

Critical Components at APS

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Argonne National Laboratory



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Memo from AOD Division Director

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October 10, 2003

To: APS Group Leaders / Beamline Staff
From: W. G. Ruzicka Division Director, AOD
Subject: Beamline and Front-End Shielding Components

AOD has been given an expanded oversight responsibility for beamline and front-end shielding components, and to that end I have assigned Mohan Ramanathan as the Configuration Control System Manager (CCSM) to ensure that the proper reviews, commissioning, configuration control and maintenance processes are in place. He will be seeking support from you and your groups in this important task. The development of the work procedures is likely to be iterative with feedback from you. During the interim period, to ensure that the task of handling shielding components design review, commissioning, operation and maintenance does not compromise safe operation at the APS, the following will be implemented:

Effective immediately, all installation and maintenance work on shielding components needs to be approved by the CCSM or his designee. Once completed, the CCSM will verify proper completion of the work prior to return of the component to operation.

As has been the long-standing APS beamline policy, all new beamline shielding components will be reviewed by the Beamline Review Committee (BRC) prior to installation, to ensure compliance with established APS standards, and commissioned under the supervision of the Beamline Commissioning Readiness Review Team (BCRRT). Front-end shielding components will also undergo this same review and commissioning process.

Mohan will be on call at all times for the next 3 months. He can be reached on his pager during working hours, and the floor coordinators/control room operators will have his cell/home phone numbers for off-hour calls. A CCSM designee will be identified shortly.

I hope I can count on your support and cooperation in making this endeavor a success. If you have any questions please feel free to contact Mohan or me.

Xc:
APS Management, CAT Directors
S. Davey, P. K. Job, M. Ramanathan

DRAFT

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Policy for Work on Critical Components

Policy for Work on Beamline and Front-End Shielding Components (DRAFT - 8 October 2003)

Scope

For the purposes of this policy and procedure, any beamline or front-end component that is used to provide radiation protection for personnel is referred to as a *beamline shielding component*.

Beamline shielding components include:

- shutters,
- beam stops,
- collimators and masks required to define beams for the shutters and stops,
- shielded beam transport, and
- shielded enclosures.

Beamline shielding components do not include:

- beamline optics (e.g., monochromators, mirrors),
- apertures, slits, and masks that define the optics beam but are not required for shielding purposes,
- unshielded beam transport (e.g., for beam propagation but not shielding).

This policy covers the commissioning, maintenance, repair, or other modification of any beamline shielding component.

This policy does not apply to the normal operation of engineered shielding component controls (e.g., actuating a shutter, opening or closing a permanently installed manual shutter or stop, opening or closing an enclosure labyrinth or station door, etc.).

Policy

The management of the installation, maintenance, repair, or modification of beamline shielding components is the responsibility of the APS. The APS Operations Division (AOD) is responsible for overseeing all work on beamline shielding components and a Critical Component System Manager (CCSM) has been assigned the primary responsibility to provide seamless coordination of this work.

In order to maintain a high level of safety, each person and group that requests or takes part in work on beamline shielding components should be aware that there are safety implications of their requests or activities. 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.

To ensure that each component is installed or brought back into operation safely, the work will be coordinated by the CCSM. The CCSM's responsibilities include:

- ensuring that the scope of work is clearly defined,
- verifying that the proper technical groups are involved in the work and that each has adequate procedures to safely complete the work,
- ensuring that the procedures of various groups involved in the work are integrated, and
- facilitating that standards, specifications, operational safety envelope requirements, and procedures for work on beamline shielding components (e.g., alignment specifications and tolerances, component drawings, repair procedures, validation procedures, etc.) are available from the appropriate technical groups, and available to the workers/groups that require the information.

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 CCSM will work in concert with the Beamline Commissioning Readiness Review Team to ensure that the design/operational requirements records are in place.

At the discretion of the CSSM or designee, this work may be performed by non-ANL personnel, using APS-approved procedures and under the APS' supervision.

To close out any work permits and prior to bringing the beamline/front end back on line:

- the person[s] responsible for performing the work shall certify that the work on the component is complete and that to the best of their knowledge, the device is ready for safe operation,
- the requestor and a representative of the group that is responsible for the operational maintenance (if different from the requestor) shall confirm that the beamline/front end is ready for safe operation, and
- the CCSM shall verify that the beamline/front end is ready for safe operation.

Effective Date: proposed - 20 October 2003

Revision Status: no revisions

Prepared by: Steve Davey

Ultimate Goal

Safe Operation of APS

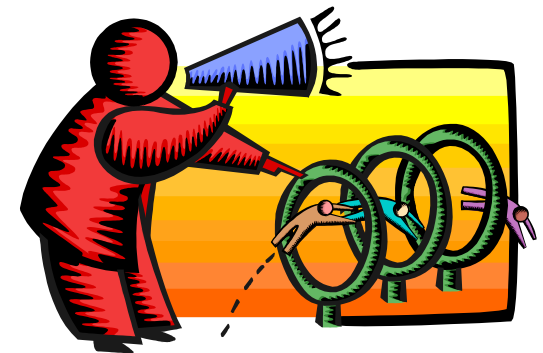
- **Ensure appropriate reviews on new critical component designs in beamlines and front ends have been completed**
- **Ensure proper commissioning procedures of beamlines and front ends are in place**
- **Streamline process for maintenance work on critical components in beamlines and front ends**



**Critical Component System Manager (CCSM)
is responsible for the above mentioned tasks**

Critical Component System Manager Role

- **Act as a facilitator**
- **Verify beamline configuration and validate the list of critical components**
- **Authorize work on critical components and subsequently authorize return to operation of component**
- **For work on critical components, ensure that proper work processes are in place**
- **Work with the beamline and APS technical groups to collect documents pertaining to critical components and archive them for easy access**



Critical Component System Manager Role

- **Team will work towards achieving the ultimate goals.**
- **Team will work with the technical groups in developing work processes for installation, operation and maintenance of beamline and front end critical components**
- **Team will work with the beamline technical staff for collection of documents for critical components**
- **Will use the new electronic documentation system**
- **Develop a process for ensuring relevant documents are available for the maintenance crew. Provide easy access to all documents related to a specific component**

Interim Process

- All work on a beamline & front end shielding components will be approved by CCSM
- Reconfigure APS work request system to accommodate changes to the approval process for work on shielding components
- CCSM has the final approval for verifying that the beamline & front end is ready for safe operation



This process will be implemented with minimal adverse impact to beamline operations

Finally....

Need the support and cooperation of beamline and APS staff to ensure success in this endeavor

