in accordance with procedure NIS 216. On March 14, 1996 a change management package was completed per QCP 502.4 which included sign off by the Criticality Specialist since there were no unresolved criticality safety questions. On March 16, 1996 the conversion process was restarted.

However, CE did not document the evaluation of the changes per procedure NIS 210 until May 18, 1996. The process was restarted without completion of all required documentation because of the lack of integration between the three change management procedures.

2. **Corrective steps that have been taken and the results achieved:** The Process and Equipment Change Proposal Review per NIS 210 was completed on May 18, 1996, and it documented there had been no outstanding criticality safety issues associated with the changes.

3. **Corrective steps taken to avoid future violations:** The change management process will be strengthened by integrating the review process for changes and formalizing the required documentation for criticality safety evaluations. The explicit license required reviews will be added as a checklist to the change procedure to help prevent future oversight. This change was discussed during the August 14 meeting with the NRC and will be complete by December 31, 1996.

4. **When full compliance will be achieved:** Documentation of the criticality safety evaluation of the 1996 Oxide Conversion Process Modifications was completed on May 18, 1996.

Response to Violation No. 96-201-02

Violation:

Section 2.6 of the approved Application states, in part, that "Prior to the start of a new activity affecting nuclear materials, approved procedures are available. A review procedure has been established for changes in processes, equipment and/or facilities prior to implementation."

Section 4.1.4 of the approved Application states, in part, that "All operations involving the handling and storage of SNM shall be performed according to written procedures... Procedures which include criticality safety controls specify the inspection requirements, calibration requirements, or other requirements appropriate for maintaining the criticality controls."

Contrary to the above, as of May 24, 1996, the licensee had not established a review procedure to assure that changes in processes, equipment, and/or facilities were reviewed to identify changes in procedures needed for criticality controls. Specifically, no change review procedure requirement had been established to develop or revise inspection requirements, calibration requirements, or other requirements appropriate for maintaining the criticality controls.

Response:

1. **Reason for the violation:** The change management procedure did not include the requirement to evaluate inspection requirements, calibration requirements, or other requirements appropriate for maintaining criticality controls for new or changed systems because it was assumed the criticality specialist would know that he had to review this aspect of procedures and incorporate these requirements as needed.

2. **Corrective steps that have been taken and the results achieved:** Procedure QCP 502.4, "Change Control Management," has been updated to include a requirement that inspection requirements, calibration requirements, or other requirements appropriate for maintaining criticality controls are considered as part of the change management process.

3. **Corrective steps taken to avoid future violations:** The change described above is expected to prevent future violations of this requirement.

4. **When full compliance will be achieved:** We believe that our change control procedures are currently in full compliance concerning this item.

Response to Violation No. 96-201-05

Violation:

Section 4.1.6, of the approved Application, states "Mass-limited containers employed in the handling or storage of SNM shall be labeled as to their contents. If SNM is in the container, the amount, enrichment and type shall be indicated; if empty, the container shall be so labeled or placed in a designated area for empty containers. Uncovered empty containers do not require an empty sign. Empty containers shall not be intermixed with loaded containers unless all containers are located within designated storage locations, rings, etc."

Contrary to the above, on May 20, 1996, the licensee failed to post mass-limited containers employed in the handling and storage of SNM, or ensure that each container of licensed material bared an appropriate label, as evidenced by:

a. Ten of thirteen 2.5 Ton UF_6 Cylinders were not marked empty or stored in a posted area.

b. Four 7A containers were not in a designated area or marked "empty."

c. An unfavorable geometry portable HEPA filtration system located adjacent to the erbia pellet grinder was in use and not identified and labeled.

d. Several B-25 boxes containing radioactive materials were not properly identified as containing radioactive material, nor were they labeled properly regarding content, enrichment and quantity.

e. The inventory card on one B-25 container indicated the box exceeded posted array limits for individual boxes (700 grams). Further investigation indicated that the inventory values on the card were incorrect (625 grams) and that the actual inventory was even greater than 900 grams of U-235.

Response:

1. **Reason for the violation:**

a) The UF_6 cylinders were recently returned from a vendor after cleaning for recertification and they were placed in an area which was not designated for empty containers. While there, the cylinders were labeled empty. It is believed the empty labels were lost through exposure to the weather.

b) The four empty 7A source containers lost their empty labels though weathering. These containers are not used for SNM.

c) The portable HEPA filtration system was not posted due to an oversight by the criticality safety staff.

d) The B-25 containers were not labeled when filled due to inadequate procedures or had lost their labels due to effects of the weather. These B-25s contain contaminated scrap, shop trash, dirt, and debris. Site clean-up activities have also generated a number of containers of low activity and low concentration waste.

e) This B-25 was loaded in accordance with a Special Evaluation Traveler (SET) which permitted loading of greater than 700 grams ^{235}U. A one-foot separation was to be maintained from other SNM. It was in a roped and posted area behind the ammonia tanks along with a similar B-25 containing the remainder of the residues listed on the SET. These B-25s were moved to an array of B-25s having a 700 gram ^{235}U limit, and the same one-foot separation requirement during the time that the exclusion area around the ammonia tanks was established.

An investigation was conducted for this event as well as the generic labeling, storage and posting concerns in the yard areas. The discrepancy in the inventory value on the card was due to transcription, mathematical and loading errors. The main factors contributing to the B-25 being misplaced were found to be: (1) not observing posted content limits in the movement of the containers (spacing requirements were observed), (2) labeling requirements not clearly defined by procedure, and (3) locations of items in the yard not recorded and tracked.

2. **Corrective steps that have been taken and the results achieved:** Labeling on the containers mentioned above (items a through c) was corrected during the inspection. The surface density loaded B-25 (item e) was unloaded, the contents verified, and repackaged into B-25s containing less than 700 grams ^{235}U which were returned to the posted area.

3. **Corrective steps taken to avoid future violations:** To eliminate the potential for confusion, B-25s will not be loaded in excess of 700 grams ^{235}U unless a dedicated storage area is established. New procedures will be generated or existing procedures revised for proper labeling, loading and storage of containers. The audit and inspection program will also be improved to specifically review labeling and posting. More weather resistant labels are now being used. Training for involved personnel will be completed by December 31, 1996. A labeling project for containers of low activity waste (item d) is presently underway and will be completed by October 31, 1996.

4. **When full compliance will be achieved:** We are presently in compliance with labeling requirements for items a, b, c, and e. Labeling of the low activity containers will be complete by October 31, 1996.