

X-ray Science Division Environment, Safety and Health Plan

September 01, 2017

Approval by:

Paul Rossi, XSD ESH Coordinator
Bruce Glagola, Safety Plan Review Committee Chair
Jonathan Lang, XSD Division Director

X-ray Science Division Environment, Safety and Health Plan

September XX, 2017

Table of Contents

Section 1 Safety Policies	2
1.0 Purpose	2
1.1 References	2
1.2 General Policies.....	2
1.3 Standard Procedures	3
Section 2 –Safety Organization & Responsibilities.....	3

Section 1 Safety Policies

1.0 Purpose

X-ray Science Division (XSD) is committed to ensuring that all sector activities are conducted in a safe and environmentally sound manner. This plan describes the safety program that is implemented to fulfill this commitment by defining the standards to be followed by the users and staff, and the responsibilities within the organization.

1.1 References

All activities at Argonne National Laboratory will conform to the requirements of the documents listed below, except as provided for by variance, the group complies with the policies and procedures made mandatory in the following ANL documents:

- ANL Laboratory Management System
- [ANL Environment, Safety, and Health processes](#),
- [APS User Policies and Procedures](#)

1.2 General Policies

- 1) Failing to conform to this plan may result in disciplinary actions.
- 2) Any person has the authority to stop activities that are deemed to be unsafe or environmentally unsound. This is called “stop work authority”. In addition, the management acknowledges that other entities with oversight responsibilities have the authority to order a halt to activities that are deemed unsafe or not in compliance with requirements.
- 3) Sectors will comply with the current version of the [Configuration Control Work Permit Procedure](#). No safety system under configuration control is to be modified without sector and APS approval.
- 4) Sectors will cooperate to facilitate the oversight responsibilities of Argonne and the DOE.
- 5) Sectors will adhere to the [APS experiment safety review](#) program.
- 6) Experimenters shall identify to the appropriate Sector Experiment Safety Review Panel the potential hazards associated with their activities and hazardous materials to be used in experiments at the APS. No experiment shall proceed without an approved and posted Experiment Hazard Control Plan (EHCP) and Experiment Authorization Form (EA) generated from a properly approved APS Experiment Safety Assessment Form (ESAF).

7) Sectors will maintain a current listing of safety assignments in the APS Beamline HR Administration Database by reporting appropriate personnel changes to the APS User Safety Officer, or designee.

8) The XSD Environmental, Health and Safety Plan will be reviewed and updated triennially with updates provided to the APS User Safety Officer, or designee.

1.3 Standard Procedures

XSD sectors have evaluated the hazards that will be encountered in their operations and to mitigate these hazards the sector personnel and its users will follow the unmodified APS Standard Procedures located through the Document Central web page (<http://centraldocs.aps.anl.gov/>) or maintained in the APS Integrated Content Management System (ICMS) and referenced within appropriate ESAF's.

Non-experimental activity, including installation activities, maintenance, equipment change out or modification, alignment & mechanical adjustments, and electronic interfacing on beamline equipment on the beamline, in experimental hutches, and in common areas typically will fall under the hazard analyses listed in the latest versions of Work Control Documents (WCD) #1525, #49814 and #19202.

Section 2 –Safety Organization & Responsibilities

The X-ray Science Division (XSD) **Director** has line responsibility for safety for all XSD sectors. The Director appoints Laser Control Area (LCA) Supervisors, Radiation Generating Device (RGD) Custodians and Accountable Sealed Source Custodians in XSD, and performs safety walkthroughs.

The **Associate Division Director (ADD)** has line responsibility for safety for their respective Sectors activities and for ensuring that this plan is implemented. The ADD is also responsible for evaluating and responding in a graded manner to non-conformances with this plan.

The **Group Leader** is responsible for safety of the group and must ensure that all investigators and employees under his supervision are instructed in safe operating procedures and work safely. The Group Leader monitors the completion of the safety training of his or her group employees and reviews their Job Hazard Questionnaires at least annually. The Group Leader is responsible for ensuring that safety issues are addressed at group meetings.

