Every two years, the Ohio Department of Health (ODH) performs a routine inspection of the University of Cincinnati Radiation Control and Safety Program (RCSP). The last inspection took place in the spring of 2011 and the next inspection is expected during the spring of 2013. During the last inspection, the inspectors visited research labs, irradiators and medical areas. No violations or areas-of-concern were observed by the inspectors.

Most Authorized Users (AU) and radiation workers will eventually be involved in an inspection by the ODH. An ODH inspection may be stressful to some individuals, especially if they are not or don’t feel prepared. Inspections should not be a source of stress and should be seen as an essential part of the regulatory process. The ODH is required to perform a firsthand review of the condition of the radioactive material license at the University of Cincinnati (UC). The primary goal of a routine ODH inspection is to ensure that UC complies with their legal responsibilities. The best way to prepare for an inspection is to maintain a good radiation safety program year around. This role includes performing audits and surveys to ensure laboratories are using RAM safely, while indirectly helping to prepare workers for ODH inspections.

Maintaining a good radiation safety program year around can be accomplished by knowing and understanding the policies in the Authorized User Manual (AU), keeping complete and accessible records, and supporting a well trained staff. Document required information and maintain records in an organized file. Keep the laboratory clean and orderly at all times. Keep up a focus on professional development. Finally, always look for ways to improve. If you follow the preceding suggestions, you should never be concerned about an ODH inspection.

Do not alter laboratory practices during an ODH inspection. Individuals should work with confidence, and not fear or be intimidated by an inspector. Remember that the inspector’s goal is not to uncover as many non-compliances as they can during their walk-through of the lab; their goal is to review the performance of the RCSP and to identify actual or potential regulatory concerns. Laboratory personnel should be courteous and professional with the inspector. The best results are obtained when
H O W  T O  D O  W E L L  O N  A N  I N S P E C T I O N  ( C O N T )

friendly and sincere answers are given. Provide all re-
quested records promptly. Maintain a positive attitude
and give honest answers to questions. Don’t hesitate to
say, “I don’t know, but I will find out” or “I don’t under-
stand the question.” Write down any deficiencies noted
during the inspection and contact the RSOf for assis-
tance in correcting those deficiencies.
The following are examples of questions you may be
asked by an ODH inspector.

- What radionuclides do you work with?
- What training have you had?
- How did you get your RAM?
- Where is your RAM stock stored?
- What do you do with your empty RAM box?
- How much RAM do you use at a time?
- How do you keep track of your RAM inventory?
- What do you do prior to working with RAM?
- How do you survey your work area?

Inspections are a valuable resource to evaluate the ef-
fec tiveness of the RCSP. The RCSP has a reputation for
being an excellent radiation safety program. With the
assistance of you and the ODH, this reputation can and
will continue.

W O R K I N G  W I T H  R A D I O A C T I V E  M A T E R I A L
( R A M )  W H I L E  P R E G N A N T

The embryo/fetus is known to be more sensitive to
radiation than an adult, therefore there are lower
dose recommendations for the embryo/fetus. The
Ohio Department of Health (ODH) and the U.S. Nu-
clear Regulatory Commission (USNRC) have estab-
lished a dose limit to the embryo/fetus of a declared
pregnancy of 0.5 rem (500 mrem).
The word “declared” is important because the lower
limit cannot be applied unless the mother declares
her pregnancy in writing to the licensee. For the Uni-
versity of Cincinnati Radiation Control and Safety
Program (RCSP), this means providing the written
declaration to the Radiation Safety Officer (RSO).
Under the RCSP, a worker declares a pregnancy by
completing a Declaration of Pregnancy (RS Form 33)
and submits to the RSO. In accordance with regula-
tory requirements, the form includes spaces for the
name of individual, the date of declaration and the
estimated conception date. Upon receipt of the form,
the RSO reviews the worker’s exposure history with
emphasis on the last several months. If requested or
deemed necessary, the RSO will meet with the
worker to discuss concerns, safety precautions and
procedures for the worker to keep the dose to the
embryo/fetus dose as low as reasonable achievable
(ALARA). Throughout the pregnancy, the RSO moni-
tors the worker’s and the worker’s embryo/fetus’
dose and will contact the individual, as necessary.
Like all radiation workers, a declared pregnant
worker should employ safety measures to keep ra-
diation doses ALARA. Precautions to help reduce the
pregnant worker’s and their embryo/fetus’ exposure
to radiation include reducing the amount of time
spent in RAM areas, maximizing distance from all
sources of radiation, and using appropriate shield-
ing. In addition, workers need to utilize good radia-
tion safety practices and ensure no RAM are in-
gested or absorbed into the body. Good radiation
safety practices include:

- Don’t eat, drink, store food/drink or apply cos-
metics in a RAM use room.
- Use disposable gloves and change them regu-
larly when handling RAM.
WORKING WITH RADIOACTIVE MATERIAL (RAM) WHILE PREGNANT (CONT)

- Wash hands often and monitor them regularly.
- Wear lab coats when working with or near RAM.
- Use a fume hood when handling volatile radionuclides.

