



UNITED STATES
NUCLEAR REGULATORY COMMISSION
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AEOD/N208

MEMORANDUM FOR: File

THROUGH: Kathleen M. Black
Office for Analysis and Evaluation
of Operational Data

FROM: Samuel L. Pettijohn
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SUBJECT: POTENTIALLY LEAKING PLUTONIUM-BERYLLIUM NEUTRON SOURCES

This is an internal, pre-decisional document not necessarily representing a position of AEOD or NRC.

Background

On March 15, 1982, DOE mailed a notice (Enclosure 1) to all holders of plutonium-beryllium sources acquired from the AEC. The notice suggested that all such sources be inspected to assure that the end caps were welded in place since a source was discovered with an unwelded end cap that had come loose. AEOD and NMSS were on the distribution list for the DOE letter.

State Programs (Enclosure 2) wrote to DOE asking for a list of all holders of the sources, and suggesting that the DOE letter did not adequately stress the need for inspection of the sources by "licensed" personnel.

DOE (Enclosure 3) replied to the State Programs letter, providing a list of recipients and stating that the contents of the letter had been cleared with NMSS.

I. Actions By Other NRC Offices

A. Region I

As a result of the DOE letter to licensees (July 2, 1982 phone conversation with Ms. M. Campbell, Region I), RI is conducting a special inspection of licensees authorized to possess PuBe neutron sources. The inspection includes a visual inspection of PuBe sources, a source leak test, and a discussion with the licensee concerning additional licensee sponsored non-destructive testing by qualified personnel and the use of appropriate radiation safety precautions in such tests. Approximately half of the affected licensees had been inspected by July 1. No firm completion date for the inspections has been established. Several PuBe sources have been found to have some measurable removable contamination; however, the removable contamination level was less than the NRC regulatory limit of .05 microcuries.

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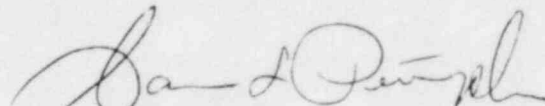
B. Region III

The Region III inspection schedule calls for an inspection of all academic licenses (holders of PuBe sources) to be completed by the end of the calendar year. Donald Sreniawski, Section Chief, Region III Material Inspection Section, indicated that special inspections of licensees would not be conducted. As of July 1, no defective PuBe sources have been found.

C. AEOD

To date, AEOD Nonreactor Assessment Staff action has been limited to phone inquiries with SP and Regions I and III. We share the concern expressed in SP's letter to DOE about the adequacy of the DOE letter to holders of PuBe sources; however, in view of actions taken or to be taken by Regions I and III and SP, we feel that the problem is being addressed (approximately 90% of the NRC licensees who are holders of PuBe sources reside in Regions I and III).

Additional AEOD Nonreactor Assessment Staff action concerning this matter will be considered after evaluation of actions taken by IE and/or NMSS.



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Enclosures:
As stated

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