



DEPARTMENT OF VETERANS AFFAIRS  
Edward Hines, Jr. Hospital  
Hines IL 60141

12-01087-07 Jones  
030-01391  
12-01087-09  
030-09222

April 22, 1994

In Reply Refer To: 578/001A-S

Chief, Nuclear Materials Inspection Section 2  
U.S.N.R.C. Region III  
801 Warrenville Road  
Lisle, Illinois 60532-4351

Dear Mr. Grobe:

Subj: Reply to NOTICE OF VIOLATION

This response refers to your letter dated March 23, 1994. We shall first address the violations.

**VIOLATION #1:** Contrary to the above, as of June 16, 1993, the licensee did not make necessary surveys to assure compliance with the above referenced statements. Specifically, the licensee performed weekly surveys of removable contamination in the compactor room and counted the wipes on an instrument (NaI detector) which was incapable of measuring the radiation from some of the radioactive materials, specifically, pure beta emitting radionuclides brought into the room for compaction and storage incident to disposal.

**RESPONSE TO #1:** We must assume that you have evaluated the memorandum which your inspectors were handed before they exited (enclosure A). The root cause is our differing viewpoints as established in the above named memorandum. The "compactor room" was surveyed on February 25, 1994 for beta emitters by liquid scintillation and produced negative results. We will continue to test the room by wipe testing for beta emitters and using liquid scintillation. We were in compliance on February 25, 1994.

**VIOLATION #2a:** Contrary to the above, on the day of the inspection, several individuals (students trainees) were observed to have failed to check their hands after performing a procedure using radiopharmaceuticals and before leaving the area.

**RESPONSE TO #2a:** Based on observations made by your inspectors, we have determined that it is necessary to counsel the student group and reinforce their training, which included personal surveys. To further assure appropriate behavior, all students' names have been listed and the students will be instructed to document their surveys.

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**VIOLATION #2b:** Contrary to the above, the licensee since April 1992, has failed to provide additional training to fire fighters in hazards and methods associated with high activity sealed source fires.

**RESPONSE TO #2b:** The root cause is the lack of documentation in the fire fighters training curriculum. Steps have been taken to add statements in their training. The curriculum change will remain in place to avoid future reoccurrence. We will reach full compliance at the next training session for the fire fighters. Until then, we shall rely on J.L. Shepard's statements that the shielding will withstand 1200 to 1400 degrees for 30 minutes, the source is certified to 800 degrees, and trained radiation workers are on duty 24 hours a day in the area where the blood irradiator is stored and used.

**VIOLATION #3:** Contrary to the above, on February 10, 1994, the licensee transferred 75.6 millicuries of mixed radioactive waste to ADCO Inc., and prior to the transfer, the licensee did not verify by an acceptable method that the transferee's license authorized receipt of this material.

**RESPONSE TO #3:** We have done business with ADCO Inc. for many years and have found them to be reputable, and reliable. They evidenced their licensure to us on several occasions. We had a copy of their license in our files the date of the inspection. It is regrettable that we could not evidence that it was a "current" copy. We immediately requested and received a FAX copy of ADCO's current license. We have requested that the ADCO Inc. driver bring with him a current copy of their license. This is to be done for each waste pick-up.

We are submitting our position on your areas of concern.

**CONCERN #1:** The contents (flammable material) in the room housing the Cesium-137 blood irradiator, and the absence of any fire protection systems constitute an area of concern due to the potential for a serious fire that could result in damage to the shielding integrity of the irradiator resulting in potential for exposure to radiation from the large sources of radioactive material contained in the irradiator.

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RESPONSE TO #1: A copy of a directive (memorandum) relating to this issue was given to your inspectors prior to their exit (enclosure B). The use of the room for additional storage was terminated immediately and all observed flammable material was removed from the room. The room only contains equipment purchased from J.L.Shepard and a stainless steel cart. We were in compliance on February 25, 1994.

CONCERN #2: The inspectors expressed concern that no measurements have been made to confirm that the unvented compactor is not producing airborne releases. The licensee is requested to provide an evaluation in accordance with 20.2501 and 20.1302 that provides assurance that insignificant quantities of radioactive material will be released into the room from the unvented and unfilled compactor.

