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UNITED STATES
NUCLEAR REGULATORY COMMISSION
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MAY 21 1993

MEMORANDUM FOR: Charles W. Emeigh, Acting Chief
Licensing Branch
Division of Fuel Cycle Safety
and Safeguards, NMSS

FROM: Richard Milstein
Licensing Section 2
Licensing Branch
Division of Fuel Cycle Safety
and Safeguards, NMSS

SUBJECT: CHANGES TO THE COMBUSTION ENGINEERING (CE) HEMATITE
FUNDAMENTAL NUCLEAR MATERIAL CONTROL (FNMC) PLAN

SUMMARY

As a result of the consolidation of Combustion Engineering's rod loading and assembly operations at the Hematite MO facility, changes to the Hematite FNMC Plan are required. An initial set of changes was formally submitted to the NRC on April 30, 1993, and addressed various aspects of the Plan including Management Structure, Measurement Systems, and Inventory. In addition, a description of the new operations, including the use of an automated storage/retrieval system for trays of uranium pellets, was provided.

Based on the information submitted on April 30, I developed a set of comments which were faxed to Harold Eskridge of Hematite on May 11, 1993. Most of the comments were non-controversial and simply asked for additional information and clarification. On May 19, 1993, following my visit to Hematite (see below), James Rode, Plant Manager, submitted a second set of Plan changes. The two submittals (April 30 and May 19, 1993) are, in my opinion, acceptable to NRC.

DETAILS

In order to see the new rod loading and assembly building and the new equipment that will be used, I visited the Hematite facility on May 17-19, 1993. During the visit, I spent time with Hal Eskridge, CE Hematite, and Bob Sheeran, CE Windsor, discussing my comments on the proposed changes to the FNMC Plan. The two issues of most concern to the licensee were the inventorying of fuel rod boxes and of pellets in the Kardex system.

Kardex: The licensee has agreed to randomly select pellet pans from the Kardex storage system for reweighing. The number of items selected will be based on a sampling plan recommended in NUREG-1065. The licensee will use a "T-test" to compare the mean weight data and, if there is no statistically significant difference at the .05 level, the weights of all pans on the inventory list will be accepted. This approach is somewhat different from that recommended in NUREG-1065 (which uses an item-by-item comparison) but, according to Mike Kelly, NRC, should provide roughly equivalent assurance.

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In my observation of the Kardex system, I noted that access to the nuclear material is strictly controlled. There are two locked doors that must be opened to surreptitiously remove the material. Otherwise, the only access to the material is through the use of a dedicated computer terminal or control panels on the front of the Kardex units. Currently, the control panels, which are to be used only in abnormal situations, have plastic plates screwed on to them to prevent their use. According to CE personnel, there is a plan to protect the control panels within a locked enclosure. If that is done, consideration could be given to a simplification of the inventory procedure. Since, the computer keeps track of pans that have been accessed since their initial storage, only those pans that have been accessed might be considered subject to reweighing. The others would be, in effect, "sealed" within the Kardex system.

Fuel Rod Boxes: The licensee initially proposed to randomly select 6 rods from a fuel rod box (maximum capacity of 300 rods) and verify that they appear on the inventory list. NUREG-1065 recommends a 100% verification of the presence of all items. However, several licensees do not meet this criteria. Instead, they use a combination of random sampling from the fuel rod box and a complete count of the items in the box. I proposed, and the licensee agreed, that a complete count of the items in the box be performed and that 5% of the rods be randomly selected for verification.



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~~Original~~ Signed By:

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