



Radiation Safety



RADIATION PROCEDURES MANUAL

Procedure Cover Sheet

Procedure Title: Radioactive Material Sign Out

Procedure Number: RS-23 Rev0

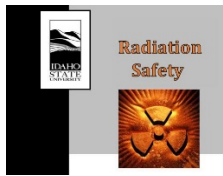
Effective Date: August 1, 2020

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Date: 22-Jun-2020

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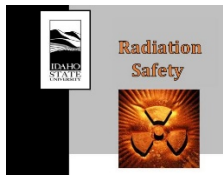
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1. INTRODUCTION

Per 10 CFR 20.1801 and 1802, all licensed radioactive material must be maintained secure from unauthorized users. This procedure is designed to maintain compliance with federal regulatory requirements and section 9.4 of the Idaho State University Radiation Safety Manual (RSM). Single and double-barrier requirements have been implemented to ensure secure radioactive material usage and storage of all licensed material. Source categories are defined in Section 9.4 of the Radiation Safety Manual.

2. PURPOSE

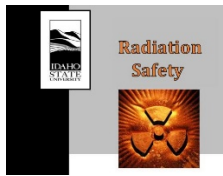
This procedure will ensure accountability of all licensed radioactive material by identifying the steps required to document the usage of radioactive material.

3. SCOPE

This procedure outlines the requirements for trained and authorized Radiation Workers to use and properly store licensed radioactive material at Idaho State University. Steps of how to sign-out radioactive material are clearly outlined. It is expected that any questions with this process be brought to the Radiation safety Office (208)- 282-5652.

4. ROLES AND RESPONSIBILITIES

- Radiation Safety Officer (RSO)
 - Maintain this procedure and applicable sections of the Radiation Safety Manual.
- Authorized User (AU)
 - Train Radiation Workers under their program regarding radioactive material security and sign out requirements under this procedure.
 - Oversee the usage of radioactive material by Radiation Workers under their program.
 - Maintain security and accountability of all licensed radioactive material under their program.
 - Assign Radiation Workers to serve as material custodians and provide them with keys and/or combinations.
- Radiation Worker (RW)
 - Maintain current annual Radiation Safety Training.
 - Read and understand this procedure.
 - Use proper PPE while handling radioactive material and sources.
 - Properly follow this procedure to fill out all sign-out sheets fully and legibly.



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5. REQUIRED MATERIAL(S)

- Form (RPR-25) is used to sign out single-barrier sources.
- Form (RPR-26) is used to sign out double-barrier sources.
- Pen (Black or Blue) ink.
- Key to source lockers and/or laboratories.

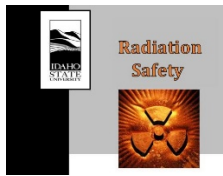
6. PROCEDURE

6.1. Definitions

- 6.1.1. **Barrier:** a radioactive material locker is considered a barrier as well as a locked laboratory door, room, or closet.
- 6.1.2. **Radioactive material:** Byproduct, source, and special nuclear material that must be appropriately secured.
- 6.1.3. **Radioactive Material Locker:** Cabinet, refrigerator, freezer, or any other storage device that can be locked for storage of radioactive material.
- 6.1.4. **Custodian:** A Radiation Worker who controls the keys or combinations to the radioactive material locker or room.

6.2. Radioactive Material Custody

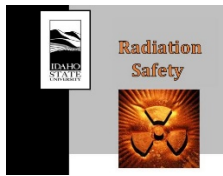
- 6.2.1. Exempt radioactive materials do not require sign-out; however, they should be kept in a locked laboratory as a best management practice.
- 6.2.2. Single-Barrier radioactive materials are defined in the RSM as “materials that exceed the limits for exempt quantity materials but are less than the thresholds for double barrier materials”. Single-barrier radioactive materials are required to be signed-out and must be kept in a locked radioactive material locker or locked laboratory.
- 6.2.3. Double-barrier radioactive materials are defined in the RSM as “materials that meet the definition of the IAEA Category 4 (A/D ratio greater than 0.01) as specified in IAEA Safety Guide RS-G-1.9.” Double-barrier radioactive materials are required to be signed-out by two RWs and must be stored in a locked Radioactive Material Locker, and a second barrier must be in place that is also locked creating a second barrier for the material.
- 6.2.4. Category 1 and 2 radioactive material as defined in 10 CFR 37 may only be used by personnel who have been granted Trustworthy and Reliable status in accordance with the applicable security plan. See section 9.4 of the RSM.



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6.3. Signing Radioactive Material Out

- 6.3.1. Locate the proper form(s) for the radioactive material that you will check out. (RPR-25) or (RPR-26) normally kept in a bound log in the source storage area.
- 6.3.2. Obtain the required key(s) from the custodian or have the custodian open the cabinet.
- 6.3.3. All sections of the form must be completed and written in black or blue pen.
- 6.3.4. Copy the Serial Number or the HPAssist number from the radioactive material, double check for accuracy.
- 6.3.5. Specify the Radioactive material by indicating the radionuclide and the activity with unit. Be clear and detailed. (e.g. Am-241 3.0 mCi).
- 6.3.6. For general radioactive material such as depleted uranium plates or thorium materials enter DU or Thnat.
- 6.3.7. Print your name in the name section.
- 6.3.8. For double-barrier radioactive material, the custodian also must initial the sign-out form (RPR-26).
- 6.3.9. Enter the date on the day that you checked out the radioactive material in the proper format (mm/dd/yy).
- 6.3.10. Enter the time out in standard 24-hour time. (i.e. 1753)
- 6.3.11. If you will be taking the radioactive material to another location or for over-night use, appropriate barriers must be maintained during use or the material must remain under the control of a radiation worker.



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6.4. Signing Radioactive Material In

- 6.4.1. When finished with the radioactive material, properly store the radioactive material back in the appropriate radioactive material locker and with the proper level of barriers.
- 6.4.2. Indicate the time and date the radioactive material was returned on the form in standard 24-hour time.
- 6.4.3. Sign the form.
- 6.4.4. For double barrier material, the custodian also must initial the sign-out form (RPR-26)

7. LIST OF FORMS

- RPR-25 Single Barrier Sign out
- RPR-26 Double Barrier Sign out