EGL-1, Radiation Safety Program - Onboarding and Maintaining Compliance Guide

Welcome to the University of Hawai'i! If you are a new or current user of **Radiation Producing Equipment** or **Radioactive Materials (RAM)** at a UH System-based laboratory or facility, the following information will help guide you through the onboarding process and support your compliance efforts. Additionally, the UH Radiation Safety Manual provides in-depth guidance on staying safe and compliant when working with RAM at the University. If you have any questions about the process or the steps below, please contact the UH Radiation Safety Program (RSP) at radsafe@hawaii.edu. Your safety is our top priority, so don't hesitate to reach out if you have any concerns. This document is updated regularly; the latest version is available on the EHSO and EHSA websites.

Radiation Producing Equipment:

Radiation producing equipment is directly regulated by the Hawai'i Department of Health Indoor and Radiological Health Branch. Contact the Department of Health directly with questions, but the RSP is available as a consultant to guide you through the process.

Radiological Health Branch - Useful Links and Forms:
- Indoor and Radiological Health Branch | Radiation Section
- Indoor and Radiological Health Branch | Radiation – Forms and Links

Other Requirements and Information:
- Complete the RSP-2, Radiation Safety Training Enrollment and Radiation Worker Registration Form.
- 📄 2024 Radiation Safety Manual Chapter 4 - Purchase of Radiation Producing Equipment
- 📄 2024 Radiation Safety Manual Chapter 14 - (Clinical / Analytical / Research) X-Ray Machines and Accelerators

Radioactive Materials (RAM):

The UH Radiation Safety Program uses 🔲 OnSite Systems' Environmental Health & Safety Assistant (EHSA), a web-based software platform, to manage RAM usage across the University of Hawai'i. RSP forms are also available to complement EHSA software, facilitating efficient workflow management. **The RSP must grant you access to the EHSA website!**

Definitions:
- NRC (U.S. NRC) - United States Nuclear Regulatory Commission (Issues RAM Licenses and Amendments to UH)
- RSC - Radiation Safety Committee (Issues RAM Authorization Permits and Amendments to FAUs)
- EHSA - Environmental Health & Safety Assistant (Web based software platform)
- EHSO - Environmental Health and Safety Office
- RSP - Radiation Safety Program
- RSO - Radiation Safety Officer
- RAM - Radioactive Materials
  - Specifically Licensed RAM
  - Generally Licensed RAM
  - License Exempt RAM
- PI - Principal Investigator (primary faculty member of a research group)
- FAU - Faculty Authorized User (UH PI authorized by the RSC to use RAM)
  - AU - Authorized User (a.k.a. RW - Radiation Worker - working under the permit of a FAU)
  - AW - Awareness Worker (someone who **only works in close proximity** to RAM activities)

Radiation Safety Training Enrollment and Worker Registration:
1. Complete the RSP-2, Radiation Safety Training Enrollment and Radiation Worker Registration Form.
2. After registration and enrollment, you will be invited to complete radiation safety training online through the OnSite - Environmental Health & Safety Assistant (EHSA) website. **The RSP must grant you access to the EHSA website!**

Forms and Functions:
- RSP forms can be found and copied on the RSP website. RSP forms are used when formally requesting services from the RSP or RSC. Most functions are now completed directly through the EHSA website.

Faculty / Principal Investigators (PIs) applying to use RAM:
- **Only UH Faculty** can become Faculty Authorized Users of licensed RAM at UH.
- Register and complete UH Radiation Safety Training.
- Complete and share form *RSP-1, Application for Use of Radioactive Material (RAM)*; (view, copy).
- Schedule and conduct an initial consultation with the RSO: https://calendly.com/uh-radiation-safety-program.
- Prepare and submit your RAM protocols / SOPs to radsafe@hawaii.edu.
- The UH RSC will review your application to become a FAU of RAM and may request additional clarifying information.
- Complete any work issued to you from the application and review process. Notify the RSP once the work has been completed.
- The RSC will notify you by email and issue your RAM Authorization Permit if approved.
- The RSP will further help you set up your lab and procedures for the safe use of RAM as necessary.
- Acquiring RAM: All FAUs have individual possession limits on their RAM permit. Moreover, there are isotopes that are not on the University's NRC license, and these isotopes cannot be procured without a NRC license amendment. Therefore, you should never place orders directly with vendors without consulting the RSP.
    - To procure licensed RAM; complete a Ram Requisition Entry in the EHSA.
    - To procure license exempt RAM; submit a *RSP-4, Procurement Authorization for Radioactive Materials*; (view, copy) to the RSP for prior approval.
    - Need assistance? https://calendly.com/uh-radiation-safety-program.
- The 📄 EGL-3, Licensed & Exempt Radioactive Material Procurement Guidelines are helpful to understand the types of RAM that are at UH.
- Never ship any RAM on your own! Consult with the RSP first!
- Ensure your lab workers are registered as Authorized Users under your permit by completing the *RSP-2, Radiation Safety Training Enrollment and Radiation Worker Registration Form*.
- Maintain compliance at all times. When in doubt contact the RSP at radsafe@hawaii.edu.
- Planning to use RAM at Sea? Contact the RSP at radsafe@hawaii.edu. RSP-12, RAM Use at Sea Authorization (view, copy).

