

Advanced Photon Source

User Policies and Procedures

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Working on Beamline and Front-End Shielding Components

Changes made in this revision:

- Author changed from S. Davey to A. Wayman
- Removed ADD as a reviewer
- Added scope clarifying sentences at the end of the first paragraph
- Changed “radiation safety shielding” to “radiation safety system” in some locations.
- Updated critical component system manager to configuration control system manager
- Under Policy section, changed to indicate that requests for this permission may be made through the EFO group (was AES Division Director)

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Policy

In recognition of the potentially significant hazards associated with beamline or front end radiation shielding, it is the policy of the APS that the APS Engineering Support (AES) Division is responsible for all work on beamline and front end shielding. This responsibility encompasses the labor for alignment, shielding validation, maintenance, repair, and any modification of any beamline shielding component. This policy only discussed work on front-end and beamline shielding. Other radiation shielding components and systems outside of this scope are addressing in [APS_1685081](#) Change Control for Radiation Safety Systems.

If the beamline or front end shielding component has an APS Radiation Safety System tag, then the AES Division is responsible for any work on the component.

Users and other beamline personnel may operate engineered radiation safety shielding components. For example: users may actuate beamline shutters, and beamline personnel may open or close permanently installed manual shutters or stops, or may open or close an enclosure labyrinth or station door. The shielding systems must be used only as they were designed/intended and with APS and beamline prescribed safeguards (e.g., PSS safety interlocks and administrative controls).

There may be specific cases where the beamline management may seek to have beamline personnel assist with work on radiation shielding. Requests for this permission may be made through the EFO group. Beamline personnel may only work on the shielding with the written authorization of the Deputy ALD for Operations or designee for a specific scope of work.

Labor

In general, the AES Division will provide the incidental labor for the alignment, shielding validation, maintenance, and repair of beamline shielding components at no cost to the beamline management. For more extensive efforts, AES, on a case-by-case basis, may recover labor cost from the Collaborative Access Team (CAT)/ Collaborative Development Team (CDT)/X-ray Science Division (XSD).

Parts

The beamline management provides parts (or the funding for the parts) for maintaining the beamline shielding components. Due to the diversity of parts required, often unique to one component on one beamline, and the beamline management's ownership of the hardware, the beamline management is responsible for maintaining spares. AES will maintain some stock of common spare parts (e.g., pneumatic actuator seals/bellows).

AES Technical Support

The AES Division personnel shall ensure the information (specifications, drawings, procedures, etc.) is available and provide the trained personnel to ensure that the work is done properly and the shielding device is returned to service safely.

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Safety

In order to maintain a high level of safety, each person and group that requests or takes part in work on beamline or front end radiation safety shielding components should be aware that there are safety implications of their requests or activities.¹ Further, if they are aware of a potentially unsafe situation resulting from the work, then the component or system is to be secured until the questions are resolved.

No work by any party on any radiation safety systems is allowed without a complete, approved Configuration Control Work Permit (CCWP).² No work shall start on the beamline or front end shielding without the CCWP specified authorizations.

If the component is a new installation or a modification of an existing design, which operates outside of the safety/performance envelope of previous design reviews, the component shall not be brought into operation until the design and use are reviewed and approved by the appropriate design review committee.

For newly installed components, the Configuration Control System Manager will work in concert with the Commissioning Readiness Review Team to ensure that the design/operational requirements records are in place.

References

¹Change Control for Radiation Safety Systems ([APS 1685081](#))

²Configuration Control Work Permit Procedure ([APS 1192930](#))

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>