RADIOACTIVE MATERIAL USE AT THE APS

Section where used:

- APS Personnel: includes ANL and Non-ANL employees who manage radioactive material at the APS.

Changes made in this revision:

- Removed AES/ADD-MIS and AES/Division Director as reviewers/approvers
- Modified various terms to be consistent with LMS-PROC-45 and LMS-PROC-171

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RADIOACTIVE MATERIAL USE AT THE APS

1 INTRODUCTION

1.1 Purpose

This procedure describes how APS personnel manage radioactive material at the APS. This includes all radioactive items and sealed-sources that are not exempted by LMS-PROC-45: Managing Radioactive Material Inventories.

1.2 Scope

This policy describes how APS personnel shall purchase, move, store, track, and secure radioactive material at the APS.

1.3 Applicability

This procedure applies to all APS personnel involved in the managing of radioactive material: ANL employees and non-ANL employees.

1.4 References

LMS-PROC-171 Accountability and Control of Sealed Radioactive Sources

LMS-PROC-45: Managing Radioactive Material Inventories

LMS-PROC-174: Acquisition and Receipt of Radioactive Materials, Sources, and Radiation-Generating Devices

1.5 Type of Procedure

This is a Management Control Procedure.

2 BACKGROUND

The purpose of this procedure is to guide APS personnel on how to properly manage radioactive material at the APS in accordance with LMS-PROC-45 and applies to both ANL and non-ANL employees. Radioactive material includes sealed sources and radioactive items not exempted by LMS-PROC-45.

3 PREPARATION OR PREREQUISITE ACTIONS

Upon receipt of radioactive material make sure the proper documentation has been completed by Health Physics.

4 PROCEDURE

4.1 Purchasing/Transport

ANL employees ordering radioactive material receive approval through the PARIS system from Health Physics, ESH coordinator, and Radiation Safety Officer (RSO) before the order is placed. Non-ANL employees must get an authorization memo from the Radiation Safety Officer (RSO) before the order is placed.

Argonne's Materials Control & Accountability (MC&A) group will manage the delivery of all material on site. Prior to shipment, MC&A personnel will assign a control number to the shipment and will provide instructions on the proper packaging, labeling, and addressing of the shipment. Under no circumstances may radioactive material be transported from one Argonne location to another in a personal vehicle.

All material arriving from offsite must be approved in the CURIE system before shipment. The approvals are obtained by entering an acquisition plan in CURIE. The process is described in LMS-PROC-45: 3.2.7 Acquiring and Receiving Radioactive Items from an Outside Supplier.

4.2 Custodian

Radioactive Item Custodian (RIC) will be designated by the responsible division director (RDD). The RIC need not be in the same division as the RDD. The RIC must be aware on a day-to-day basis of the radioactive material inventory for which they are responsible.

Qualified personnel for the RIC position must be trained to Rad Worker I or Rad Worker II. Sealed radioactive source custodians (SRS-RIC) are defined in LMS-PROC-171.

All types of RICs must be trained to LMS-PROC-45 and CURIE.

A custodian (RIC or SRS-RIC) must be assigned to all radioactive material within the scope of LMS-PROC-45.

4.3 Inventory

As soon as possible after a new radioactive item arrives at the APS, the RIC will document it by receiving the item from the approved acquisition plan in the CURIE database.

4.4 Storage

The RIC will ensure that radioactive items are properly labeled and stored. All radioactive material must be stored in a locked cabinet, which is used only for that purpose. The preferred location for the cabinet is in one of the LOM labs assigned to the CAT/XSD; this lab will then be posted with the appropriate signage by Health Physics.

The SRS-RIC will ensure that sources are properly labeled, stored, and tested for integrity on a periodic basis. Sources must be stored either in a locked cabinet or a lock box located in an LOM lab or a beamline instrument station and the locations posted with appropriate signage by Health Physics.

4.5 Tracking

The RIC will be responsible for knowing the location of all their radioactive material at all times, authorizing users of the material, and will ensure that all necessary records are maintained. The RIC must maintain an auditable record in CURIE or a local logbook that tracks individual items back to a CURIE item ID number per LMS-PROC-45 Exhibit C: Tracking Requirements for CURIE Items within a Facility. Where a local tracking logbook is used, the RIC shall include in the notes section for the item in CURIE any reference to the logbook needed to locate or distinguish the logbook from other local tracking logbooks.

The SRS-RIC will be responsible for knowing the location of all source storage locations, authorized source users (SRS-users), will ensure that all log sheets are being maintained, and must maintain an auditable record in CURIE of all APS sources. In accordance with LMS-PROC-171, authorized SRS-users must maintain an auditable record for each source in an assigned storage location consisting of a log sheet, form ANL-926 or equivalent, kept at each storage location and completed in accordance with LMS-PROC-171. This ensures each source movement is tracked back to a CURIE ID number per LMS-PROC-45 Exhibit C: Tracking Requirements for CURIE Items within a Facility.

4.6 Securing the Radioactive Material

Authorized personnel will ensure that the radioactive material is not left unattended and unsecured. The RIC may designate temporary storage locations where radioactive items can be secured. A radioactive item must be secured in a safe or in a radiation enclosure with the doors closed, secured with a lock and chain and posted with appropriate signs when left unattended.

4.7 Internal Moves

Authorized personnel may move sealed sources and radioactive items between authorized locations within the APS facility. For example, moving a sealed source or radioactive item to the Experiment Hall floor from the LOM where a sealed source or radioactive item is stored. The new location will be promptly entered by the RIC into the logbook as

described in section 4.4. SRS-users authorized by the SRS-RIC will be responsible for documenting the location of a moved source at all times as described in section 4.4.

5 TRAINING REQUIRED

The use of exempt radioactive sealed sources requires GERT (ESH738) training.
The use of non-exempt radioactive sealed sources requires Radiation Worker 1 (ESH700) training.

Training required for a Radioactive Item Custodian (RIC): requires CURIE database training (ESH 525), LMS-PROC-45 Managing Radioactive Inventory (ESH 527).

Training required for a Sealed Radioactive Source-RIC: requires Sealed Radioactive Source Custodian training (ESH 709) and practical (ESH 709PR), CURIE database training (ESH 525), LMS-PROC-45 Managing Radioactive Inventory (ESH 527).

6 FEEDBACK AND IMPROVEMENT

If you are using this procedure and have comments or suggested improvements for it, please go to the APS Policies and Procedures Comment Form* to submit your input to a Procedure Administrator. If you are reviewing this procedure in workflow, your input must be entered in the comment box when you approve or reject the procedure.

Instructions for execution-time modifications to a policy/procedure can be found in the following document: Field Modification of APS Policy/Procedure (APS_1408152).

* https://www1.aps.anl.gov/Document-Central/APS-Policies-and-Procedures-Comment-Form