

ORNL PHYSICS DIVISION  
MULTICHARGED ION RESEARCH FACILITY PROCEDURE

X-RAY SHIELDING CONFIGURATION CONTROL

Revision 1.0

Date: October 4, 2007

**COPY**

ACTION	DATE	SIGNATURE
ORGINATED/REVISED	10/10/2007	<i>[Signature]</i>
REVIEWED (Division RCO)	10/10/2007	<i>[Signature]</i>
REVIEWED (Facility Contact)	10/12/2007	<i>[Signature]</i>
APPROVED (group leader)	10/12/2007	<i>[Signature]</i>

ACTION	DATE	SIGNATURE
REVIEWED		

## 1. APPLICABILITY

- 1.1 This procedure defines the requirements for review and approval of configuration changes of X-ray shielding installed on the High-Voltage platform and on the Caprice ECR Source/Floating Beamline at the ORNL Multicharged Ion Research Facility (MIRF), and all other locations within the facility where shielding may be employed to reduce X-ray exposure levels of facility personnel to ALARA levels.
- 1.2 Refer to the MIRF ESH Review of Experiments Procedure for general requirements for review and approval of experimental work, including but not limited to changes to experimental work, that do **not** require completion of a configuration control form.

## 2. REVIEW PERIOD, RECORD COPIES, AND DISTRIBUTION LISTS

- 2.1 The Atomic Physics Group Leader or his designee shall review this procedure every five years.
- 2.2 The record copy of this procedure and its distribution list shall be kept in the MIRF Platform Work Control Document notebook in B101, 6000B.

## 3. DEFINITIONS

- 3.1 For the purposes of this procedure, configuration control applies only to X-ray shielding at the MIRF.

## 4. REQUIREMENTS

- 4.1 The MIRF X-Ray Configuration Control Procedure review and approval process shall be administered by the Atomic Physics Group Leader or his designee.
  - 4.1.1.1 Proposed MIRF Configuration Control Procedure changes shall be initiated by the MIRF Lab Space Manager, reviewed and approved by the DRCO or designee and the Atomic Physics Group Leader or designee. If additional Subject Matter Experts are needed for the procedure change review, the DRCO will designate the appropriate reviewers.
  - 4.1.1.2 Temporary configuration changes for the purpose of gaining access to shielded components for routine maintenance and repair, with the intent of restoring the original configuration upon task completion, shall be documented via a MIRF Configuration Change Memorandum (see appendix). No source operation and/or application of high voltage is permitted until the shielding has been restored to its prior

configuration, and the restoration verified and approved as per 4.1.1.3.

- 4.1.1.3 Restoration of the prior configuration from a temporary configuration change shall be verified by reference to photographs dated prior to the temporary configuration change and posted at all shielding sites, and approved by the Atomic Physics Group Leader or his designee.
- 4.1.1.4 Permanent configuration changes for the purpose of addressing changes in the X-ray levels arising from all other sources, including, but not restricted to, source upgrades, new installations, changes in operating modes and/or operating conditions, i.e., whose purpose is **not** to return to the prior configuration, shall only be performed in consultation with Radiological Protection, and with the review and approval of the DRCO and Atomic Physics Group leader, or their designees, in the event of a permanent change.
- 4.1.1.5 Such permanent configuration change shall be documented via an approved MIRF Configuration Change Memorandum (see appendix), initiated by the person named in Field 1 of the form. All completed MIRF Configuration Memoranda shall be maintained in the relevant MIRF Work Control Document notebook in B101, 6000B.
- 4.1.1.6 As part of any permanent configuration change, all relevant posted reference photographs shall be updated to accurately reflect the new shielding configuration(s). The photograph(s) shall display the same date as the approval date of the permanent configuration change, and copies thereof attached to the appropriate approved MIRF Configuration Change Memorandum.

APPENDIX  
MIRF CONFIGURATION CHANGE MEMORANDUM

1. PREPARED BY		DATE	
2. BUILDING/LOCATION OF CHANGE			
3. TITLE			
4. REASON			
5. DESCRIPTION			
6. DRAWINGS/ PHOTOGRAPHS REQUIRING CHANGE			
7. NEW DRAWINGS/ PHOTOGRAPHS REQUIRED			
8. PROCEDURES REQUIRING CHANGE			
9. NEW PROCEDURES REQUIRED			
11. REVIEW AND APPROVAL SIGNATURES		12. CHANGE COMPLETION SIGNATURES	
DIVISION RCO or DESIGNEE REVIEW	DATE	DRAWING/PHOTOGRAPH CHANGES COMPLETED	DATE
GROUP LEADER or DESIGNEE APPROVAL	DATE	PROCEDURE CHANGES COMPLETED	DATE

10/4/2007

## DISTRIBUTION LIST

MIRF staff

Atomic Physics Group Leader

Research Support Group Leader

DRCO

RPO Technical Lead

MIRF HV platform and Caprice Work Control Document Notebooks