

Control Number: INS-08-1118-833

December 1, 2008

Received by
EH&S

DEC 05 2008

FL Atlantic
University

Armando E. Zea
Radiation Safety Officer
FLORIDA ATLANTIC UNIVERSITY
Radiation Safety Office, EH&S
777 Glades Road, Building #69, Room 112
Boca Raton, FL 33431

RE: State of Florida Radioactive
Materials License Number 0734-4

Dear Mr. Zea:

On November 5, 6 and 7, 2008, members of our staff performed an inspection of the activities conducted under the above referenced radioactive materials license. This inspection revealed the following apparent violations of the state of Florida's "Control of Radiation Hazard Regulations," Chapter 64E-5, Florida Administrative Code (F.A.C.), and the terms and conditions of your radioactive materials license:

1. Subsection 64E-5.1310(4), F.A.C., specifies that a whole body film badge or TLD is required to be worn by any individual using or assisting in the use of unsealed sources of radioactive materials of any gamma-emitting isotope with a gamma ray energy greater than 50 kiloelectron volts or the use of any beta-emitting isotope with a maximum beta energy of 300 kiloelectron volts or more.

Subsection 64E-5.1310(5), F.A.C., specifies that an extremity film badge or TLD is required to be worn by any individual using or assisting in the use of unsealed sources of radioactive materials of 1,000 microcuries (37 MBq) or more of beta-emitting isotopes with a maximum beta energy of 1,000 kiloelectron volts or more in any month or by any individual who receives a dose of 40 millirem (400 μ Sv) or more on a whole body or TLD for 2 consecutive months.

During our inspection, it was determined that a whole body film badge or TLD and an extremity film badge or TLD were not worn by all individuals using or assisting in the use of unsealed sources of radioactive materials. A Scripps employee who regularly assisted in doing surveys, removing waste, and performing decontamination procedures was not issued whole body or extremity monitoring devices. Numerous personnel who were issued extremity monitoring devices were not issued whole body monitoring devices.

2. Subsection 64E-5.204(2), F.A.C., requires that licensed material be used in accordance with statements made in documents cited in Condition 28 of your license. The licensee's correspondence dated October 31, 2006, signed by Wayne A. Landowski, RSO, is listed in Condition 28. The correspondence included the revised Radiation Safety Manual. "Radioactive Waste Guidelines," on page 15 of the Manual states, "Laboratories are not allowed to dispose of any radioactive material either by drain or decay in storage. Waste

must always be placed in an approved container with secondary containment which are both provided by EH&S."

During our inspection, it was determined that radioactive material was disposed of by drain. A Principal Investigator disposed of his radioactive washes down a sink.

3. Subsection 64E-5.325(1), F.A.C., requires that the licensee shall ensure that each container of licensed material bears a durable, clearly visible label bearing the radiation symbol and the words "CAUTION, RADIOACTIVE MATERIAL" or "DANGER, RADIOACTIVE MATERIAL." The label shall also provide information, such as the radionuclides present, an estimate of the quantity of radioactivity, the date for which the activity is estimated, radiation levels, kinds of materials, and mass enrichment, to permit individuals handling or using the containers or working in the vicinity of the containers to take precautions to avoid or minimize exposures.

During our inspection, it was determined that labels on containers of licensed material did not state an estimate of the quantity of radioactivity or the date for which the activity is estimated. This was observed at the waste storage room of the Jupiter campus.

4. Subsection 64E-5.1319(1), F.A.C., states that unless otherwise specified in the license, the licensee shall perform the following: (*partial excerpt*)
 - (a) A survey with a radiation survey instrument shall be completed at the end of each day of use or receipt of all areas where radioactive materials are used or received;
 - (b) A weekly survey with a radiation survey instrument shall be completed of all areas where radioactive materials or radioactive waste are stored; and
 - (c) A wipe survey shall be completed for removable contamination weekly during weeks of use of all areas where radioactive materials or waste are routinely used or stored.

Subsection 64E-5.1319(3), F.A.C., requires that the licensee shall retain a record of each survey required by this section for 3 years.