RESPONSE TO #2: We wish to contest this issue. In our application for amendment for the use of the compactor, we made the statement that only paper, plastic, and glass are compacted. This eliminates gases (not present). No vials containing fluids or liquid scintillation fluid are compacted (not present). This excludes the possibility of mists, vapors and aerosols. No fumes are present because no fuming chemicals are present, and no chemical reactions occur in deforming paper, plastic, and glass. The only alternative remaining is dusts (particulate matter). The area is wipe tested weekly. This includes the compactor piston face and the floor. The results of the tests demonstrate to us that not significant quantities of radioactive material are released into the restricted area or beyond and into unrestricted areas.

CONCERN #3: The inspectors expressed concern that surveys of research laboratories do not always include the floors. The licensee is requested to demonstrate that more emphasis will be placed on performance based audits of research laboratories that stress proper survey techniques.

RESPONSE TO #3: Our training classes do prepare personnel to perform as radiation workers. This include the proper procedures for using surveys meters. The forms used for our "Internal Quarterly Facility Audit" contain a line for proficiency in the use of survey meters. We have in the past only used this item of the audit on a random sampling of employees working in the laboratory.


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During the next audit and thereafter, we will proficiency test individuals in the laboratory for the use of survey meters and act according to the results.

We thank you for your cooperation in this matter. Should you have any questions, please feel free to contact Lawrence F. Case, Hospital Radiation Safety Officer (HRSO) at (708) 343-7200, extension 1955.

Sincerely,



"FOR AND IN THE ABSENCE OF"

Joan E. Cummings, M.D.  
Director

Enclosures:

Department of  
Veterans Affairs

# Memorandum

Date February 25, 1994

From Hospital Radiation Safety Officer (001A-S)

Subj Status and Rationale of Room 1G-154

To Nuclear Regulatory Commission Representative

Waste placed in drums in the compactor room, 1G-154, consists of transparent plastic bags collected from laboratories of radioactive material using services by radiation safety personnel. Dry waste bags are examined at collection points to insure that only dry paper, dry plastic and glass sample tubes, gloves, and other dry plastic laboratory utensils are contained in the bags. Scintillation vial waste is similarly collected in bags, examined and doubled bagged. Bags are sealed closed and transported to 1G-154.

Waste characterization from each lab/clinic indicates that bulk of dry waste activity consists of gamma emitting isotopes with only limited quantities of beta emitting isotopes. The bulk of waste volume consists of dry RIA kit type sample tubes, gloves, and paper bench pads. Scintillation vial waste contains primarily H3, C14, and S35 in deregulated quantities.

If any contamination were to occur in transferring or compacting waste in this area, detectable quantities would be gamma emitting isotopes as indicators of surface contamination. Our judgement has been that contamination occurring in this area would be indicated by counting swipes in well type scintillation counter. The presence of detectable gamma contamination would trigger complete clean-up and decontamination of the area.

In order to insure that no beta emitting isotopes contamination could have independently occurred and not be detected by the gamma wipe indicator, swipes are being counted by liquid scintillation methods commencing February 25, 1994 as well as by NaI well scintillation counters.

Should you have any question, please feel free to contact me on extension 1955.

*Lawrence F. Case*  
Lawrence F. Case

Enclosure A

Department of  
Veterans Affairs

# Memorandum

Date February 25, 1994

From Hospital Radiation Safety Officer (001A-S)

Subject Use of Blood Irradiator Facility for Storage for Supplies

To Supervisor Blood Bank (113)  
Thru: Chief, Laboratory Service (113)

1. This is to confirm our telephone conversation at 10:00 a.m. on February 25, 1994.
2. You are aware of the statement made to you by the NRC inspector in his inspection of your area at approximately 9:00 a.m.
3. The use of the blood irradiator room as a storage facility was found to be unacceptable to the inspector. He explained the various possibilities relating to possible fire conditions in the area.
4. This is to confirm my directive to you that all stored material in the irradiator room is to be removed by 4:30 p.m. on this date and the room will not be used for the storage for anything other than the blood irradiator and its accessory equipment.
5. This is to confirm that you have agreed to accomplish this before the close of business February 25, 1994.
6. Thank you for your cooperation in this urgent matter, should you have any questions, please call me on extension 1955.

*Lawrence F. Case*  
Lawrence F. Case

cc: Chief, Laboratory Service

Enclosure 3