

FEB 10 1997

Mr. James P. Lewis  
Director of Projects and Grants  
Columbia University  
500 West 120th Street  
398 Engineering Terrace  
Mail Code #2215  
New York, New York 10027

SUBJECT: INSPECTION NO. 070-03074/96-001

Dear Mr. Lewis:

This letter refers to your correspondence dated January 13, 1997, in response to our December 23, 1996 letter and to the telephone discussion on January 30, 1997 between John McFadden of my staff and George Hamawy of your staff.

Thank you for informing us of the corrective and preventive actions documented in your letter and the verbal clarification provided by Mr. Hamawy. These actions will be examined during a future inspection of your licensed program.

Your cooperation with us is appreciated.

Sincerely,

ORIGINAL SIGNED BY:

John D. Kinneman, Chief  
Nuclear Materials Safety Branch 2  
Division of Nuclear Materials Safety

Docket No. 070-03074  
License No. SNM-1995

cc:

George Hamawy, Radiation Safety Officer  
Loretta A. Greenholtz, Director of Environmental Health and Safety  
David Brenner, Ph.D., Chairman of Radiation Safety Committee  
State of New York  
City of New York, Radiation Safety Officer

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Mr. J.P. Lewis  
Columbia University

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Docket No. 070-03074  
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NAME	JMcFadden/jmp		JKineman				
DATE	02/10/97		02/17/97		02/ /97		02/ /97

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COLUMBIA UNIVERSITY  
IN THE CITY OF NEW YORK  
ENVIRONMENTAL AND OCCUPATIONAL HEALTH

January 13, 1997

U.S. Nuclear Regulatory Commission  
Attn.: Document Control Desk  
Washington, D.C. 20555  
Attn: John D. Kinneman, Chief

Docket No. 070-03074  
License No. SNM-1995

Dear Mr. Kinneman:

Thank you for your letter of December 23, 1996 regarding your inspection of our facility that was conducted on November 6, 1996. A license application for using radioactive material in international waters and Antarctica is being submitted in a separate correspondence.

In response to your Notice of Violation, we would like to address each of the two violations:

A) The Special Nuclear materials in our possession can be divided into two groups:

**1-Sealed Plutonium - Beryllium neutron Sources:**

In order for us to address properly the issue that you have raised regarding missing acquisition documents, we would like first to present the following facts:

Our current inventory of sealed Pu-Be neutron sources are:

<u>Amount</u>	<u>Location</u>	<u>R.I</u>
4 Ci	E.T. 173	Florakis
5 Ci	E.T. 173	Florakis
10 Ci	E.T. 173	Florakis

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JAN 23 1997

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1 Ci	E.T. 173	Florakis
1 Ci	E.T. 173	Florakis
1 Ci	E.T. 173	Florakis
1 Ci	E.T. 173	Florakis
1 Ci	E.T. 173	Florakis
1 Ci	E.T. 173	Florakis
2 Ci	Barnard /Alt808	Chapman
5 Ci	Pupin/602b	Blaer
0.125 Ci	Nevis	Marino

The total number of sealed plutonium sources in our possession is 12.

As our records indicated, all the sealed sources are inventoried and leak tested every 3 month as required. This task is performed by the Radiation Safety Office personnel. All records are being kept and were presented for your inspection during your recent visit to our facility.

The majority of these sealed sources was acquired by Columbia University in the 1960's, whereas several acquisition documents either never existed or were lost over the years. However, The Los Alamos Laboratory was contacted by us to register all our sealed neutron sources for a potential disposal of few of these sources. Serial numbers on each sealed source will be provided and will be matched with the Los Alamos registration information data base. All sealed sources will be registered for the ultimate disposal of some of the sources after the required waiting period.

## **2- Unsealed Special Nuclear Material:**

All other Special Nuclear Materials in our possession are kept in a locked safe in room 284C E.T. These items include powder, foils and precipitates of Pu-239, U-235 and U-233. These items have been in storage and were not used for many years. It is apparent that these articles were home-made and were used for research and development purposes during the early age of the atomic energy of the 1950's and 1960's.

Documents for the original acquisition of the Pu-239 from the United States Atomic Energy Commission as well as the original acquisition of the U-233 from Oak Ridge National Laboratory are available in our files. However, no documents were found for the U-235 acquisition.

As we have mentioned previously, these items were not of any benefit to us in recent past and we do not anticipate any use of them in the future. Therefore, the disposal of these items is a priority on our list of present tasks.

We are currently in contact with the Department of Energy to arrange for a possible return of these items to them. If this approach does not work, we will seek a possible commercial disposal alternative. Your office will be informed regarding any progress in this matter.

Regarding the issue of finding differences between the inventory records of October 25, 1994 and November 17, 1995 is due to the fact that the second inventory record was conducted by an outside contractor for a disposal cost estimation. The list was never intended to be used as an official inventory of materials in our possession.

As your inspectors determined in 1994 (See Docket No. 070-03074), the small amount of special nuclear materials in our possession is stored in envelopes, plastic bags and bottles, some of them with fading or illegible labels, and their contents and amounts are rough estimates at best. This fact might explain the reason for the discrepancies among the past official inventory lists.

The appropriate disposal of these unwanted small amount of Special Nuclear Material is the only way for putting an end to this matter that has cost us and you a great deal of aggravation.

All progress regarding the return of the special Nuclear materials to the Department of Energy and the classification of the Plutonium sealed sources with the Los Alamos Laboratory will be reported to you within the next 60 days.

#### **B) Refresher Radiation Safety Training:**

The occasional users of the sealed plutonium sources were identified as follows:

##### **Responsible Investigator**

Chapman (Barnard)

Blaer (Pupin)

##### **Supporting Staff**

O. Jebejian,

B. Ohagan, C. Finley

Florakis (Engineering Terrace)

Marino (Nevis)

Three of the above list of individuals have not used the sources for at least a year. All individuals will be offered a refresher radiation safety training session within the next 30 days. A refresher course will be offered to them annually thereafter.

We hope that our answers to your inquiry are sufficient. If you would like any further information or clarification, we will be happy to supply them.

Again we thank you for the information that you have supplied to us and the opportunity to meet with you and with Dr. John McFadden.

Sincerely,

*George Hamawy*

George Hamawy  
Radiation Safety Officer

cc: Dr. D. Brenner  
L. Greenholtz  
J. Lewis  
NRC - Region 1