LOM/USER MACHINE SHOPS

Changes made in this revision:

- Moved bullet points 2 and 3 to 1.3 Floor Coordinator. Deleted bullet point 4. Page 5 - 1.3 Floor Coordinator -- Deleted Bullet Point 12 ("Arrange for inspections to ensure equipment meets ANL standards") This function is now performed annually by the machine tool custodian
- Changed AES ESH Coordinator to PSC User Safety Officer or designee in Section 1.1 and S1.2

Prepared by:

C. White, PSC/UES

Reviewed by:

AES/ESH Coordinator

PSC/UES Group Leader

AES/Tech. Ops. Specialist

XSD/ESH Coordinator

Approved by:

PSC/ESH-QA Coordinator

XSD/Division Director

APS/Deputy Associate Laboratory Director, X-ray Science

APS/Deputy Associate Laboratory Director, Operations

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LOM/USER MACHINE SHOPS

Definitions

- **User Shop**: Any location where machine tools are available to CAT/CDT/XSD/User personnel including the shared, central pentagon LOM shops and CAT/CDT/XSD managed areas.
- **Shop User**: Any person who uses machine tools in a User Shop.
- **Machine Tools**: Stationary, as opposed to hand-held, material forming tools.
- **Shop Coordinator**: Appointed by CAT/CDT/XSD management to represent/oversee its interest in User Shop operations
- **Machine Shop Certifier**: A person knowledgeable of machine tool operation/training and appointed by the APS, to determine, via hands-on demonstration and/or written tests, if a shop user candidate has sufficient experience and skills to use the machine(s) in a proper, safe manner.

POLICY

To reduce the risk of personal injury, adverse environmental impact, and damage to equipment, the APS has established controls for the use of the machine shops located in the APS Lab Office Modules (LOM) and User Shops.

No one is allowed to use a User Shop until they have been authorized to do so according to the requirements of this policy and procedure.

There are a number of options at the APS for users to obtain machining services: a full line of machining services are available to APS Users through the ANL machine shops, the APS may be able to provide some limited machining support, and a CAT/CDT/XSD personnel may also be able to provide support.

Authorization to use machine shop tools will be on a tool-by-tool and shop-by shop basis.

1 RESPONSIBILITIES

1.1 Shop Users

Shop Users must:

- Obtain the required certification and authorization before using machine tools in any User Shop.
- Inspect machine tools before each use of the tool to verify that the tool has the required guarding and is operating properly.
- Inspect any hand, portable power, and machine tools used in a User Shop before each use to check that the condition of the tool is safe for use.

- Promptly report any unsafe condition to a Floor Coordinator.
- Not use any defective tools. Machine tools having deficiencies will be locked out and will not be returned to service until the problems have been corrected.
- Inform the Shop Coordinator, in advance, of the desire to machine toxic or hazardous material, including lead, and shall not proceed until a review has been completed and authorization has been granted by the PSC User Safety Officer or designee.
- Shall clean up after each use of the User Shop.

1.2 Shop Coordinator

Shop Coordinators must:

- Provide User Shop Orientation (refer to Section 7).
- Ensure that all machine tools are in a lockable area or have administrative controls to limit shop use to only authorized users.
- Conduct and record the results of monthly machine shop inspections (the LOM Shop Monthly Inspection Record or similar checklist shall be maintained, refer to Section 7).
- Notify a Floor Coordinator in the planning stage of proposals to install machine tools (and other equipment and furnishings) in a User Shop. No equipment may be installed without an APS/ANL (PSC User Safety Officer or designee and XSD ESH Coordinator) review and approval.
- Inspect tools prior to their use at the CAT/CDT/XSD facilities.
- Remove any defective machine tools from service until the problems are corrected.
- If lead machining is allowed in the User Shop, manage lead certification per APS/ANL procedures.
- Inform Floor Coordinator of requests to machine toxic or hazardous materials in their User Shop and participate in safety review.
- Assist users in clean-up procedures.