To become an Authorized User / Radiation Worker under the supervision of a Faculty Authorized User:
- Register as an AU / RW and complete UH Radiation Safety Training.
- Complete UH Radiation Safety Training annually while you are registered.
- Other training as required by your FAU. Don't forget about general lab safety, RAM is not the only lab hazard!

Awareness Workers:
- Consult with your Faculty Authorized User about appropriate training.
- When required by your PI, Register as an AW and complete UH Radiation Safety Training.

Everyone who works in a Radiation Laboratory at UH:
- RAM use is regulated from cradle to grave by the U.S. Nuclear Regulatory Commission and overseen by the UH Radiation Safety Committee. The RSP conducts the day to day management of the UH Radiation Safety Program.
- **Record Keeping:** Maintain meticulously detailed records of all RAM use in the lab or facility. Maintain a required semi-annual RAM inventory. You must now use the EHSA software to complete these tasks.
- **Review and follow SOPs**.
- **Missing Materials:** If you discover that RAM is missing/lost, notify the RSP immediately.
- Wear your dosimetry appropriately (if it's assigned to you).

- Do not store food or beverages in refrigerators, freezers, or coldrooms where RAM is used or stored.
- **Security:** Lock RAM in a secure area when not in use. Multiple layers of security is required. Do not leave RAM unsecured in an unattended lab.
- **Lids on High Quality Containers:** Keep lids on waste containers at all times unless actively filling.
- **Leak Prevention:** Provide secondary containment to prevent large spills and to segregate incompatible wastes**.**
- **Labels:** Provide complete labels on waste containers – this includes nuclide, full chemical names, relative % of each item, and the word "Waste." **Abbreviations and chemical formulas are not allowed on waste containers!**
- **Locations:** Post this sign as a means of establishing a Hazardous Waste Satellite Accumulation Area in each lab.
- **Limits:** RAM activity limits are set by your authorization permit. To raise limits, or add new RAM materials to your permit, submit a *RSP-3, Application for Permit Authorization Amendment*; (view, copy). **If you have any change to your work procedures; submit an RSP-3 to ensure compliance.**
- **Waste:** segregate RAM waste by half life and physical form. Consult the RSP if you have any questions.
- Have your waste picked up in a timely manner:
    - For licensed RAM; create containers in the EHSA while filling them, and submit in lab waste containers for pickup.
    - For license exempt RAM; submit a *RSP-5, Radioactive Waste Pickup Request Form*; (view, copy), or *RSP-6, Radioactive Mixed Waste Pickup Request Form*; (view, copy).

Common Required Tasks to Maintain Compliance:

1. A **Monthly** User Survey for **unsealed** RAM is required to be conducted and recorded in the EHSA in the calendar month of use! If you don't record it, it never happened! The NRC does not compromise on this.
    - User Surveys consist of a documented record in the EHSA that includes:
        - A Monthly Contamination Wipe Test analyzed in a Liquid Scintillation Counter (LSC).
        - A Monthly Geiger survey. (Labs with only H-3 inventory do not need to complete a Geiger survey).
        - A Monthly statement of "no use" in the EHSA.
            - If you have no inventory (including waste) for 3 consecutive months, you will be automatically placed on "Inactive Status" until you order and receive more RAM. Inactive Status means that you can't use RAM because you don't have any material or waste! Going from Inactive to Active is automatic in many circumstances.

2. Conduct **Semi-Annual Physical Inventories** and record it in the EHSA.
    - One (1) physical inventory will be conducted with the RSP in the 2nd quarter (April, May, June).
    - One (1) physical inventory will be conducted by the FAU in the 4th quarter (Oct., Nov., Dec.).
        - A physical inventory means you visually confirmed that your RAM is accounted for by ship code number.

3. Every 6 months certify your personnel (Radiation Workers and Awareness Workers) are properly registered. Remove personnel that have left your lab. A list of personnel and removal requests are completed through the EHSA.

4. Keep your **Inventory Use Log / Removal of Isotope** record in the EHSA up to date.
    - Add in each usage and record where your RAM goes.
    - Create virtual In Lab Waste Containers to match your physical containers.
    - When waste containers are full, request a waste pick up in the EHSA.

5. Ensure annual Radiation Safety Training is completed using the EHSA.

Help:

Radiation safety questions at radsafe@hawaii.edu.

Have a lot of questions or complicated ones? Schedule with us using https://calendly.com/uh-radiation-safety-program.

Visit http://www.hawaii.edu/ehso/ for more detailed information.