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UNC CHARLOTTE

Environmental Health and Safety

**RADIATION INCIDENT RESPONSE AND
EMERGENCY PROCEDURES**

UNC CHARLOTTE
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General Information

The UNC Charlotte Risk Management, Safety, and Security Emergency Manual provides guidance to protect University personnel and property in emergency situations. This section describes incidents and emergency conditions that may involve radioactive materials or radiation exposure, and provides specific response procedures to cope with incidents and emergencies in a safe, orderly and efficient manner, protecting the personnel and facilities at UNC Charlotte.

Radiation emergencies, as is applicable for UNC Charlotte, are incidents which involve actual or suspected exposure to uncontrolled sources of radioactivity that cause or threaten to cause an external dose in excess of five (5) rem to the whole body, or gross radioactive personnel contamination resulting in ingestion, inhalation, injection, or skin absorption of radioactive material leading to comparable risk.

The following may constitute an incident or emergency:

- A. Spills of Radioactive Liquids and Solids
- B. Personnel injuries that may involve radioactive material contamination of the wound
- C. High or potentially high radiation exposure to an employee or member of the general public
- D. Fires or floods which threaten to release radioactive material to the environment or which threaten to expose emergency response personnel
- E. Additional situations deemed pertinent by the Radiation Safety Committee or Radiation Safety Officer

Spills of Radioactive Liquids and Solids

Report any leak, spill, or release of radioactive material to the responsible authorized user immediately. If the authorized user is unavailable, call the Emergency Contacts

Radiation Safety Officer: Office: 704-687-1111

Campus Police: Campus phone dial 911 – Non-campus phone dial 704-687-2200

Only the authorized user, trained radiation workers in the lab or the RSO can complete leak/spill cleanups. All persons working on a leak/spill cleanup must be fully aware of the hazards posed by the particular radioactive isotope involved – consult the Nuclide Safety Data Sheet for the isotope involved in the spill for hazard/risk control requirements.

Prevent spread of contamination from accident site. Use absorbent paper to stop or confine the spread of contaminants if it can be done safely. Decontaminate the area, starting from the perimeter and cleaning toward the center of the spill (use mild cleaning agents such as White Vinegar, Formula 409, Fantastik or Windex). Avoid any physical contact with contaminants.

Clear all unnecessary persons from spill area.

Use nearest telephone for communications and avoid spreading the contamination to otherwise non-impacted areas.

Assemble all personnel in nearby safe area until radiation surveys and personnel decontamination are completed by authorized lab personnel and the EHS Office.

Close doors and windows and turn off air handling equipment that could lead to the spread of airborne contamination throughout the building. Keep fume hoods operating within the laboratory.

Control access to the impacted area and place warning signs indicating radiation and/or contamination hazards.

Decontamination of rooms and building shall be done under supervision of the EHS Office. See the "Responding to Radioactive Material Spills in Laboratories" flowchart for more information.

The EHS Office will assess the emergency event and contact the N.C. Radiation Protection Section as required by the reporting thresholds, if exceeded, as detailed in 10A NCAC 15.

Personnel injuries that may involve radioactive material contamination of the wound

Report any injury that may involve radioactive material contamination of the wound to the responsible authorized user immediately. If the authorized user is unavailable, call the Emergency Contacts:

Radiation Safety Officer: Office: 704-687-1111

Campus Police: Campus phone dial 911 – Non-campus phone dial 704-687-2200

Life-saving or first aid measures should take precedence over radiation hazards and decontamination efforts.

In the case of contaminated wounds, rinse with running water and soap. (Do not scrub contaminated skin). Cover with sterile dressing and seek medical attention at once

Please provide the following information to medical care provider:

Radionuclide involved;

Amount of radioactive material involved (in μCi or mCi); and

The chemical or physical form.

Provide Nuclide Safety Data Sheet where feasible.

The EHS Office will assess the emergency event and contact the N.C. Radiation Protection Section as required by the reporting thresholds, if exceeded, as detailed in 10A NCAC 15.

Minor Fires in area where radioactive materials or potential contamination are present

Notify all persons present to vacate the area and have one individual immediately call

Campus Police: Campus phone dial 911 – Non-campus phone dial 704-687-2200

to report fire as directed in the University Emergency Plan. Indicate potential for radiation contamination.

If qualified, immediately attempt to put out the fire by approved methods (i.e., fire extinguisher) if other fire hazards or radiation hazards are not present.

Once the fire is out, isolate the area to prevent the spread of possible radiation contamination. Contact the Radiation Safety Officer: Office: 704-687-1111

Survey all persons involved in combating the fire for possible radiation contamination.

Decontaminate personnel by removing contaminated clothing and flushing contaminated skin with lukewarm water, then washing with a mild soap.

In consultation with the RSO, determine a plan of decontamination and the types of protective devices and survey equipment that will be necessary to decontaminate the area.

Allow no one to return to work in the area unless approved by the RSO.

Cooperate with RSO and RSO staff (e.g., investigation of root cause, provision of bioassay samples if licensed material may have been ingested, inhaled, or absorbed through the skin).

Follow the instructions of the RSO and RSO staff (e.g., decontamination techniques, surveys, provision of bioassay samples, requested documentation).

Other Emergencies

Report any emergency incident that may involve radioactive material to the responsible authorized user immediately. If the authorized user is unavailable, call the Emergency Contacts:

Radiation Safety Officer: Office: 704-687-1111

Campus Police: Campus phone dial 911 – Non-campus phone dial 704-687-2200

In consultation with the RSO, determine a plan of decontamination and the types of protective devices and survey equipment that will be necessary to decontaminate the area.

The EHS Office will assess the emergency event and contact the N.C. Radiation Protection Section as required by the reporting thresholds, if exceeded, as detailed in 10A NCAC 15.

Follow the instructions of the RSO and RSO staff (e.g., decontamination techniques, surveys, provision of bioassay samples, requested documentation).

EMERGENCY CONTACTS:

Radiation Safety Officer:

Office: 704-687-1111

Cell: 704-466-9274

Campus Police:

911 or 704-687-2200