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May 19, 1999

U. S. Nuclear Regulatory Commission  
801 Warrenville Road  
Lisle, Illinois 60532-4351

**SUBJECT:** Results of Combustion Engineering's evaluation of certain activities described in NRC letter dated April 12, 1999, reference tracking number 99-A-0029

**Enclosure:** Results of independent evaluation

Dear Mr. Clayton:

Combustion Engineering Inc. (CE) has conducted an independent evaluation of activities as described in the subject letter. This evaluation was performed by an individual from our Connecticut office and whose reporting chain is independent of fuel operations. This evaluation was performed under the direction of the Vice President and General Counsel for Nuclear Power. The evaluation included direct observation of the facility operations and interviews of approximately fourteen individuals. Those interviewed included managers, supervisors, technicians and operators.

Results of CE's evaluation are provided in the enclosure.

We will be glad to discuss any questions you may have concerning this evaluation. If you have any questions or need further information, please contact me at (314) 937-4691.

Sincerely,

COMBUSTION ENGINEERING, INC.

Gilles Page  
Vice President, Fuel Operations

LL-3

ABB Combustion Engineering Nuclear Power

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Combustion Engineering, Inc.

3300 State Road P  
Festus, MO 63028

Telephone (314) 937-4691  
(314) 296-5640  
Fax (314) 937-7955

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Enclosure

## **Results of independent evaluation of details**

### **Detail 1**

*"Plant staff might have taken lab crucibles home from the plant. The plant staff would clean up the crucibles and take them (the crucibles) home"*

#### **Results of CE evaluation of detail 1.**

Based on our independent review, we have not identified any instance where crucibles were taken home from the plant or any reason to expect that they would be. The laboratory crucibles are manufactured from the precious metal platinum and are typical laboratory equipment. One of the desirable properties of the platinum crucible is the relative ease of cleaning which includes the removal of residual radioactivity. Occasionally the crucibles need to be reformed because of distortion. When crucibles require reforming they are cleaned, surveyed to assure they meet license release limits for contamination and sent by common carrier to be recycled

In November 1998, six crucibles were reported missing from the laboratory. The unauthorized removal from the laboratory was discussed with the entire plant staff on all three shifts. During these meetings the prompt return of the crucibles was requested. The following day when the crucibles were not returned and the results of an exhaustive search did not turn up the crucibles an independent investigator was tasked with investigating their disappearance. During the investigation an individual who had earlier directly denied removing the crucibles admitted to being responsible for the missing crucibles. This individual entered the facility early one morning and returned five of the six crucibles. He stated that he was not responsible for the sixth crucible. CE did not recover this sixth crucible. The individual also claims that the crucibles were not removed from the site and the reason for removing the crucibles was to test our security system. Following the investigation of the missing crucible, the individual, who was a health physics technician, was terminated for the unauthorized removal of the crucibles. Subsequent to his termination, the individual has filed a complaint with the Department of Labor for "Unlawful Discharge in Retaliation for Whistleblowing".

### **Detail 2**

*"The decontamination area has contaminated trash in the clean trash area and this contaminated trash was not being surveyed prior to disposal to the dump."*

#### **Results of CE evaluation of detail 2**

CE has reviewed this detail and can not substantiate the claim. The decontamination area (an area within the contamination control area) is used for processing items brought into the contamination controlled area. In this area, items that can be decontaminated are cleaned and surveyed for residual radioactivity. Items that can not be readily decontaminated in the Hematite facility are packaged for either further processing by a licensed waste processor or disposed of as radioactive waste at a licensed disposal facility. Following decontamination items are placed on a clean plastic surface and surveyed for residual contamination by a health physics technician and when verified to meet release criteria are disposed of in the dumpster. Items are free released only when the items meet the release criteria specified by the SNM-33 license and by procedure.

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During NRC inspection 99-002 the week of April 26, 1999, the NRC inspector requested an impromptu contamination survey in one of the clean trash dumpsters. As expected no contamination was found.

### **Detail 3**

*The laundry facility is in the clean area of the plant. Dirty laundry was surveyed prior to washing and identified as contaminated and then was again surveyed after washing. It was still as radiologically hot as it was before washing -- one time they replaced all the coveralls but that didn't last long.*

### **Results of CE evaluation of detail 3**

The laundry facility for washing plant clothing is in the clear area of building 240 and has been for more than twenty years. Routine contamination surveys are performed consistent with license and procedural requirements in this and adjacent areas to ensure contamination control practices are effective.

The laundry process primarily removes loose uranium from the material, however some residual uranium remains in the fabric weave and is detectable using radiation survey instruments. Informational type radiation surveys have been performed prior to washing laundry and after washing. Results have indicated that fixed contamination is not readily removed by the washing process. Therefore survey results prior to washing and after washing may have been equivalent. Because uranium is an alpha emitter, its hazard is associated with the intake of loose contamination and not from external radiation. For this reason, cleaned laundry is not required to be surveyed following washing.

Occasionally protective clothing is replaced and there have been times when a significant fraction of the clothing population has been replaced. Protective clothing is routinely replaced for many reasons and includes residual contamination based on observation and clothing wear and tear. The replacement is typically on an as needed basis. Over the past several years disposable aprons and gauntlets are typically used during jobs that are likely to spread significant contamination to the protective clothing.

**Detail 4**

*People eat, drink, and smoke on the contaminated side. This practice was against company policy.*

**Results of CE evaluation of detail 4**

While not prohibited by regulation or license, operations policy does restrict eating, drinking and smoking in the contamination controlled areas of the plant with the following exceptions. Employees are allowed to chew gum, use cough drops or candy providing that they are put in mouth prior to entering the contamination control area. There are also water drinking fountains within the contamination control area for plant use. Routine training and testing is provided delineating this policy.

On occasion drinking containers have been found on the contamination control side of the change line. This is a violation of policy and if caught the individual is disciplined. Similarly smoking has occurred on the contamination control side of the change line in the change room. Prior to the NRC's April 12<sup>th</sup> letter CE had increased supervisory oversight in the change rooms. On May 3, 1999 one individual was suspended after being observed with a lit cigarette in the change room. CE will continue to exercise more supervisory oversight in the change rooms and appropriately deal with any infractions of policy.