



INSTRUCTIONS FOR RADIOACTIVE MATERIALS PERMIT APPLICATION

PURPOSE

This procedure describes the requirements to be met and the information to be provided to the Radiation Safety Committee in support of an application to use radioactive materials at the University of Georgia.

RULES AND REGULATIONS

Rule 391-3-17.02(10)(b) of the State of Georgia *Rules and Regulations for Radioactive Materials* requires that the University establish administrative procedures to assure the:

- Safety of procurement and use of radioactive material
- Completion of safety evaluations of proposed uses which take into consideration such matters as the adequacy of facilities and equipment, the training and experience of the user, and the operating or handling procedures
- Review, approval, and recording by the Radiation Safety Committee of safety evaluations of proposed uses prior to the use of the radioactive material

The Radiation Safety Committee is the oversight body for radiation protection within the University, including all affiliated research, clinical, instructional and service units utilizing radiation sources in facilities owned or controlled by the University. Each proposed use of radioactive materials must be submitted to the Radiation Safety Committee, via the Radiation Safety Office, for review and approval before implementation. Instructions for completing the permit application are described in this procedure. The permit applications must be completed in sufficient detail to allow the Radiation Safety Office and the Radiation Safety Committee to evaluate the safety of the proposed use.

ACRONYMS AND DEFINITIONS

ALARA - As Low As Reasonably Achievable

AU - Authorized User. An individual authorized by the Radiation Safety Committee to acquire and use specific radiation sources and to supervise such use by others

Human use - The intentional use of any radiation source in or on humans

PPE - Personal Protective Equipment

RSO - Radiation Safety Officer

RSC - Radiation Safety Committee

Prospective User - A candidate to become an Authorized User



INITIAL APPLICATIONS

The Prospective User should become familiar with the requirements listed in Section 2 of these instructions. After becoming familiar with the requirements, complete the application and submit it to the Radiation Safety Office. Please include your name on all attachments and reference the applicable section of the application in the attachment. After initial review, the Radiation Safety Office may request additional information or clarification to complete the application. Allow 4-6 weeks to receive notification of the Committee's final action.

REVISIONS TO PERMITS

Revisions to a Radioactive Materials Permit should be requested with a Radioactive Materials Permit Amendment form. If the RSO determines that the proposed revision is safe, does not involve any change from the initial safety evaluation, and is within the intent of the initial authorization, the revision will be recommended by the RSO and forwarded for Radiation Safety Committee consideration. The RSO may, however, require additional information before granting approval.

If a requested amendment involves significant changes in radiation sources or conditions of use from those specified initially, the Authorized User may be required to submit a full application relevant to the proposed use.

RENEWAL OF PERMITS

In order to maintain current permit information, Radioactive Materials Permits expire five years from their initial authorization dates. For the renewal process, Authorized Users should review their initial application. In some cases, renewal may be as simple as reviewing the previous application, marking it with any minor changes, and submitting it with a signed summary sheet listing the changes. In cases where there have been substantial changes in radioactive material use, it may be more efficient to resubmit an entirely new application.

Authorized Users will be sent a reminder to renew their permit three months before it expires. The Radiation Safety Office will review the renewal application and submit comments, concerns, and records of violations that occurred under the previous permit to the Radiation Safety Committee. The committee will approve or deny the renewal based on the application and radiation safety concerns.

APPLICATION INSTRUCTIONS

Section 1 Prospective User Information

Section 1 is self-explanatory. The emergency contact information should include adequate information for after hours contacts, including pager, mobile telephone, and home telephone numbers. The personal identification information is needed for security purposes.



Section 2 Radiation Safety Procedures

Procurement, use, storage, and disposal of radioactive material at the University of Georgia must be conducted such that compliance with the following is achieved:

The State of Georgia, Environmental Protection Division, Department of Natural Resources, *Rules and Regulations for Radioactive Materials*, chapter 391-3-17.

This document may be viewed on the internet at the following address:

<http://rules.sos.ga.gov/gac/391-3-17?urlRedirected=yes&data=admin&lookingfor=391-3-17>

The University of Georgia Radiation Safety Manual. This document is available from Radiation Safety and is posted on the Research Safety website at <https://research.uga.edu/safety/>

Please read and understand all applicable sections of the above listed documents prior to completing this application.