The Radiation Safety Office (RSOf) staff strongly encourages not only the pregnant worker but, all who work with RAM to be well educated on the subject of pregnancy and radiation. All workers are responsible for assuring their safety and the safety of their co-workers. Being knowledgeable of the risks and appropriate precautions helps workers meet this responsibility. Additional information can be obtained from the RSOf, the USNRC and ODH websites, or from the website www.radiationanswers.org.

CONSIDERATIONS WHEN RELOCATING TO A NEW ROOM

Movement from one radioactive material (RAM)-Use room to another requires planning. The planning must assure sufficient time to handle unexpected problems and for the Authorized User’s (AU) authorization to be amended accordingly.

Notify the Radiation Safety Office (RSOf) as soon as you become aware of a pending move and keep the RSOf informed of any tentative move date(s). The University of Cincinnati Radiation Control and Safety Program (RSCP) requires all paperwork associated with a move be submitted at least 30 days in advance. The RSOf processes room commissioning and decommissioning requests quickly, and frequently the process can be completed in less than two weeks. However, if significant problems arise, the process may take longer than 30 days. Examples of significant problems include extensive decontamination needed of equipment and/or areas within the room, and fixed contamination detected in a room.

To decommission a room, complete and document a final survey of the room, and submit the survey documentation, along with an appropriately completed Decommissioning of RAM-Use Room (RS Form 24).

Section 5.2, “Decommissioning an Area of Use” in the Radiation Protection Procedures Manual (AU Manual) outlines the AU’s responsibilities when a RAM-Use room will be decommissioned. At the minimum, the AU must ensure that all their radioactive materials are removed from the room, and submit copies of surveys and perform any needed decontamination.

A consideration that an AU must take into account when moving is that at least one RAM-Use room must be commissioned for the authorization to remain active. At a minimum, an authorization shall include at least one room for RAM experiments, one room for RAM storage and one room for counting. These three ‘uses’ may all be included under one room, or may be separated into different rooms. To add a new room, complete all applicable sections (1,5 & 11) of an Application for Non-Human Use of Radioactive Materials (RS Form 6.0) and submit to the RSOf. In section 11, both the applicant’s signature, and Department or Division Chair’s signature are required. Rooms must be commissioned prior to moving RAM and/or RAM-labeled equipment into the room.

Once the RSOf receives the RS Form 6.0, the RSOf staff will perform a commissioning review and survey of the room. Once the room is commissioned, the AU will be notified so that RAM and/or equipment may be moved into the room.

The following instruction should serve as a useful tool for an AU relocating to a new room.

At least two weeks prior to the desired date of the move.

- Suspend RAM use in all rooms involved with the move.
- Package all RAM that can be disposed of as RAM waste and submit a waste pickup request to the RSOf (call 558-4110 or submit online at www.uc.edu/radsafety).
- Contact the RSOf regarding any RAM that will remain on the AU’s inventory, and ensure arrangements are made for temporary storage and security of RAM.
- Submit an RS Form 24 to request decommissioning of each room being vacated.
- Request the RSOf conduct a special survey of all potentially contaminated equipment.
CONSIDERATIONS WHEN RELOCATING TO A NEW ROOM (CONT)

- Submit an RS Form 6.0, to request commissioning of new rooms, if applicable.
RSOf staff will make arrangements with the AU/AU staff to perform a pre-move survey and inspection of all rooms the AU will be vacating and moving into. When arrangements are made, the AU/AU staff needs to inform the RSOf of any RAM-Use area that will not be vacated, but the movers will need to access. If during the RSOf performed survey removable contamination is detected, the AU is responsible for decontamination. All removable contamination must be decontaminated prior to the movers accessing the room. (Reminder: Do not remove radiation warning signs on the doors to the lab/room. Only the RSOf staff may remove radiation warning signs on the lab/room doors.)
Prior to “move day”, the RSOf will perform a commissioning survey of any new rooms. For new buildings, the “Caution Radioactive Materials” sign may not be posted until just prior to the “move day”.
Once RAM-Use rooms are vacated, RSOf staff will perform an extensive final decommissioning survey. The room is considered decommissioned after confirmation of no radioactive contamination and no RAM is present in the room. Once confirmed, the RSOf staff will remove the “Caution Radioactive Materials” signs and any remaining RCSP postings. (Reminder: The AU is not released of their responsibility for the RAM-Use room until such time that the AU receives a decommissioning letter from the RSOf notifying them the decommissioning is complete.)
Involving the RSOf as soon as possible will ensure rooms are successfully commissioned and decommissioned in an efficient manner. The RSOf is always available to provide guidance.

RAM SECURITY

Ensuring radioactive material (RAM) security continues to be a significant concern. Always be aware of who is in your laboratory and confront any unfamiliar individuals. Keep RAM locked up or under direct observation at all times to prevent an unauthorized person from removing the RAM or gaining access to the RAM. The last person leaving a RAM-use laboratory should ensure the door to the laboratory is either locked or all of the RAM inside the room, including waste, is locked up.

RSOF USEFUL LINKS

Isotope Factsheet Link: http://researchcompliance.uc.edu/RadSafety/Isotope.aspx
Newsletters: http://researchcompliance

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