This is the Home Screen most lab workers will interface. It displays the lab worker that is logged in at the top right corner, the accessible icons across the bottom, and the “HOME” tab that will return you to this page from anywhere in the program.

From this page you can check your on-hand radioactive inventory and remove material, request waste supplies or a waste pick-up, and see equipment assigned to your lab.

Let’s get started, you want to check your on-hand inventory for an upcoming experiment. Select the “Inventory” icon at the bottom of the screen.
This is the table of contents for the **RAM Inventory** page. The function of interest for on-hand inventory and removal of material is the “**Removal of Isotopes from PI’s Inventory**”.

- **Removal of Isotopes from PI’s Inventory** – shows all radioactive material (allowed by PI’s permit) on-hand in inventory and includes the technical specifications of the material.

- **View In-Lab Waste Containers** – allows a lab to see the waste disposal containers assigned to the lab.
The **Quick Isotope Entry** page shows the technical information related to all stock items in inventory. This information takes up more than can be seen on the screen, scrolling to the right will bring up more of the entry.

New material is added to the PI’s inventory when orders are received at the EHS Radiation Safety office and checked in.

Radiation Safety staff enter information into the database from the order requisition and packing list for each stock vial received. It is the responsibility of laboratory staff to verify this information is correct (i.e., isotope, activity, assay date, lot number, etc.) once the new material is delivered.

If there are any discrepancies contact the Radiation Safety Office as soon as possible.

(Radiation Safety Tech number: 434-982-4919)
A single mouse click highlights the entry, a double mouse click will open the inventory information in page format in a new window (see next page).

This may make verifying the information easier.

The “Back Arrow” at the top will return you to the previous page, while clicking the “EHSA & Home” tab just below the “Back Arrow” will return you to the Homepage.
The Removal of Isotopes from PI's Inventory page is the accounting page for use and disposal of radioactive material from a PI's inventory. Select the “Usage Log” tab in the upper left corner.

Radioactive stock can be removed by activity, volume, or percentage (this will be decided by laboratory use for each stock vial in a PI’s inventory), once a choice is made however, it will be the withdrawal method for that stock vial until depleted.

Radioactive material stock vials are automatically assigned an inventory number upon receipt and package check in by the Radiation Safety staff. The inventory number is tied to all the technical data associated with that stock vial, the most important being the manufacturers’ lot number. Always verify that material is being removed from the appropriate stock vial.

This page allows for the removal and use, tracking or transfer, aliquoting, and disposal of radioactive material for the various projects being conducted in the laboratory.

Because disposal is directly linked to the withdrawal of material from the stock vial it is critical that you have a waste container (a waste box for solids, or a plastic jar/jug for liquids) in the laboratory before you begin any projects. Withdrawal transactions cannot be completed without a registered “in lab waste container”.

All radioactive waste containers are supplied to labs by the EHS Radiation Safety Office and are barcoded for inventory and disposal purposes.
This **RAM Inventory Usage** page shows two stock vials available for use in the on-hand inventory. Select the inventory number of the isotope you want to use by placing the mouse cursor anywhere in the row and single click. The stock vial will be color highlighted.

(see next page)
Double clicking this selection will bring up the **Usage** page which is where actual removal of material can be performed.

(see next page)
Verify this is the correct stock vial by comparing the lot number recorded in the inventory to the lot number on the physical stock vial.

Next select the “+Add” tab to withdraw from this vial. This will open the “Add RAM Inventory Usage Page”.

(see next page)
This is where you will decide how this stock vial is to be distributed, by volume, activity, or percentage from the “Enter Usage Information” drop down menu.

Remember, this is a one-time selection per stock vial and cannot be changed.
After selecting your usage criteria enter the amount of material you wish to withdraw. Then select a “Usage Category” that will show how this material will be used.

Some of the Usage Categories are not shown, and some of their uses are not self-explanatory.

A guide for the Usage Categories will be provided.

Comment boxes that open during any of this process are for lab use to describe what project the withdrawal was made for, or any other notes that are pertinent to the process.
Once a Usage Category is selected a waste container drop down box appears to the right, if not select the “Container” drop down arrow or you can type the container number in directly. If you are drawing material to be used in an immediate project you must select a waste container assigned to your lab in order to complete this process.