Section 3 Requested Radioactive Material Types and Quantities

List all requested radioactive materials to be used under this permit, including sealed and unsealed sources, instrument response test sources, and associated radioactive items. When requesting the maximum possession limit, consider the activity that will be in storage, waste, samples, etc. Please indicate in the section provided the approximate maximum quantity that will be ordered at one time and the estimated quantity to be ordered during a calendar year.

Section 4 Proposed Use Locations

List your building and room numbers for proposed radioactive material use and storage (including waste). If one location will have all the requested radioactive materials, record "all" in the first column. If specific items will be stored or used in separate rooms or locations, reference them by the item numbers in Section 3.

Section 5 Proposed Uses

Provide a summary description of the project. Include general information regarding the purpose of using the material, the overall objectives of the research, and the benefits to the scientific community and the University. This general description should be suitable for a person not in your field to understand. The purpose of this general description is to have a documented justification for the use of radioactive materials (ALARA concept).

In addition, please provide a more specific description of the experiments or operations involving the use of radioactive material. Include relevant information concerning approximate quantities (mCi or μ Ci) needed per experiment, specify any proposed animal use, potential mixed waste generation, etc. Attach or reference written protocols as needed.

Non-medical human use of radioactive materials is not permitted under the UGA license. Field use involving the intentional release of radioactive material to the environment is highly restricted.



Approval for field release may only be granted by the State of Georgia on a case by case basis. At a minimum, an extended time delay in the permit process would be involved in granting approval for this type of field use. Researchers using radioactive material in live animals must also obtain approval from the Institutional Animal Care and Use Committee (IACUC).

Section 6 Prospective User Training and Experience Summary

In the training history section, record any specific radiation safety courses completed. Include training completed at the University of Georgia as well as other institutions or facilities. Approximate information regarding course hours and dates is sufficient. Supporting documentation such as certificates, class rosters, letters from former radiation safety organizations and the like should be included when available and may be attached to the application.

In the radiological work experience portion, please describe the types of sealed sources and radioisotopes you have experience working with. Include general information regarding the maximum quantities of radioactive materials with which you have experience. Quantities should be described in general ranges representative of the typical quantities you have experience handling during individual operations (<1mCi, 1 to 10 mCi, etc.). Again, approximate dates are sufficient.

Section 7 Technician or Assistant Training and Experience Summary

Complete section 7 in the same manner as section 6, except that the training and experience of your primary laboratory technician or assistant is listed.

Section 8 Facilities Description

Please provide a map or diagram of the laboratory as an attachment. Denote on the map and/or describe the proposed radioactive material use facilities. Include locations of hoods, sinks, cold rooms, incubators, LSC units, dishwashers, bio-safety cabinets, autoclaves, and other large equipment. Specify which equipment will be used for radioactive material work. Describe the access controls and locking devices available for security of radioactive material (including waste). The maps should include a room number to identify the area. If an area is shared with another Authorized User, indicate who the area will be shared with. Include a second copy of the map marked with proposed routine wipe test and radiation survey locations, as applicable.

Please note that the addition or deletion of established locations of radioactive material use must be coordinated through the Radiation Safety Office, generally in the form of a permit amendment.

Section 9 List of Radiation/Contamination Monitoring Equipment

List and describe your monitoring instrumentation in this section. Instrumentation should be appropriate for the type and quantity of radioactive material use. For most users of unsealed radioisotopes, at least one instrument suitable for personnel contamination monitoring must be available at all times in your laboratory. Borrowed or shared instruments are not appropriate for this task. A backup instrument is also required. A shared instrument may be acceptable for use as a backup.



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Portable instrumentation calibration services are provided by the UGA Radiation Safety Office. If your instrument does not have a calibration certificate from a qualified vendor, calibration will be required prior to radioactive material use. In addition, calibration of monitoring instrumentation is required on an annual basis.

In the case of sample counting instruments, such as liquid scintillation counters, shared instruments may also be acceptable. Please denote in the comments section the location of any such instrumentation and identify if they are primary, backup, or shared devices.

