Brunel Energy, Inc.

Machine Guarding

Contents

1. Purpose

1.1. Brunel Energy, Inc. hereinafter referred to as, the "Company," has established a Machine Guarding Policy to ensure the safety of our employees by establishing appropriate machine guarding procedures for any machine part, function, or process that may cause injury.

2. Scope

2.1. This Policy applies to employees, subcontractors, and/or visitor(s) of the Company. For the purposes of this Policy, an employee shall be considered on the job whenever he/she is:

2.1.1. On or in, any Company or client property, including parking areas; or

2.1.2. On Company time even if off Company premises (including paid lunch, rest periods, and periods of being on call).

2.2. As a condition of employment, Company employees are required to abide by additional governmental or customer policies and requirements that may be imposed at a worksite in addition to the requirements of these policies and procedures. Nothing set forth in this Policy constitutes, construes, or interprets in any way as a contract of employment.

3. Definitions

3.1. ***Device*** is a press control or attachment that restrains the operator from inadvertently reaching into the point of operation.

3.2. ***Enclosure*** means guarding by fixed physical barriers that are either mounted on or around the moving parts of the machine/equipment.

3.3. ***Fencing*** is a locked fence or rail enclosure that restricts access to the machine, except by authorized personnel. The dangerous operation of the machinery must be at least 42 inches away from the fencing.

3.4. ***Guard*** is defined as a barrier (fixed or movable) that prevents contact with moving parts. Guards are more protective and are preferred over devices.

3.5. ***Hazards*** are a source of potential harm or damage, or a situation with the potential for harm or damage.

3.6. ***In-going Nip Points*** are two or more mechanical components rotating in opposite directions in the same plane and close conjunction or interaction.

3.7. ***Pinch Point*** is any place where a body part can be caught between two or more moving parts.

3.8. ***Point-of-operations*** is the point at which cutting, shaping, boring, forming, or the process is accomplished on or within the equipment.

4. Responsibilities

4.1. Manager(s) Shall:

4.1.1. Be responsible for providing equipment and resources necessary to implement this Policy, and for ensuring that the provisions in this Policy are being followed.

4.1.2. Ensure each department or functional area has a copy of the Policy.

4.1.3. Ensure that all current and new machinery is inspected for proper machine guarding.

4.1.4. Develop procedures for taking improperly guarded machines out of service.

4.1.5. Ensure that improperly guarded machines are fixed before being put back into service.

4.1.6. Maintain a machine-specific list of guarding methods.

4.1.7. Schedule employee training and ensure new hires are trained in the Policy.

4.1.8. Provide outside contractors with information on the Company's Machine Guarding Policy.

4.1.9. Review and update the Policy and materials as needed.

4.1.10. Maintain records pertaining to the Policy.

4.2. The HSE Supervisor Shall:

4.2.1. Ensure assigned machine operators are trained in the Machine Guarding Policy.

4.2.2. Stop and correct any unsafe work practice or condition immediately.

4.2.3. Notify management when changes in processes increase the risk of injury or introduce a new hazard.

4.2.4. Conduct machine inspections to ensure there are proper guards.

4.2.5. Ensure that employees with insufficient skills or understanding of machine guarding are removed and retrained before returning to machine operations.

4.2.6. Ensure employees comply with all safe work practices outlined in this Policy.

4.3. Employee(s) Shall:

4.3.1. Complete all required machine guarding training before operating a machine.

4.3.2. Assist in inspections.

4.3.3. Verify guarding devices are in place and functional before using any machine.

4.3.4. Report missing or worn guards to supervisors before operating any machine.

4.3.5. Comply with all procedures and safe work practices outlined in this Policy.

5. Requirements

5.1. General

5.1.1. All machines shall be guarded to prevent any part of the employee's body or clothing from making contact with a hazardous area.

5.1.2. All points of operation, nip points, pinch points, rotating shafts, and belts will be guarded.

5.1.3. The guards should prevent objects from falling into the equipment.

5.1.4. Guards must not be easily removed or altered and will be constructed of substantial material that resists fire and corrosion. When possible, clear plastic guards that allow for easy inspection will be used.

5.1.5. Guards shall not create an additional hazard such as a shear point, contain a jagged edge, or have unfinished surfaces.

5.1.6. Guards shall be installed so that routine maintenance can be performed without removing the guard.

5.1.7. Employees shall not use any machine/equipment with a damaged or missing guard until it is repaired or replaced.

5.2. Machine Inspections

5.2.1. All new equipment and machines shall be inspected by the HSE Supervisor after setup and before being placed into service. All guards that came standard from the manufacturer must be in place and operational before use. Supervisors and machine operators will visually inspect their machine's guards before every shift.

5.2.2. Each machine's guards will be thoroughly inspected monthly. Machines that do not pass inspection will be taken out of service.

5.2.2.1. Any machine taken out of service will be isolated from its energy source(s) using the proper isolation method in the Lockout/Tagout Program and an out of service sign will be promptly attached to the machine.

