

# Emergency Procedures

## Minor spills

- Less than 100 microcuries
  - ❖ Notify everyone in the room
  - ❖ Clear the room of all unnecessary personnel
  - ❖ Confine spill
    - Liquids: Drop absorbent paper or chemical e.g., calcium bentonite)
    - Solids: Dampen thoroughly, taking care not to spread contamination. Use water unless a chemical reaction would release air contaminants.
    - Use NO Count to clean up spill area.
  - ❖ Notify lab supervisor
  - ❖ Notify Public Safety at 3-2712/4000

# Emergency Procedures

## Major spills

- More than 100 microcuries outside a hood
  - ❖ Evacuate the room shutting doors on way out
  - ❖ Notify lab supervisor
  - ❖ Notify RSO. Phone: 273-3445 or cell: 230-6315
  - ❖ Post the laboratory door with a sign: KEEP OUT
  - ❖ Assemble those persons present in the lab near the entrance to the lab
  - ❖ Wait for assistance.

# Regulations, Security & Records

## Academic License

The University of Northern Iowa's Academic Iowa Radioactive Materials License is provided by the Iowa Department of Public Health.

Any action that jeopardizes this license, jeopardizes the permission of all individuals to use sources of ionizing radiation at UNI.

**Contact the RSO at 273-3445 to view other radiation notices, regulations, licenses, and license conditions.**

# Regulations, Security & Records

## ✿ Inspections and Audits

- Iowa Department of Public Health Inspections
  - ❖ IDPH performs unannounced annual inspections to make sure that State regulations and University license conditions and policies are being met.
- Radiation Safety Officer Audits
  - ❖ UNI's RSO periodically audits radiation user compliance.
  - ❖ Exposure rates and contamination levels are checked to ensure they are kept as low as is reasonably achievable.

# Regulations, Security & Records

You have the right to report any safety concerns or violations.

## ✿ Reporting Concerns or Violations

- If you have a concern or suspect that a radiation safety violation has occurred please contact your supervisor.
- If adequate corrective action is not taken, notify Gordon Krueger, UNI Radiation Safety Officer, at 273-3445.
- If the violation is still not resolved, contact IDPH at 515-281-3478 or 515-281-3231.
- IDPH regulations prohibit discrimination against individuals who report radiation safety concerns or violations.