1.3 Floor Coordinator

Floor Coordinators must:

- Maintain a User Shop Access List (refer to Section 7) for the User Shops they manage or share in the management of. The list will include the names of authorized users who have received the User Shop Orientation and the specific tools that each person has completed the machine-specific skills assessments and has been authorized to use.
- Post User Shop Access List at the entrance to the User Shop.
- Arrange for certification examinations to be administered by the Machine Shop Certifier.
- Arrange for maintenance and repairs on APS provided machine tools

- If the access to the shop is controlled by an APS card reader, forward notice of changes in authorized access to the APS User Administration Office.
- Update APS/ANL shop training/orientation records.
- When notified of an unsafe condition, ensure that the equipment is safely secured, ensure that the Shop Coordinator is notified, and arrange for a safety review.
- Coordinate lockout/tagout procedures for User Shops.
- Arrange safety reviews for machining toxic or hazardous materials.
- Perform safety checks for CAT/CDT/XSD personnel working after hours or during weekends/holidays.
- Arrange for APS/ANL review and approval of equipment that a CAT/CDT/XSD seeks to place in a User Shop.
- Coordinate installation of machine tools (and other equipment and furnishings) in a User Shop.
- Arrange for an inspection, by the AES ES&H Coordinator (or his designee), of each new machine to be added to the shop.
- Perform a general shop walk through as part of their monthly Life Safety Inspection.
- Assist in clean-up procedures in case of leak or spill.

1.4 CAT/CDT/XSD Director

The CAT/CDT/XSD Director must

- Assign a Shop Coordinator and ensure that the Shop Coordinator listed in the APS Beamline HR Database is kept up to date.

1.5 Machine Shop Certifier

The Machine Shop Certifier must:

- Administer and evaluate hands-on and/or written tests to assess if a candidate has the ability to use specific machine tools in a proper, safe manner.
- Document the assessment of candidates providing the records to a Floor Coordinator.

1.6 APS Deputy Associate Laboratory Director, Operations (DALD-OPS)

The DALD-OPS must:

- Have line management responsibility for the implementation of this policy including the designation of a Machine Shop Certifier.

2 AUTHORIZATION OF PERSONNEL

2.1 Earning Authorization

Anyone wishing to use a User Shop should have the appropriate training and experience for the tools they are seeking to use prior to requesting the access. Individuals who lack

the appropriate skills and authorization will need to have their machining done for them by others.

To obtain the authorization to use specific machine tools in the User Shop, the candidate must receive a Shop Coordinator-provided general orientation to the User Shop and must pass machine-specific examination(s) to demonstrate that the candidate can use the specified machine tools properly and safely. The examinations are administered by the Machine Shop Certifier (or designee) and can be arranged through the Floor Coordinators.

A person who has completed only the general orientation is allowed only access to the shop for the use of clamping devices and hand tools only.

A person is considered an authorized user if they have:

- completed the general orientation,
- been certified by the Machine Shop Certifier (or designee) that they can properly use specified machine tools properly, and
- had their name added to the shop-specific, machine-specific User Shop Access List by the Shop Coordinator, **and** this list has been posted on the outside entryway to the User Shop.

If the candidate does not pass the machine specific test(s), the Shop Coordinator can refer the candidate to training classes or the APS may help to locate training classes in the vicinity of Argonne.

2.2 Shop Access

The user's APS badge will allow the authorized user access to the LOM shop. When a person is added to the User Shop Access List, the APS User Administration Office will update the database that controls the LOM card readers.

Access to other User Shop areas controlled by the CAT/CDT/XSD will be managed by the appropriate Shop Coordinator.

2.3 Loss of Authorization

User Shop Orientation and User Shop Authorized Operator Certification expire after three years.

Any APS Floor Coordinator, CAT/CDT/XSD Director, CAT/CDT/XSD Safety Officer, or Shop Coordinator of the sectors assigned to a particular User Shop may suspend or revoke for cause a person's authorization to use that User Shop or the machine tools located therein. Defeating or circumventing installed guarding is, by itself, sufficient cause for revocation of a person's authorization to use a User Shop. Other causes for revocation include, but are not limited to, failing to use appropriate personal protective

equipment, using unsafe shop practices, continuing to use tools improperly after being shown the proper usage, failing to clean up work area before leaving the shop, failing to use proper machine-shop etiquette, and allowing an unauthorized person access to the machine tools in the User Shop.

If a person's authorization to use a User Shop is revoked, a Floor Coordinator will assure that the person's name is removed from all User Shop Access Lists at APS. Persons who continue to use a User Shops after losing their User Shop Authorization Certification may lose their access privileges to the APS.

2.4 User Shop Rules

- The User Shop Rules will be posted on the wall in the User Shop.
- Authorized Operators must adhere to the principles of the User Shop Rules to maintain authorization to use the User Shop.
- The User Shop Orientation contains a copy of the User Shop Rules.

