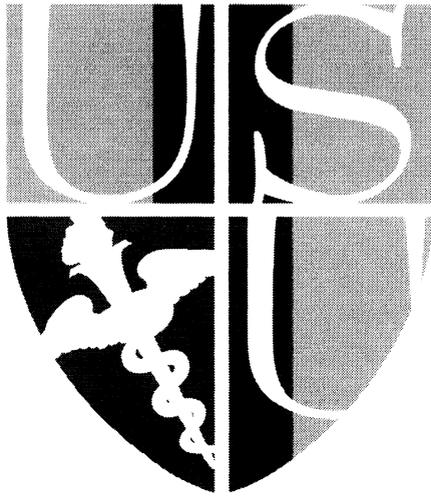


**USUHS  
INSTRUCTION  
5101**





# UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES



## SUBJECT: Response to Spills, Incidents, or Accidents Involving Radioactive Material

FEB -7 2005

### Instruction 5101

(EHS)

#### ABSTRACT

This Instruction provides information on policies in effect at the Uniformed Services University of the Health Sciences (USUHS) concerning the handling of spills, incidents, or accidents involving radioactive materials. The responsibilities of the USUHS Environmental Health and Occupational Safety Department (EHS), Radiation Safety Officer (RSO) and other individuals concerned are outlined. Other governing directives are cited within to indicate sources for more detailed guidance in this subject matter area.

**A. Reissuance and Purpose.** This Instruction:

1. Reissues USUHS Instruction 5101<sup>a</sup>.
2. Provides guidance and standard operating procedures for the USUHS to follow when responding to spills, incidents, or accidents within the USUHS involving radioactive materials.
3. Defines the USUHS capabilities to respond to outside incidents and accidents.

**B. References.** See *Enclosure 1*.

**C. Applicability.** This Instruction applies to all personnel who work within the USUHS campus and outlying buildings to include government employees, Uniformed Services members, USUHS volunteers,

intermediary employees (e.g., Henry M. Jackson Foundation employees), and contractors/contract employees.

**D. Background.**

1. This Instruction, 10 CFR, Parts 19<sup>b</sup>, 20<sup>c</sup>, 30<sup>d</sup>, and 35<sup>e</sup>, USNRC License No. 19-23344-01<sup>f</sup>, and USUHS Instruction 6402-M<sup>g</sup> mandate that radioactive material must be used in a safe and secure manner and be controlled at all times. Loss of control of radioactive material requires prompt actions in order to regain control and to minimize any adverse effects on personnel, the general public, and property.

2. The USUHS uses only small quantities of radioactive materials incidental to its research functions. The cumulative quantity is on the order of one tenth or less of that routinely used in

hospitals. Individual source activities are small and the types of radioisotopes are usually short lived and of low hazard potential. Loss of control of these types and potential quantities of radioactive material represents essentially no hazard to the staff of the USUHS. Regardless of the small hazard potential involved with the use of radioactive material at the USUHS, it is prudent to establish reasonable response criteria to address any loss of control of the material.

**E. Definitions.** *See Enclosure 2.*

**F. Policy.** It is USUHS policy to maintain control of radioactive materials at all times, regardless of the quantity or type of material. In the event of a spill, incident, or accident involving radioactive material, immediate action will be initiated by persons in the affected laboratory to correct the situation and minimize any possible effects. Additionally, EHS shall be expeditiously notified so they can provide additional guidance and corrective measures, as needed, to ensure compliance with applicable USUHS, DoD, and Federal requirements. When requested by outside agencies, the USUHS will respond to accidents involving radioactive material within its current resources and capabilities.

**G. Responsibilities.**

1. Laboratories using Radioactive Materials shall:

a. Maintain necessary materials to respond to and contain any credible spill, and shall maintain adequate instruction and training for personnel to respond to incidents or accidents. Immediately upon discovering a spill, the laboratory personnel shall follow the guidance

provided by this Instruction and, if necessary, contain the spill using available materials. General guidance in response to a spill is provided in Section XI of USUHS Instruction 6402-M<sup>e</sup>.

b. Immediately notify the Radiation Safety Division, EHS of any spill, incident, or accident. The Radiation Safety Division will provide necessary additional instructions, which are to be followed. The EHS shall make any necessary additional notifications, as required.

c. Ensure that all spill-incident, or accident-recoveries be accomplished under the guidance of the Radiation Safety Division, EHS.

2. The Radiation Safety Division, EHS shall:

a. Upon being notified of a spill, incident, or accident, immediately gather pertinent information concerning the situation (e.g., isotope involved, form, approximate activity, etc.). Radiation Safety personnel shall notify the RSO and respond to the spill site to oversee the clean-up.

b. After spill clean-up is complete, or an incident or accident is brought under control, make necessary surveys and measurements to verify appropriate and effective mitigation of the spill.

c. Monitor all clean-up materials and waste for contamination. Radiation Safety personnel shall ensure that used materials are placed in the appropriate radioactive waste containers.

d. Monitor all personnel involved for contamination and/or radiation exposure as the situation requires, and any necessary follow up action that needs to be accomplished (e.g., personnel decontamination, bioassay, dose estimates, etc.).

