MACHINE SHOP SAFE WORK PRACTICES

This document is intended to ensure the safety of faculty, students, researchers and staff within Harvard’s machine shops. This policy is applicable to any shop that possesses machinery including, but not limited to:

- Machine Shops
- Carpentry Shops
- Other shops that use machinery for the purpose of fabrication (i.e. plastics, glass, ceramics etc.)

This document outlines the minimum requirements necessary to reduce the risk of serious injury in a shop. It is the responsibility of every shop to comply with the operating practices listed in this policy and to ensure a safe working environment that complies with OSHA and other applicable regulatory standards. The Environmental Health, Safety & Emergency Management (EHSEM) Department provides technical support to shops and monitors current OSHA and proposed safety regulations, aids in the assessment of machine shop equipment and investigates suspected unsafe conditions. In partnership with the schools/departments, EHSEM will annually convene a meeting of affected personnel to review elements of this policy, its effectiveness and best management practices for machine shops.

Machine Shop Operating Practices that ensure safe operation include:

- Designated Shop Supervisors
- Controlled Access To Shops and Equipment
- Training and Authorizations For Use
- Shop Specific Operating Rules
- Standard Operating Procedures For Equipment
- Documented Auditing and Inspections

**Machine Shop Operating Practices:**

**Designated Shop Supervisors**

Each shop must have designated and qualified Shop Supervisor(s) to implement this policy. Shop Supervisor(s) must be experienced and competent in the safe use of all tools and machinery in the shop. It is the responsibility of the Shop Supervisor to maintain and document the key elements of a Shop Safety Plan, including, but not limited to:

- Contact information for the facility manager and shop supervisor
- An inventory of machinery in the shop
- A list of personnel authorized to use the shop
- A copy of the personnel protective equipment assessment
- A copy of the shop’s policies and procedures
- A documented inspection log
- Copies of standard operating procedures
- Documented training program and records

Documentation must be made available for an internal or external regulatory agency inspection.
Controlled Access to Shops and Equipment
Every shop must develop a method for controlling the access of unauthorized personnel into their shop. At a minimum, each shop must implement a means to prevent the unauthorized use of dangerous machinery and tools.

Training and Authorizations for Use
Each shop user must complete training commiserate with their use of the machine shop that ensures for the safe and proficient use of equipment/machines. The training sessions will be provided or coordinated by the Shop Supervisor. The training must include, at a minimum, the following topics:

- Review of this Machine Shop Safety Policy and the shop specific operating rules
- Dangers associated with specific tools, machinery in that shop
- Personal protective requirements
- Safe use
- Hazards and limitations
- Guard placement and adjustments
- Cleaning and maintenance
- Equipment use demonstration

Training records of personnel must be maintained by the shop.

Shop Specific Operating Rules
Each shop must develop its own specific operating rules, in writing. At a minimum, these rules must address the following information:

- Notice that communicates only authorized users allowed
- Hours of operations
- Personal protective equipment requirements
- Operating attire (i.e. tie back long hair, roll back sleeves, etc.)
- Safe shop practices (i.e. working alone, safe behavior, etc.)
- Safe use for equipment and tools
- General rules for housekeeping and safety
- Training requirements
- First aid and eye washing
- Contact information (shop supervisor and facility manager)
- Emergency contact information
- Enforcement of shop policies and procedures

Standard Operating Procedures for Equipment
Standard Operating Procedures (SOP’s) must be maintained for each piece of machinery in the shop. SOP’s must be based on the recommendations of the manufacture and should list the specific hazards associated with the machine, as well as, recommendations for safe use. SOP’s must be available at or near the machine and copies be kept in the Shop Safety Plan.

Documented Auditing and Inspections
The Shop Supervisor is responsible for conducting and documenting (inspection log) periodic machine, tool, associated equipment, and shop safety inspections. All machine tools and equipment that are deemed unsafe must be removed from service and locked out until properly repaired. The EHSEM Department will conduct, at minimum, annual inspections of high-risk machine shops.