The XSD **ES&H** coordinator provides safety oversight of all XSD sectors. He or she conducts periodic safety inspections of the beamlines and LOM laboratories. He or she conducts accident investigations and recommends corrective actions.

The Sector **Safety Coordinator** is appointed by the Group Leader. The Sector Safety Coordinator is to ensure that the sector staff and users have access to the ANL Laboratory

Management System and the other identified standards and to assist employees and users in meeting the requirements of these standards. He or she is in charge of the Experimental Safety Review Program for the sector. All other safety coordinators listed below report to the Sector Safety Coordinator.

The Sector **Electrical Safety Coordinator** is appointed by the Group Leader and is responsible for electrical safety and ensuring compliance with Argonne electrical safety standards in all of the sector facilities. The Electrical Safety Coordinator is to be aware of ANL Laboratory Management System defined electrical safety requirements as typically attained through completing Argonne electrical safety and LOTO training.

The Sector **Chemical Safety Coordinator** is appointed by the Group Leader and is responsible for chemical safety, including chemical waste management, and ensuring compliance with Argonne chemical safety standards in all of the sector facilities. The Chemical Safety Coordinator is also responsible for the proper use of the Argonne Chemical Ordering, Records, and Attribute Library (CORAL) throughout the sector. The Chemical Safety Coordinator is to be aware of ANL Laboratory Management System defined chemical safety requirements.

The Sector **Biological Safety Coordinator** is appointed to this role by the Group Leader and is responsible for overseeing the proper handling and disposal of all biological materials throughout the sector. The Biological Safety Coordinator also assists in the development and implementation of any biological safety procedures.

The Sector **Shipping Coordinator** is appointed by the Group Leader and is responsible for overseeing the safe transportation of materials to and from the Sector and ensuring compliance with Argonne transportation safety standards. The shipping coordinator is to be aware of Argonne transportation requirements as well as APS specific shipping and receiving requirements. The Shipping Coordinator will remain current in the APS transportation safety requirements.

The Sector **Hoisting and Rigging Coordinator** is appointed by the Group Leader to supervise the safe operation of cranes and hoists throughout the sector. He or she is in charge of the pre-use inspection of all cranes and hoisting equipment and the training of the sector staff and users in the safe use of such equipment. The monthly sling inspection is performed by AES floor coordinators.

The Sector **Experiment Safety Reviewers and Approvers** are appointed by the Group Leader and are responsible for ensuring that the beamline can adequately and safely meet the needs of a specific experiment. They are also responsible for ensuring that all specific hazard controls are in place prior to the start of the experiment.

The Sector **Sealed Source Custodian** is appointed by the Group Leader to track the use of all radioactive sealed sources for which they are responsible. The use of sealed sources at APS is restricted to people who have received proper radiological training.

Sealed Source Custodians are responsible for ensuring that all accountable sealed sources are inventoried and leak-tested as required by the ANL Laboratory Management System.

The Sector **Laser Control Area(LCA) Supervisor** is appointed by the XSD Division Director and is responsible for ensuring that a standard operating procedure is implemented for any class 3b or 4 lasers used and for ensuring that all authorized LCA users have completed the proper laser safety training and medical eye exam. The LCA Supervisor is responsible for notifying the Argonne Laser Safety Officer and XSD ES&H Coordinator of any modifications to their laser set-ups. The LCA Supervisor also trains future Class 3b and 4 laser users about safe practices in the laser lab.

The Sector **Lab Safety Captain (Laboratory Area Lead)** is appointed by the Group Leader to implement and oversee conformance with this Safety Plan in the laboratories. They are to ensure that users of the labs follow the safety policies and practices defined in the ANL Laboratory Management System and the sector specific procedures. The Sectors Lab Safety Captain is also responsible for correcting any safety deficiency cited by the XSD ES&H Coordinator during inspections of their facilities.

The **LOM Machine Shop Coordinator** is appointed by the Group Leader and is in charge of the safe use of the local machine shop by the Sector users and staff members. He or she keep records of training of the machine shop, assists in keeping the shop safe and clean, inspects machine tools and guarding, and informs the AES Floor Coordinator of any repairs and or maintenance of such items.