Section 10 Waste Handling and Disposal

Waste handling and disposal must be performed in accordance with the instructions specified in the Radiation Safety Manual. Segregation of dry waste, liquid waste, long lived waste, short lived waste, biological waste, and mixed waste is essential. A detailed Waste Control Plan must be provided if mixed waste, biomedical radioactive waste, or large quantities of radioactive waste are to be generated. If submission of a separate Waste Control Plan is not required, please discuss any general information regarding waste reduction, waste handling, and waste volume estimations in the project specific information section (section 11).

Improper handling of radioactive waste may result in excessive generation of hazardous materials which may be both difficult and costly to dispose of. Excessive costs incurred for radioactive waste disposal may be passed on to the waste generator, if deemed appropriate by the University of Georgia. Please review the waste handling section of the Radiation Safety Manual carefully. Any proposed deviations from the practices described in the manual must be documented in the application process. Submit a separate and detailed waste control plan with your application if you intend to deviate from the standard practices of the manual.

If sewer disposal of low level aqueous solutions is planned, please indicate this in the space provided in section 10. Include the type and quantities of radionuclides that are proposed to be discharged.

Mixed waste is any combination of a hazardous waste and a radioactive waste. Please complete the information box regarding mixed waste in section 10. Prospective Users planning to generate mixed chemical waste must indicate the type, estimated quantity (activity and volume/weight), and approximate rate that these wastes will be produced. List all chemicals designated by the EPA as hazardous (e.g., P or U listed, flammable, corrosive, toxic, etc.) that will also contain radioactive materials. For each, give the chemical name and the EPA hazardous material identification number as shown on the MSDS. Written justification must be provided for generation of any mixed waste. The Prospective User must initial the box in section 10 indicating that she/he understands and agrees to pay the UGA Environmental Safety Division for the disposal of mixed radioactive wastes generated under this permit.

Prospective Users planning to generate biomedical waste must indicate the type, quantity (both in activity and volume/weight), and rate that these waste(s) will be produced. See <http://research.uga.edu/docs/units/safety/UGA-Sharps-%20Glass-Plastics-Waste-Guidelines.pdf> for biomedical waste rules. For each biomedical component, the Prospective User must describe the methods used to inactivate the biohazard prior to disposal. These methods must include the use of indicators or tests to verify that the waste has been biologically decontaminated. Biomedical wastes



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mixed with radioactive materials may not be incinerated, disposed of as ordinary trash, or offered for disposal via a contractor without the written approval of the Radiation Safety Office. The Radiation Safety Office will not pick up any waste in orange or red “biohazard bags.” The Prospective User must initial the box in section 10 indicating that she/he certifies that all mixed biomedical wastes generated under the permit will be verified as deactivated, decontaminated, or sterilized prior to disposing of it via the Radiation Safety Office.

Section 11 Project Specific Information Regarding Methods to Maintain Exposure to Radiation and Radioactive Materials ALARA

In addition to the requirements of the UGA Radiation Safety Manual, please detail any project specific information here or with an attachment. Briefly discuss relevant information about personal protective equipment (PPE), proposed Radiation Worker training, personnel contamination monitoring requirements, frequency and methods of work area monitoring, access controls, volatile material handling methods, ALARA statements, use of shielding, remote handling tools, waste disposal, etc. Include information regarding planned response to spills, personnel contamination events, and emergency conditions.

Section 12 Acknowledgement of Responsibility

This section lists some specific requirements for which the candidate for radioactive material use needs to acknowledge their responsibility. The UGA Radiation Safety Office will provide support and assistance to all radioactive material users in achieving regulatory compliance. Ultimately, the success of any radiation safety program depends upon all individuals involved in radiological work to accept their responsibilities in maintaining exposure to radiation and radioactive materials ALARA.

The prospective user must sign and date in the space provided. Also, the department head of the prospective user is required to sign the application. This provides assurance to the Radiation Safety Committee that the department head is aware of the proposed use of radioactive materials. Prospective users who are tenants in leased space at the University should have a representative of The University of Georgia’s Research Foundation, Inc. sign as department head.

Submission of Paperwork

Please submit all paperwork to the following address. You should contact the Radiation Safety Office if you have any questions in completing the application.

UGA Radiation Safety Office
225 Tucker Hall
310 E. Campus Road
Athens, GA 30602