5.2.3. After all guarding issues found during the inspection are corrected, the HSE Supervisor will authorize the area's supervisor to put the machine back into service.

5.3. Unauthorized Removal of Machine Guards

5.3.1. Management does not tolerate the unauthorized removal of machine guards. Any employee found to have removed a machine guard without supervisor approval will be subject to disciplinary actions up to and including termination.

5.4. Program Review

5.4.1. The HSE Supervisor will conduct an annual review to assess the program's effectiveness. The review will consider any new machines, changes in processes, facility layout changes, and the cost and frequency of machine-related injuries.

5.4.2. If any inadequacies are identified, the HSE Supervisor will take all necessary steps to update the procedure or guarding method. The annual review will include a discussion between the Supervisor and each machine operator to determine if they understand their responsibilities under the Machine Guarding Policy.

5.5. Records Retention

5.5.1. The Company will maintain Machine Guarding Policy training records for 3 years. All records will be kept by the HSE Supervisor. Inspection records and machine guarding lists will be retained indefinitely.

5.6. Guarding

5.6.1. Equipment must be safeguarded by either installing a guard or device. A device must perform one of the following functions:

5.6.1.1. Stop the equipment if a hand or any part of the body is inadvertently placed into equipment.

5.6.1.2. Restrain or withdraw the operator's hands during operation.

5.6.1.3. Require the operator to use both hands-on equipment controls.

5.6.1.4. Provide a barrier that is synchronized with the operating cycle of the equipment to prevent entry during the hazardous part of the cycle.

5.6.2. When guards or devices cannot be used, there are additional methods that can be used such as fencing, safe distance, safe opening, and safe position of controls.

5.7. Machine Guarding, Machine and Electrical Safety

5.7.1. Guards on stationary machines and portable power tools must never be disabled or removed without management approval and must remain in place during equipment operation.

5.7.2. Portable power tools must be inspected prior to use for defects such as disabled guards and electrical cord issues and removed from service, as necessary.

5.7.3. All newly purchased power equipment should have required guards installed by the manufacturer.

5.7.4. Older equipment or equipment without factory installed guards should be retrofitted with the appropriate guards.

5.7.5. Machines designed for a fixed location must be securely anchored to prevent walking or movement of the machine while in operation.

5.7.6. Benchtop machines (i.e., grinders, drill press) must be securely anchored to prevent movement while being used.

5.7.7. Fans within seven feet of the floor must be guarded to prevent contact with the fan blades. Fan guards must have openings no larger than ½ inch.

5.7.8. All machinery must be installed according to the manufacturer’s requirements and according to the National Electric Code (NEC).

5.7.9. Portable power tools must be double insulated or be appropriately grounded when in use.

5.7.10. Machine controls must never be wedged to allow continuous operation.

5.7.11. Control switches must be located within easy reach of the operator at his/her operating position.

5.7.12. On/Off controls must be easily identifiable.

5.7.13. Electric power tools should always be disconnected from outlets by pulling the plug rather than the cord.

5.7.14. Equipment must be allowed to come to a complete stop before adjustments are made or service is performed.

5.7.15. The requirements of the Lockout/Tagout Policy must be followed for anything more than minor/routine equipment service.

5.7.16. Long, loose hair shall be restrained and securely tied back to prevent machine and tool entanglement.

5.7.17. No loose clothing that can potentially get caught in machinery or power tools shall be worn.

6. Training

6.1. All employees who operate machines as part of their job will be trained on:

6.1.1. Identifying the hazards associated with the machines they work with.

6.1.2. The written procedures for each machine they operate.

6.1.3. Types of guards and how they protect from hazards.

6.1.4. How to use the guards.

6.1.5. How and under what circumstances the guarding can be removed.

6.1.6. What to do if a guard is damaged, missing, or is not providing adequate protection.

6.1.7. The types of personal protective equipment (PPE) that should be worn around their assigned machines.

6.2. Retraining will be conducted for any employee if:

6.2.1. There is a change in an assignment that involves using a different machine.

6.2.2. There is a change in the machine, equipment, or processes that presents new hazards.

6.2.3. There has been a change in the machine guarding procedures.

6.2.4. The supervisor has reason to believe or determines through inspection or observation that an employee lacks sufficient knowledge of the guarding procedures.

6.3. All training records will be maintained and retained by the HSE Supervisor.

7. Reference

7.1. Machine Classification OSHA Standard

7.2. Woodworking Machinery 29 CFR 1910.213

7.3. Cooperage Machinery 29 CFR 1910.214

7.4. Abrasive Wheel Machinery 29 CFR 1910.215

7.5. Mills and Calendars Machinery 29 CFR 1910.216

7.6. Mechanical Power Press Machinery 29 CFR 1910.217

7.7. Forging Machinery 29 CFR 1910.218

7.8. Mechanical Power-Transmission Apparatus 29 CFR 1910.219

7.9. Portable Power Tools 29 CFR 1910.243

7.10. Other Portable Tools and Equipment 29 CFR 1910.244