The Usage Category used was “Solid” which means that the material used will generate solid waste, and most or all the radioactive material will be wasted in the container. As mentioned earlier, a waste container should be assigned to the lab before you start a radioactive material project.

This page will calculate the stock vail amount remaining, as well as keeping a running total of waste generated to the waste container.

NOTE: this is the same for liquid containers, however, an additional information box will be available for liquid constituents also going in with the waste. This is the same requirement managed on the paper waste ticket, to give the percentage and pH of all liquids being disposed of in the container.

Also, any EPA registered hazardous chemicals, or alcohols in concentrations >10% will constitute a “Mixed Waste” condition.
Once you have made all your entries, save your work and the page above will display. You can see the amount of radioactive material used (in Activity) appears as a bar graph, and the waste is already assigned to the container with the usage activity posted.

The physical data of the stock vial are updated to reflect your withdrawal, i.e., “Decayed” activity, “Current Volume”.

Press the large green “Done” tab and this will complete your transaction.
Waste disposal and supply reorder can be done from the Homepage using the icons at the bottom of the screen.

The closure requirements of waste containers are the same:

- Waste boxes – tape or zip tie the yellow inner bag, close and tape the box lid, and perform a contamination survey of the exterior. If you have a Liquid Scintillation counter swipe the box exterior and count. If using a hand held Geiger-Muller meter, swipe the exterior and measure the swipe in a low background area. **DO NOT** take a direct measure of the waste container with the meter.
- Liquid jars/jugs – secure the lid and perform a similar contamination survey of the exterior. Be sure you have listed the other chemical constituents on the waste request.

**NOTE:** disposal of waste containers is done through the “**Inventory**” icon.

Let’s dispose of some waste and send a request for pick-up.
From the RAM Inventory page select the View In Lab Waste Containers. Remember the waste containers are tied directly to withdrawal of radioactive material from the stock vial.
This page displays all the waste containers that have been barcoded and assigned to the lab by the Radiation Safety Office. They are identified under the **Container #** column, waste boxes identified with a “D” in the barcode number, indicate “Dry Solids”. Liquid containers (1 liter wide mouth jars & 10 liter Jerry Cans) are labeled with an “L” in the barcode.

The “*(empty)*” designation on the liquid container above means that no waste has been added to this container yet.

The small triangle at the beginning of the row will expanded the container to show the waste contents.

(see next page)
This expanded view of the waste contents shows: the isotope, the inventory number of the stock vial, the date the material was placed into the container, the estimated disposal date (UVA EHS Radiation Safety allows $T_{1/2} \times 10$ before disposal), and the waste activity (in millicuries).
To prepare a waste container for pickup:

- Click on the container you wish to dispose of (it will become highlighted).
- Perform a contamination survey of the container, i.e. take a swipe of the container and hold the swipe to the detector of your Geiger-Mueller meter, or count the swipe in a liquid scintillation counter.
- Enter the results by selecting the “+Add Container Survey”, the window below will appear.

Enter the “Surface and Background” readings in the spaces provided, change the units to “DPM”.

Select your survey meter serial number from the drop down box and save the results.
After saving your survey results you will be returned to the in lab waste container page. You now have to electronically seal the container to start the countdown clock for disposal. Select the “SEAL” button at the beginning of the row for the container. The dialog box above will open, confirm that you want to seal the container.

Next, select the “Request Pickup” button and confirm your information and select the “YES” button in the lower left corner, a notification will be sent to the Radiation Safety Office for collection of the waste, and you will see a confirmation notice.
The Radiation Safety Office supplies all solid and liquid waste containers to labs. Replacement containers can be requested with a waste pickup, list your supply needs in the “Comments” box.

Or, you can request supplies using the icon on the home page. A new order page will open.

(see next page)
The **Waste Supply Request** page allows labs to reorder radioactive material waste containers on demand.

Select the “+Add” tab in the upper left corner to open the order list form.

(see next page)
This dialogue screen should be easy to follow, just select the supplies and quantities from the list. Depending on the quantity ordered Radiation Safety may adjust the request to a more appropriate number to prevent stockpiling of containers.

Fill in your selections and save, a line item will display on the screen to indicate a successful request.