LOM MACHINE SHOP ACCESS

PROCEDURE

1 INTRODUCTION

1.1 Purpose

To reduce the risk of personal injury, adverse environmental impact, and damage to equipment, the APS has established controls for the use of the machine shops located in the Lab Office Modules (LOM) and user-managed spaces.

1.2 Scope

This procedure defines the process by which a person seeking to use User Shop machine tools can become certified (i.e., confirmed that they have the knowledge and skills to safely operate the tool) and authorized to use the tools.

1.3 Applicability

This procedure shall be followed by any person, CAT/CDT member, General User, XSD member, or other person acting as an agent of the user, seeking to use a User Shop.

2 HAZARDOUS CONDITIONS - PRECAUTIONS AND LIMITATIONS

Failure to meet the requirements set forth in this policy and procedure may result in injury to personnel, damage to the environment, and/or damage to equipment.

3 PREPARATION - PREREQUISITE ACTIONS

Persons wishing to use a User Shop should already have the appropriate skills before coming to the CAT/CDT/XSD facilities. (Individuals who lack the appropriate shop skills will need to have their machining done for them by others.) The CAT/CDT/XSD Shop Coordinator will provide experienced machine tool operators with a general orientation to the User Shop and a copy of the general APS machine shop rules. Completion of the shop orientation enables access to the shop for the use of clamping devices and hand tools only. To gain certification to use a particular machine tool, the testing by the Machine Shop Certifier must be arranged through a Floor Coordinator, and access to the machine tool must be arranged in advance.

4 ACCEPTANCE CRITERIA

Authorization requires:

- Certification by APS assigned tester, the Machine Shop Certifier and
- Authorization by CAT/CDT/XSD Shop Coordinator.

5 PROCEDURE ACTION STEPS - PERFORMANCE

5.1 Certification Procedure

Responsible Person	Action
Candidate	Request authorization to use the shop and specific machine tools from the Shop Coordinator, Floor Coordinator, or beamline staff.
Shop Coordinator, Floor Coordinator	Conduct an interview with the candidate to assess his or her experience. Untrained or lightly trained users shall be referred to professional instruction outside of ANL, typically a Junior College's Technical Education department, and may attempt to certify after demonstrating completion.
Candidate	Meet with a Shop Coordinator for shop orientation. Candidates who will use only hand tools may be added to the shop access list following this orientation and successful completion of a written shop safety test. Candidates who require the use of machine tools must complete written and practical tests for each tool.
Shop Coordinator, Floor Coordinator, Shop Certifier	Administer written tests for general shop safety and for specific machine tools.
Shop Certifier	Administer practical tests for each machine tool a candidate seeks to use. Retain records of test results and dates. Report results to the Floor Coordinator.
Floor Coordinator	Notify Shop Coordinator of test results. Add the candidate's name to the User Shop access List for the appropriate shop, noting the specific tools the candidate is authorized to use. Maintain a database of all authorized users by User Shop. Update the user training records. Notify the User Administration Office that authorized users may be granted key card access to a specific User Shop.
User Administration Office	Update the card reader database and activate an authorized user's APS badge for shop access.

6 CLOSEOUT - POST PERFORMANCE ACTIVITY

Daily Inspections
As appropriate to individual machines, the Shop Coordinator will ensure that a description of the guarding is attached to or posted near each machine tool. Before each use of the machine, the shop user will ensure that the guarding is in place.

Monthly Inspections
The Shop Coordinator will conduct monthly machine shop and machine tool inspections, using the LOM Shop Monthly Inspection Checklist, which incorporates machine guarding criteria.

Deficiencies
The Floor Coordinator will assist in lockout/tagout for deficient machines. Machine tools having deficiencies will not return to service until the problems have been corrected.

7 DOCUMENTS/RECORDS CREATED BY THIS PROCEDURE

The orientation and record forms listed below are available through the APS Facility/Safety and Training Web page (http://www.aps.anl.gov/Safety_and_Training/Safety_Guides/lomshopusage.html).

The documents/records listed below will be created in the execution of this procedure and must be retained as indicated.

Description of Document/Record (include ID number, if applicable)	Custodian	Storage Location and Medium	Retention Requirement
User Shop Authorization Certification / User Shop Orientation Forms	Floor Coordinator	ICMS	75 years
User Shop Access List	Floor Coordinator	ICMS	6 years
LOM Shop Monthly Inspection Record	Shop Coordinator	Shop Coordinator files	1 year

8 TRAINING REQUIRED

See policy and procedure.

9 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://www1.aps.anl.gov/Document-Central/APS-Policies-and-Procedures-Comment-Form