

Advanced Photon Source

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Issuance of External Dosimeters for Ionizing Radiation at the APS

Changes made in this revision:

- Changed author from S. Davey to P. Rossi; added J. Edwards (RP) as a reviewer; removed APS/Deputy Director, X-ray Science as an approver.
- Clarified that regularly issued means quarterly and that dosimeters are required in posted areas.
- Replaced “Radiation Worker I and practical” in the training requirement with “GERT”

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POLICY

Argonne uses dosimeters to accurately measure and document the external radiation doses received by individuals. Argonne-issued dosimeter must be worn when entering a posted area that has a dosimeter as an entry requirement. For personnel, including APS users, that need on-going access to these areas, they will be issued dosimeters on a quarterly basis. For others that only require infrequent (typically less than quarterly) access to controlled areas, dosimeters will be issued on an as-needed basis.

Line supervisors are responsible for:

- Identifying individuals who may require personnel monitoring for external radiation exposure.
- Verifying that individuals requiring dosimetry have completed at least General Employee Radiological Training (GERT) prior to the dosimetry request.

Dosimeters will be issued quarterly by Argonne External Dosimetry and/or Health Physics to APS personnel/users who *routinely* need to access areas or engage in activities requiring a dosimeter.

Examples which will require a dosimeter to be issued to APS personnel/users are:

- At least once per calendar quarter must enter any radiological controlled area that is posted by the Argonne Health Physics Group as *Radiological Controlled Area, dosimeter required for entry*.
- At least once per calendar quarter engage in activities for which there may be radiation exposure hazards that requires a dosimeter to be worn (e.g., operation of an analytic x-ray generator, work with an accountable sealed radioactive source); or
- Personnel are likely to receive an effective dose equivalent to the whole body of 100 mrem, a shallow dose equivalent to skin of the whole body or to any extremity of 5 rem or a lens of the eye dose equivalent of 1.5 rem or more in a year.

The requirements for issuance and use of personnel dosimeters are intended primarily for radiological workers. However, a line supervisor in consultation with a health physicist may require certain other individuals be issued personnel dosimeters even if they are unlikely to receive doses more than those listed above.

REFERENCES

- 10CFR835, Occupational Radiation Protection
[LMS-PROC-146](#), External Dosimetry
[LMS-PROC-147](#), Accessing Radiologically Controlled Areas

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TRAINING REQUIRED

- ESH 738 – General Employee Radiation Training

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://www.aps.anl.gov/Document-Central/APS-Policies-and-Procedures-Comment-Form>