3. The Radiation Safety Officer, Radiation Safety Division, EHS shall:

a. Upon notification, take charge of the response efforts to contain, control, and recover from any spill, incident, or accident involving radioactive materials.

b. Dispatch Radiation Safety personnel as needed, and request the help of other USUHS personnel based on need and the severity of the situation. In radioactive accident/incident situations, all personnel involved in the response should follow the direction and orders of the RSO. In the event of a multiple hazard situation (e.g., fire and radioactive contamination), the most urgent or threatening hazard will be addressed first. Coordinated control by all on-scene commanders will be necessary in multiple threat situations to minimize damage, personnel hazard, and clean-up efforts.

c. Direct, either personally or by delegation to another on-site person, the clean-up and final evaluation of the area involved to document appropriate and effective mitigation of the spill and the release of the area for use. In the event that the area cannot be returned to pre-spill conditions, the RSO shall develop and institute a plan to either return the area to an approved working condition, or to provide necessary future controls of the area to prevent unauthorized use.

4. The Industrial Hygiene, Safety and Environmental Division, EHS shall, under the direction of the Division Chief, provide necessary additional support, as directed by the Director, EHS.

5. The Director, EHS shall:

a. Be kept informed of the situation at all times and will keep the

Chain of Command (President, USUHS through the Vice President, Teaching and Research Support (TRS); Dean, School of Medicine (DEN); Dean, Graduate School of Nursing (GSN); Vice President, Administration and Management (VAM); and, the Office of University Affairs) briefed accordingly.

b. Based on the requests of the RSO, enlist the support of various departments and divisions of the USUHS to assist in bringing the situation under control.

c. Based on the recommendations of the RSO and, if possible, after consultation with the Vice President, TRS; the DEN; the President, USUHS; and the OUA, make necessary notifications to local, DoD, State, and Federal Agencies as required or deemed prudent.

d. Consult with and provide necessary information to the OUA, which is responsible for dealing with the media in the event of such coverage.

6. Administrative and Academic Departments/Divisions of the USUHS shall stand ready to provide necessary assistance in containing, controlling, and recovering from a radiation spill, incident, or accident, as requested by the Director, EHS through the President, USUHS, the Vice President, TRS and the DEN. Coordination and cooperation are essential to minimize the loss of property and potential harm to personnel, the public, and the environment.

#### **H. Reporting Requirement/Public Information Releases.**

1. All radiation incidents, accidents, and spills occurring in laboratory space, no matter how small, will be reported to the EHS.

2. In the event of significant radiation incidents or accidents that cause the loss of property, the loss of use of spaces for greater than 24 hours, exposure to any member of the general public or staff member greater than the allowed limits, a lost source, or the likely generation of significant interest by the public and media, a report will be made to the USNRC, DoD, or other local and federal agencies, as considered appropriate by the RSO.

3. Public information releases will be in accordance with local policy and the Federal Radiological Emergency Response Plan, as applicable. All

information releases in reference to radiological situations on the USUHS complex will be coordinated with the RSO. Public information releases and media inquiries will be coordinated through the Director, OUA.

**I. Support to Outside Agencies.** The radiation safety capabilities of the USUHS are limited to those associated with medical research and educational facilities and, therefore, are not extensive. However, in the event that a request for support is received, the USUHS will respond with personnel and equipment which can be spared, or to the extent directed, by DoD.



Larry W. Laughlin, M.D., Ph.D.  
Interim President

Enclosures:

1. References
2. Definitions

**REFERENCES**

- (a) USUHS Instruction 5101, "Response to Spills, Incidents, or Accidents Involving Radioactive Material," dated February 29, 1996 (hereby cancelled)
- (b) 10 Code of Federal Regulations, Part 19, "Notices, Instructions, and Reports to Workers: Inspections and Investigations," dated January 1, 2004
- (c) 10 Code of Federal Regulations, Part 20, "Standards for Protection against Radiation," dated January 1, 2004
- (d) 10 Code of Federal Regulations, Part 30, "Rules of General Applicability to Domestic Licensing of Byproduct Material," dated January 1, 2004
- (e) 10 Code of Federal Regulations, Part 35, "Medical Use of Byproduct Material," dated July 7, 2003
- (f) United States Nuclear Regulatory Commission License No. 19-23344-01, dated August 3, 2004
- (g) USUHS 6402-M, "Radiation Safety Manual," dated July 25, 1994

## DEFINITIONS

1. Accident. A situation where the control of radioactive material or a radiation emitting source is lost and property is adversely affected, personnel are or could be exposed to significant radiation exposure or contamination with radioactive material, or a radiation field is generated in excess of allowable limits.
2. Incident. A situation where due to the loss of control of radioactive material or a radiation emitting source, there is a significant increase in risk to loss of property or increased possibility of exposure to personnel from contamination or exposure.
3. Spill. A situation where control of radioactive material is lost, contaminating property and/or personnel. This situation has the potential to spread if not quickly identified and contained. A spill may be classified as an incident or an accident, depending on its effect on the environment or personnel. Spills with essentially no adverse effect are classified as incidents while those that cause significant contamination or exposure to personnel are classified as accidents.