# Regulations, Security & Records

## Notice to Employees

NOTICE TO EMPLOYEES STANDARDS FOR PROTECTION AGAINST RADIATION; NOTICES, INSTRUCTIONS AND REPORTS TO WORKERS; INSPECTIONS; EMPLOYEE PROTECTION		IOWA DEPARTMENT OF PUBLIC HEALTH (IDPH) BUREAU OF RADIOLOGICAL HEALTH (BRH) RADIOACTIVE MATERIALS PROGRAM	
<p>The IDPH has promulgated the Radiation Machines and Radioactive Materials Rules to set standards for your protection against radiation hazards and has established procedures for you, the employee, to report any suspected items of noncompliance in an Iowa licensed or registered facility.</p> <p><b>WHAT RESPONSIBILITY DOES MY EMPLOYER HAVE?</b></p> <p>Any company that conducts activities licensed or registered by the IDPH must comply with the IDPH requirements. If a company violates the IDPH requirements, it can be fined or have its license modified, suspended, or revoked.</p> <p>Your employer must tell you which IDPH radiation requirements apply to your work and must post IDPH Notices of Violation Involving radiological work conditions.</p> <p><b>WHAT IS MY RESPONSIBILITY?</b></p> <p>For your own protection and the protection of your co-workers, you should know how the IDPH requirements relate to your work and should obey them. If you observe violations of the requirements or have a safety concern, you should report them.</p> <p><b>WHAT IF I CAUSE A VIOLATION?</b></p> <p>If you are engaged in deliberate misconduct that may cause a violation of the IDPH requirements, or would have caused a violation if it had not been detected, or deliberately provided inaccurate or incomplete information to either the IDPH or to your employer, you may be subject to enforcement action. If you report such a violation, the IDPH will consider the circumstances surrounding your reporting in determining the appropriate enforcement action, if any.</p> <p><b>HOW DO I REPORT VIOLATIONS AND SAFETY CONCERNS?</b></p> <p>If you believe that violations of IDPH rules or the terms of the license have occurred, or if you have a safety concern, you should report them immediately to your supervisor. You may report violations or safety concerns directly to the IDPH. However, the IDPH encourages you to raise your concerns with the licensee or registrant because they have primary responsibility and are most able to ensure safe operation of regulated facilities. If you choose to report your concern directly to the IDPH, you may report concerns to an IDPH Inspector, call,</p>	<p>or write the IDPH at the address indicated below. If you send your concern in writing, it will assist the IDPH in protecting your identity if you clearly state that you have a safety concern or that you are submitting an allegation.</p> <p><b>WHAT IF I WORK WITH RADIOACTIVE MATERIAL OR IN THE VICINITY OF A RADIOACTIVE SOURCE?</b></p> <p>If you work with radioactive materials or near a radiation source, the amount of radiation exposure that you are permitted to receive is limited by IDPH regulations. The limits on your exposure are contained in Iowa Department of Public Health Radiation Machines and Radioactive Materials Rules 641 Chapter 40. While these are the maximum allowable limits, your employer should also keep your radiation exposure "as low as reasonably achievable" (ALARA).</p> <p><b>MAY I GET A RECORD OF MY RADIATION EXPOSURE?</b></p> <p>Yes. Your employer is required to advise you of your dose annually if you are exposed to radiation for which monitoring was required by the IDPH. In addition, you may request a written report of your exposure when you leave your job.</p> <p><b>HOW ARE VIOLATIONS OF IDPH REQUIREMENTS IDENTIFIED?</b></p> <p>The IDPH conducts regular inspections at licensed and registered facilities to assure compliance with IDPH requirements. In addition, your employer and site contractors conduct their own inspections to assure compliance.</p> <p><b>MAY I TALK WITH AN IDPH INSPECTOR?</b></p> <p>Yes. The IDPH inspectors want to talk to you if you are worried about radiation safety or have other safety concerns about regulated activities, such as the quality of construction or operations at your facility. Your employer may not prevent you from talking with an inspector. The IDPH will make all reasonable efforts to protect your identity where appropriate and possible.</p> <p><b>MAY I REQUEST AN INSPECTION?</b></p> <p>Yes. If you believe that your employer has not corrected violations involving radiological working conditions, you may request an inspection. Your request should be addressed to the</p>	<p>IDPH and must describe the alleged violation in detail. You or your representative must sign it.</p> <p><b>CAN I BE FIRED FOR RAISING A SAFETY CONCERN?</b></p> <p>Federal law prohibits an employer from firing or otherwise discriminating against you for bringing safety concerns to the attention of your employer or the IDPH. You may not be fired or discriminated against because you:</p> <ul style="list-style-type: none"> <li>• Ask the IDPH to enforce its rules against your employer;</li> <li>• Refuse to engage in activities which violate IDPH requirements;</li> <li>• Provide information or are about to provide information to the IDPH or your employer about violations of requirements of safety concerns;</li> <li>• Are about to ask for, testify at, help, or take part in an IDPH, state or federal proceeding.</li> </ul> <p><b>WHAT FORMS OF DISCRIMINATION ARE PROHIBITED?</b></p> <p>It is unlawful for an employer to fire you or discriminate against you with respect to pay, benefits, or working conditions because you help the IDPH or raise a safety issue or otherwise engage in protected activities. Violations of Section 211 of the Energy Reorganization Act (ERA) of 1974 include actions such as harassment, blacklisting, and intimidation by employers of (i) employees who bring safety concerns directly to their employers or to the IDPH; (ii) employees who have refused to engage in an unlawful practice, provided that the employee has identified the illegality to the employer; (iii) employees who have testified or are about to testify in any federal or state proceeding regarding any provision (or proposed provision) of the ERA or the Atomic Energy Act (AEA) of 1954; (iv) employees who have commenced or caused to be commenced a proceeding for the administration or enforcement of any requirement imposed under the ERA or AEA or who have, or are about to, testify, assist, or participate in such a proceeding.</p> <p><b>HOW DO I FILE A DISCRIMINATION COMPLAINT?</b></p> <p>If you believe that you have been discriminated against for bringing violations or safety concerns to the IDPH or your employer, you may file a complaint with the IDPH or U.S. Department of Labor (DOL). If you desire a personal remedy, you must file a complaint with the DOL pursuant to Section 211 of the ERA. Your complaint to the DOL must describe in detail the basis</p>	<p>for your belief that the employer discriminated against you on the basis of your protected activity, and it must be filed in writing either in person or by mail within 180 days of the discriminatory occurrence. Additional information is available at the DOL web site at <a href="http://www.ehpa.gov">www.ehpa.gov</a>. Filing an allegation, complaint, or request for action with the IDPH does not extend the requirements to file a complaint with the DOL within 180 days. You must file the complaint with the DOL. To do so, you may contact the</p> <p>Department of Labor Two Penning Square Building 2300 Main Street, Suite 1010 Kansas City, MO 64108-2416 (816) 253-8745</p> <p><b>WHAT CAN THE DEPARTMENT OF LABOR DO?</b></p> <p>If your complaint involves a violation of Section 211 of the ERA by your employer, it is the DOL, NOT the IDPH, that provides the process for obtaining a personal remedy. The DOL will notify your employer that a complaint has been filed and will investigate your complaint.</p> <p>If the DOL finds that your employer has unlawfully discriminated against you, it may order that you be reinstated, receive back pay, or be compensated for any injury suffered as a result of the discrimination and be paid attorney's fees and costs.</p> <p>Relief will not be awarded to employees who engage in deliberate violations of the Energy Reorganization Act or the Atomic Energy Act.</p> <p><b>WHAT WILL THE IDPH DO?</b></p> <p>The IDPH will evaluate each allegation of harassment, intimidation, or discrimination. Based on the evaluation, the IDPH will decide whether to pursue the matter further through an investigation. The IDPH may not pursue an investigation to the point that a conclusion can be made as to whether the harassment, intimidation, or discrimination actually occurred. However, if you have filed a complaint with the DOL, the IDPH will monitor the results of the DOL investigation.</p> <p>If the IDPH or the DOL finds that unlawful discrimination has occurred, the IDPH may issue a Notice of Violation to your employer, impose a fine, or suspend, modify, or revoke your employer's IDPH license.</p>
<p>If you wish to contact the person responsible for radiation safety at your place of employment, you may call or write</p>		<p>If you wish to contact the Iowa Department of Public Health, you may write or call</p> <p>BUREAU OF RADIOLOGICAL HEALTH LUCAS STATE OFFICE BUILDING DES MOINES, IA 50319 (515) 281-3478</p> <p>AFTER HOURS AND HOLIDAYS: (515) 323-4360</p>	

