

CENTRAL ARIZONA PROJECT



MACHINE GUARDING PROGRAM

JANUARY 1, 2020

(MOST RECENT AMENDMENTS: 1/8/2024)

1.0 PURPOSE

The purpose of the Machine Guarding program is to ensure the safety of CAP employees that install, repair and operate machinery during the course of their work. The program is designed to make sure employees understand that accidental contact with the point of operation of machinery can cause injury to an operator or others. Employees are responsible for learning to control and eliminate these hazards.

2.0 SCOPE

The program applies to managers, supervisors, and employees that are involved in purchasing, installing, repairing, operating and working around machinery, from fixed equipment to portable and hand-held tools. Machinery falling within the scope of OSHA standards 29 CFR 1910.211 to 1910.241 is covered by the program.

3.0 PROGRAM COMPONENTS

- 3.1 Application:** When there are questions about how a particular tool or machine fits into the program or what type of guarding and administrative controls should be applied, supervisors and EH&S start by reviewing the appropriate standards and the manufacturer's literature to determine appropriate guarding requirements.
- 3.2 Roles and Responsibilities:** CAP departments, managers, supervisors, and employees that plan, supervise, install, repair, and operate tools and machinery have specific roles and responsibilities in the Machine Guarding program. The EH&S Department is involved in the machine guarding process from the time the machine is requested for purchasing approval to the time the machine is installed, guarded and authorized for use. Maintaining consistency throughout all CAP facilities is a primary goal.
- 3.3 Training:** The purpose of CAP's online Machine Guarding Training and Familiarity Training is to ensure that all employees that operate or work around machinery know that any machine point of operation may cause injury and must be safeguarded. OSHA places responsibility on employers to ensure all personnel who utilize machinery know how and why safeguards are used. Machine guarding training also becomes an integral part of the competency of the professional machinist or operator and provides important controls to counter the daily risks of machine operations.
- 3.4 Program Maintenance:** Any time a new machine (other than hand-held) is purchased, it must go through a purchasing, inspection, PM development, and documentation process before the machine is placed into operation. If a machine is transferred to a new MRC, either the providing or the receiving MRC must notify the Safety department so the PM can be updated and to ensure the correct documents remain with the machine.

4.0 RESPONSIBILITIES

4.1 The EH&S Department is responsible for:

- Managing and maintaining the consistency of CAP's Machine Guarding Program in all facilities and revising the program as appropriate.
- Assisting departments with selection of proper machine guards or alternative protective measures from the automatic purchasing workflow process to installation, machine commissioning, and training.
- Involvement to ensure all guards and electronic components are of the same quality, UL approved, are consistently applied throughout all CAP facilities, and installed by "competently trained" personnel.
- Inspecting machinery for appropriate guarding, reporting any hazardous conditions to the appropriate department, including placing a machine out of service.
- Investigating injuries related to machine operation.
- Oversight and follow-up for machine-specific training, including training for employees that transfer into a maintenance MRC.
- Oversight and maintenance of safety placards, yellow document holders, and all documentation stored inside the machine guarding notebooks.

4.2 Departments that operate machinery are responsible for:

- Ensuring all machines are properly inspected and guarded.
- Corrective action with employees who violate the program requirements.
- Ensuring that employees recognize mechanical and electrical hazards.
- Conducting and supporting on-line and familiarity training.
- Maintenance of safety placards, yellow document holders, and all documentation stored inside the machine guarding notebooks.

4.3 Managers and Supervisors are responsible for:

- Ensuring an operator is safe, competent and proficient in the operation of a machine through training and mentoring their abilities to a proficient and productive level.
- Ensuring safe shop practices are followed for personnel outside of the supervisor's organization.
- Ensuring when unsafe acts are noted, they are corrected and do not reoccur.
- Placing a machine out-of-service if the machine is not operating properly, or has damaged or missing parts, guards, or electrical equipment.
- Ensuring that unguarded machines are removed from service until all necessary guards are in place or, if appropriate, a Guard Removal Form is

filled out.

- Contacting the Health and Safety Department for an evaluation of safeguards when concerns regarding adequate protection cannot be resolved.
- Ensuring any vendor-provided training is documented and entered into the CLC.
- Maintenance of safety placards, yellow document holders, and all documentation stored inside the machine guarding notebooks.
- Ensuring personnel do not operate machinery while under the influence of drugs, alcohol, or medication that could affect their ability to operate the machine safely.

4.4 Employees are responsible for:

- Complying with this program, and all applicable federal, state, and local regulations regarding machine guarding.
- Visually inspecting, prior to each use, each tool and machine to ensure all necessary guards are in place.
- Performing 60-day Preventative Maintenance (PM) inspections as specified in this Program.
- Maintenance of safety placards, yellow document holders, and all documentation stored inside the machine guarding notebooks.
- Placing a machine or powered hand tool out-of-service if it is not operating properly, has damaged or missing parts, guards, electrical equipment, or any other protective measures damaged or missing.
- Ensuring loose-fitting clothing, hair, jewelry, or other items that could become entangled in machinery are not worn.
- Wearing appropriate PPE in accordance with signs and JSAs associated with each machine.
- Ensuring machinery is not operated while under the influence of drugs, alcohol, or medication that could affect their ability to operate the machine safely.

5.0 PROGRAM EVALUATIONS

Formalized Machine Guarding Risk Assessments will be conducted by CAP's EH&S department every five years for the purpose of collaborating with operators to determine if improvements can be made relevant to their tasks and hazards and to verify guarding remains adequate. The Risk Assessment process ensures machines:

- Are guarded safely and correctly;
- Are compliant with applicable standards;
- Remain productive after the guarding is installed;
- Follow the same Risk Assessment approach for newly purchased machines.
- Receive 60-day PMs as appropriate.

6.0 TRAINING AND ADMINISTRATIVE CONTROLS

The program uses electronic workflows and preventative maintenance software to ensure machinery is evaluated before purchase, after installation, and after authorization for use occurs. Resources installed at each machine provide preventative maintenance tracking and resources to facilitate the operator's before use inspection and the identification and control of the hazards associated with each machine.

- **Machine Purchase Workflow:** Developed into five easy steps that involve the supervisor, planner, buyer, and the EH&S department in the purchasing process for a new machine.
- **Safety Placard:** Promotes awareness with each machine's specific hazards and controls related to things like correct clamping, guarding during operation, and "point of operation" hazards. It also addresses PPE recommendations, housekeeping issues, and reminds operators to check for any damaged parts or tools, and the location of their controls and e-stops, before operating a machine.
- **Yellow Document Holder and notebook** includes: 1.) 60-Day PM Inspection; 2.) JSA; 3.) Parts List; 4.) Lock-out/Tag-out requirements; 5.) Manufacturer's Operations and Maintenance Manual. (Note: the manufacturer's manual may be kept in a separate location such as the supervisor's office, so long as employees are aware and have access to the manual.)
- **Guard Removal Approval Form:** Established for the authorization of operating a machine without a guard for a specific task. The removal of a machine guard will require additional steps to be followed, including training for temporary work practices to ensure employee safety.
- **On-line Machine Guarding Training** is sent to the below Maintenance Reliability and Control (MRC) organizations by the Learning Management System (LMS) Administrator.
- **Machine Guarding Familiarity Workflow** training is required when new machinery is purchased or a new employee is hired or transferred to a different organization. The workflow is designed to track the employee through the familiarity training process and acquire the electronic signatures of the supervisor and employees when the training has been completed.

#510	#621	#631	#632	#633	#634	#839
#533	#720	#721	#723	#821	#831	#836