

SECTION	III.	Occupational Safety
Chapter	1.	Hazardous Energy Control
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HAZARDOUS ENERGY CONTROL

INTRODUCTION

PURPOSE

The purpose of the Hazardous Energy Control Program is to prevent the inadvertent energization of equipment that may result in personal injury. This program applies to all Duke University employees performing service or maintenance on equipment where the unexpected start up, energization, or release of stored energy could occur and cause injury.

DEFINITIONS

Affected Employee – An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which servicing or maintenance is being performed.

Authorized Employee – A person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment.

Energized - Connected to an energy source or containing residual or stored energy.

Energy Source - Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

Hot Tap – A procedure used in the repair, maintenance and services activities which involves welding on a piece of equipment (pipelines, vessels or tanks) under pressure, in order to install connections. It is commonly used to replace or add sections of pipeline without the interruption of service for air, gas, water, steam, and petrochemical systems.

Lockout - The placement of a lockout device on an energy isolating device (e.g., circuit breaker or electrical power disconnect), in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Lockout Device - A device that utilizes a positive means such as a lock, either key or combination type, to hold an energy isolating device in a safe position and prevent the energizing of a machine or equipment. Included are blank flanges and bolted slip blinds.

Tagout - The placement of a tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Tagout Device - A prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

RESPONSIBILITIES

Departments with employees performing maintenance and repair work shall:

- Provide necessary equipment and resources to implement a Hazardous Energy Control Program.
- Ensure full compliance with the detailed responsibilities of employees set forth in the referenced procedures, policies and standards applicable to their work areas.

Departmental Supervisors shall:

- Identify and inventory equipment with hazardous energy sources.
- Develop specific hazardous energy control procedures for applicable machines and equipment.
- Develop operating rules concerning control of hazardous energy sources.
- Review hazardous energy control procedures with employees in their respective work areas.
- Ensure compliance with the Hazardous Energy Control Program requirements within their specific work areas.
- Ensure Hazardous Energy Control Program training for all personnel affected by this program.
- Ensure that a hazardous energy control program review is performed at least annually.

- Monitor the purchase of equipment that will require lockout/tagout so that it is capable of utilizing a lockout device.
- Inform contractors that the workplace contains equipment with hazardous energy sources.

Employees shall:

- Follow safe work practices while performing work on equipment with hazardous energy sources.
- Report to their supervisors any unsafe conditions concerning the control of hazardous energy sources.
- Ask their supervisor for assistance or clarification of work procedures as necessary.

OESO shall:

- Assist in determining workplace situations that require hazardous energy control procedures.
- Assist supervisors with the formulation of specific hazardous energy control procedures.
- Review procedures to ensure compliance.
- Audit the Hazardous Energy Control Program on an annual basis.
- Develop and conduct training on the Hazardous Energy Control Program.

Contractors performing work at Duke University shall:

- Ensure their personnel understand and comply with the Duke University Hazardous Energy Control Program and specific hazardous energy control procedures.
- Coordinate any utility shut-down through the Duke Departmental Supervisor and/or Project Manager.
- Coordinate operations with the Duke Departmental Supervisor and/ or Project Manager, when both university personnel and contractor personnel will be working on or near equipment with hazardous energy sources.

- Inform the Duke Departmental Supervisor and/ or Project Manager of any additional hazards confronted or created during their operations.

PROCEDURES

The departmental Hazardous Energy Control Procedure defines the specific actions to be used by department employees when performing service or maintenance on equipment where the unexpected startup or release of stored energy could occur and cause injury. Individual procedures are to be prepared for each department as appropriate. Shop specific procedures may be prepared when necessary but must be consistent with all departmental procedures. Elements of procedures must include:

- A specific statement of the intended use of the procedure.
- The identity of the Departmental Supervisor.
- A listing of all situations which may require Lockout/Tagout.
- Specific procedures for notifying affected employees.
- Specific procedural steps for isolating, blocking, and shutting down energy sources.
- Specific procedural steps for the placement, removal and transfer of lockout and tagout devices.
- Specific requirements for testing a machine or equipment to determine and verify the effectiveness of the lockout and tagout devices.

Contractors who must perform work which may require control of hazardous energy will be informed of the following:

- The Duke University Hazardous Energy Control Program and any specific procedures applicable to the equipment or machines that they may perform service or maintenance upon.

TRAINING

The following training courses are required for all employees who work in departments where the Hazardous Energy Control Program applies.

GS147 Lockout/Tagout for Authorized Employees
GS148 Lockout/Tagout for Affected Employees

REFERENCES

Code of Federal Regulations, Title 29, Part 1910.147 (OSHA), *The Control of Hazardous Energy (Lockout/Tagout)*

ANSI/ ASSE Z244.1-2003, *Control of Hazardous Energy: Lockout/ Tagout and Alternative Methods*