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# Regulations, Security & Records

## \* Amending Authorized Use

- File an amendment to UNI's radiation license with IDPH whenever changes occur in an existing user's authorization.
- To maintain compliance, authorized users must file an amendment form with the Radiation Safety Officer (273-3445).
- Examples of changes include:
  - ❖ Adding or deleting personnel
  - ❖ Changes in use areas
  - ❖ Changes in shipping or on-hand limits
  - ❖ Changes in radionuclide type, chemical form, and/or methodology

Click here to access amendment forms

# Regulations, Security & Records

❖ **Possession, use and disposal is strict and may I say again STRICT regulatory controls.**

- Governed primarily by the Nuclear Regulatory Commission.
- Iowa an agreement state in which the Iowa Department of Regulatory Commission or IDPH assumes control of the radioactive materials within their borders
  - ❖ Issues licenses
    - Broadsopes
      - Facility sets limits
    - Research and Development, Laboratory, and Industrial Use of Small Quantities of By-Product Material Regulatory Guide
      - Facility limited to a specific amount of material
    - Radiation Producing Devices
  - ❖ Perform inspection of Radiation Programs across the state.



# Regulations, Security & Records

## ✿ Requires Radiation Safety Manual

- Establishes Regulatory Hierarchy
  - ❖ Comprised of Radiation Safety Committee, Radiation Safety Officer and Authorized User
- Establishes Radiation Controls
  - ❖ Purchase, usage, storage, and disposal of radiation material
  - ❖ Ensure Radiation Producing devices compliant with current regulations and training requirements.
- Establishes ALARA Program

# Regulations, Security & Records

## ✿ Requires Radiation Safety Manual (cont'd)

- Training Program
  - ❖ Radiation Safety Officer, Authorized Users and researchers and employees
- Establishes Assessment Program
  - ❖ Requires annual audit of all Laboratories where radiation source materials are used

# Regulations, Security & Records

## Radioactive Material Inventory Management

- Keep proper documentation of radioactive usage to:
  - ❖ Ensure the security of materials
  - ❖ Monitor material usage
  - ❖ Maintain accurate waste disposal records
- Make sure records are updated and available for audits when necessary.
- Record activity in units of millicuries.

# Regulations, Security & Records

## **Radioactive Material Inventory Management**

- X-ray Equipment and Scanning Electron Microscopes
  - ❖ Permitted through the state
  - ❖ Required to be inspected annually
  - ❖ Records of Inspections must be kept for at least 3 years

## **Sealed Sources**

- Checked every 6 months for leakage
- Must be less than 0.005  $\mu\text{Ci}$  of removable activity

## **Exempt Source Material**

- IAC 641 Chapter 39 Appendix B

# Regulations, Security & Records

## Security of Radioactive Materials

All unused radioactive materials should be located in a lockable device such as a cabinet or refrigerator.

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Lock the room where radioactive materials are stored when unattended to prevent unauthorized access or removal.

# Regulations, Security & Records

## RAM Security -Lab Visitors-

- ❁ **Know the purpose of anyone who enters your lab area or visits.**
  - Identify all visitors.
  - Determine why they are visiting your lab.
  - Inform visitors of all lab hazards and any special requirements for your lab area.

# Regulations, Security & Records

## Records

- Inventories, after use surveys and drain disposals collected every 6 months.
- Leak tests and assessment results

## Security

- All unused radioactive material should be in lockable refrigerator or cabinet
- Lock room where radioactive materials are stored when unattended.
- Unsecured material must never be left unattended