

Appendix 18

Individuals Who Have Occasion to Enter Restricted Area

IMPORTANT NOTICE - RADIATION SAFETY

All individuals who have any occasion to enter a restricted area and/or designated areas requiring training must be instructed in radiation hazards. The instruction will be the responsibility of the licensee. A list of these individuals who have been instructed will be sent (annually) to the Radiation Safety Office.

Special attention should be given to the custodial workers concerning cleaning and waste collection. In addition, clerical personnel should be instructed with an emphasis on the receipt of packaged radioactive material, radiation precautions in restricted areas, visitors and emergency procedures.

Each licensee must sign this form which will be placed in the respective radioactive material license folder for reference. Please make a copy for yourself and send signed original to Risk Management and Safety. **This form needs to be signed and sent to RMS once only.**

Thank you for your help in this matter, and if you have any questions, please do not hesitate to contact me.

I have read the above rule and will insure that the intent is complied with.

Licensee Name _____
Please Print

Licensee Name _____
Signature

Date: _____

Appendix 18

Occasional Visitor Training

There are many people on campus who work near or in areas where radioactive material is used or stored without directly working with it themselves. This may include administrative/office personnel, facilities management employees, students, custodians, and others. The Radiation Safety Office within the Department of Risk Management and Safety has developed this guide to provide basic radiation safety information for ancillary or support personnel who occasionally work in designated areas posted with the radiation symbol. Ancillary personnel are not allowed to use or handle radioactive materials. All radioactive materials and radiation-producing devices must be labeled with the universal trefoil symbol for radiation. Only personnel properly trained by the Radiation Safety Office may handle materials or devices labeled with the radiation symbol.

Radiation is the emission of energy from matter. Some atoms are unstable and decay by emitting energy. These unstable atoms are referred to as *radioactive*, and the energy they emit is called *radiation*. The radiation can be in the form of tiny subatomic particles, or it can be bundles of energy called photons. There are two types of radiation: ionizing and non-ionizing radiation. Ionizing radiation emitted by radioactive material has enough energy to knock electrons out of atoms. It is because of this ionization process that radioactive material can sometimes pose a risk to health. Ionizing radiation such as alpha, beta, and gamma has sufficient energy to cause chemical changes to biological molecules. A large exposure to ionizing radiation may damage cells or tissues. Sources on campus of ionizing radiation include radioactive materials and radiation-generating machines.

Non-ionizing radiation has less energy, and is not capable of knocking electrons from atoms, but can only excite electrons to higher energies. Non-ionizing radiation includes visible light, ultraviolet light, infrared light, television waves, radio waves, radar waves, and microwaves. It may deposit thermal (heat) energy in the body, or have no effect at all.

Radiation has always been present on earth and is part of our natural environment. Background radiation is the term used for the natural radiation that surrounds us. Sources of natural radiation include cosmic rays, terrestrial radiation from the ground (including radon), the air we breathe, foods we eat, wood and concrete in building materials, and the human body itself. Aside from being a valuable research tool, radiation is also used in the medical field to diagnose and treat many illnesses. Radioactive material is also found in consumer products such as smoke detectors, tobacco, cosmetics and self-illuminating devices, including some exit signs, gun sites, and watches.

A radiation dose is an amount of ionizing radiation that is absorbed by your body. The rem or millirem (1/1000th of a rem) is a unit for measuring biological damage from radiation. State and federal regulations limit the radiation dose to a member of the general public or a non-radiation worker to 100 millirem (mrem) per year (from

university operations). In comparison, the average background radiation dose to a person living in the U.S. is about 360 mrem per year. A typical chest or dental X-ray exam delivers a dose of 10 mrem to the patient.

There are many radiation laboratories at OU that use radiation for research. They are identified by the radiation symbol on the doors or storage cabinets. Working in rooms in which radioactive material is used or stored is very safe as long as simple precautions are taken and common sense is used. Before performing any tasks in these areas, ancillary personnel should contact the laboratory personnel or contact the Radiation Safety Office. There are minimal risks associated with using ionizing radiation. These risks are no greater than other common activities such as using power tools, climbing a ladder, or using electricity. By adhering to the following basic rules, you can insure your safety while working in areas posted with the radiation symbol. 1. Follow all posted instructions carefully. 2. Announce yourself and state your purpose when entering a lab. 3. If no one is present in the lab and you think a situation exists that requires contacting the principle investigator or lab supervisor, call the numbers inside the lab or look up their number from the university phone book. After hours contact should be directed to the OU police at 593-1911. 4. Ask the laboratory personnel to identify areas that should be avoided. 5. Do not handle anything posted with the radiation symbol and do not empty radioactive waste containers. 6. No food or beverages can be kept or consumed in areas posted for radioactive material use or storage; personnel may not bring food/drinks into these areas, nor may food containers, wrappers, etc., be disposed of inside radioactive material restricted area waste containers. In addition, other activities that involve hand-to-mouth motion (application of cosmetics, gum chewing, etc.) are prohibited. Do not place items such as notebooks, pens, tools, etc. in posted radioactive material use areas. The items could become contaminated if you do. 7. The Radiation Safety Office must check all equipment and furniture from labs for contamination before being discarded, moved to another lab, or transferred elsewhere. 8. Call the Radiation Safety Office at 740-593-1661 if you have any questions or concerns.

What to do if...

- **There is a personal injury or other major emergency (such as a fire):** follow the normal emergency procedures and disregard any concern about radiation exposure. The potential of receiving any measurable radiation dose is minimal. After the emergency is over, evacuate the area and contact the Radiation Safety Office.
- **A spill occurs in a radiation laboratory or involves radioactive material:** do not attempt to clean it up yourself. Secure the area, notify the laboratory supervisor and any personnel in adjacent labs, and contact the Radiation Safety Office or OU police, if after hours.
- **Equipment needs repair:** never attempt to repair equipment with a radiation symbol unless it has been surveyed by the Radiation Safety Office and declared free of radioactive contamination.
- **Facilities need repair:** All structures potentially contaminated with radioactive material are labeled with the radiation symbol. Notify the Radiation Safety Office before repairing drains, air ducts, or other structures labeled with the radiation symbol.

All individuals who have any occasion to enter a designated area as requiring training must be instructed in radiation hazards (Occasional Visitor Orientation or OVO). The instruction will be the responsibility of the licensee (authorized user).

A list of these individuals who have been instructed by you will be sent annually to the Radiation Safety Office. A request for these completed forms occurs approximately every April. Special attention should be given to the custodial workers concerning cleaning and waste collection. In addition, clerical personnel should be instructed with an emphasis on the receipt of packaged radioactive material, radiation precautions in restricted areas, visitors, and emergency procedures. **However, the OVO applies to any visitor or person, not directly employed by a posted laboratory, who may enter a designated area requiring such training.**

Please refer to the form that each licensee must sign after completing, found in the Radiation Safety Handbook, Appendix 18. Make a copy for yourself and send the signed original to Risk Management & Safety, University Service Center, Room 142.

10/09

I:\Radiation Safety\License Renewal 2010\RadManAppendix18.doc