During our inspection, it was determined that that records were not maintained or available for inspection to demonstrate that area and wipe surveys were performed as required. A lab at the Fort Pierce facility was missing weekly survey records for several weeks. Daily surveys were documented by some labs and not by others.

5. Subsection 64E-5.204(2), F.A.C., requires that licensed material be used in accordance with statements made in documents cited in Condition 28 of your license. The licensee's correspondence dated October 31, 2006, signed by Wayne A. Landowski, RSO, is listed in Condition 28. The correspondence included the revised Radiation Safety Manual. On page 5 of the Manual, under "Posting Requirements" the Manual states, "Each room approved for the use or storage of radioactive material must be posted at a minimum with a *CAUTION RADIOACTIVE MATERIAL* label and form DH-1081, *Notice to Employees*."

During our inspection, it was determined that lab room SC-232, which contained radioactive material, was not posted.

However, during the inspection the room was posted. Therefore, the violation has been deemed corrected. No response to this item is necessary.

6. Section 64E-5.1316, F.A.C., requires that the licensee shall assure that all individuals who handle unsealed sources of radioactive materials comply with the following, unless otherwise specified in the license: (*partial excerpt*)

- (1) Laboratory coats or other protective clothing are worn at all times in areas where radioactive materials are used.

During our inspection, it was determined that all individuals who handle unsealed sources of radioactive materials did not wear lab coats.

7. Paragraph 64E-5.209(2)(c), F.A.C., specifies that an application for a Type A specific license of broad scope will be approved if: (*partial excerpt*)

- (c) The applicant has established administrative controls and provisions relating to organization and management, procedures, record keeping, material control and accounting, and management review that are necessary to assure safe operations, including:

3. The establishment of appropriate administrative procedures to assure:
a. Control of procurement and use of radioactive material.

During our inspection, it was determined that the licensee has not established adequate administrative controls to assure the control of procurement and use of radioactive material. Specifically, the database used to track inventory of unsealed sources of radioactive materials generated erroneous data. Additionally, there was no means to track the material by building and campus. Inconsistent radiation units were used.

You are required to submit to this bureau, within 30 days of the date of this letter, a written reply to the alleged violations cited above. Your response must address at least the following:

1. Admission or denial of the alleged violations;
2. Reasons for the violations if admitted, and if denied the reasons why;
3. Corrective steps that have been taken and the results achieved, where applicable;
4. Corrective steps that will be taken to avoid further violations; and
5. The date when full compliance with Chapter 64E-5, F.A.C., and your license will be achieved.

In accordance with subsection 64E-5.901(4), F.A.C., you are required to post this document within five working days after receipt. In addition, you are required to post your reply within five working days after dispatch. Such documents shall remain posted for a minimum of five working days or until actions correcting the violations have been completed, whichever is later.

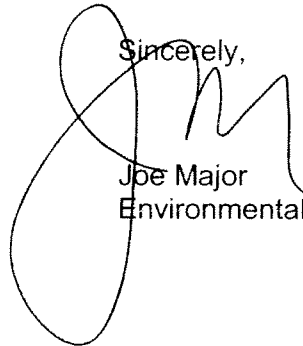
During our inspection, the following recommendations were made:

1. It was observed that phosphorus 32 waste was held in metal containers. While the amount of waste was small, a better work practice would be to hold the waste in acrylic or plexiglass containers.
2. Empty packages were observed with the Radioactive Yellow II label still attached. It has been an issue at other universities that these packages are disposed of with the labels still affixed. Procedures should more clearly indicate who is responsible for removing or defacing labels.

3. It was mentioned during the exit interview that the radiation safety training provided by the university only focuses on what is required, and not on how to do it. The training should also include showing the students how to properly perform a survey, fill out paperwork, and practice radiation safety in the lab.

To identify your reply, be sure to include the license number 0734-4 and the control number INS-08-1118-833. Please call us at (850) 245-4545 if you have any questions. Additional bureau resources including regulatory guides, forms, regulations and information notices may be accessed on our Web site at www.doh.state.fl.us/environment/radiation.

Sincerely,



Joe Major
Environmental Specialist

cc: Lantana Field Office