

Lockout/Tagout Requirements

Revised January 2024

Purpose

The purpose of this policy is to establish a means of positive control to prevent the accidental starting or activating of machinery or systems while they are being repaired, cleaned, or serviced.

This policy serves to:

- Establish a safe and positive means of isolating machinery, equipment, and systems from potentially hazardous energy sources via padlocks.
- Provide a secondary control system (defined as tagout control) when it is impossible to positively lockout the machinery or equipment.
- Prohibit an authorized employee, affected employee, or remote-control system from starting machinery or equipment while being serviced.
- Establish responsibilities for locking-out or tagging-out equipment to be serviced.
- Ensure only approved locks, standardized tags and fastening devices will be utilized in the Lockout/Tagout Process.
- Establish the requirement that ALL energy control points affecting work in the danger zone are locked or tagged.
- Establish requirements that the lockout must provide complete energy isolation, without possible override.

Note: Push buttons, selector switches, interlocks, emergency shutoffs, software controls and other control-circuit type devices are not energy control points and cannot be used to fulfill this program.

Scope

The scope of this policy applies to the following equipment, employees and working conditions.

Equipment owned or rented by the District meeting the following criteria:

- Is NOT under the authority of the District Energy Control Center (ECC). (Work performed on equipment under the authority of ECC shall follow the Clearance Procedures found in the District Switching and Clearance Manual.), AND
- Is under repair, cleaning, servicing, or maintenance, AND
- Is connected to hazardous stored energy or has the potential to store hazardous energy, AND
- The work requires a person to place any part of their body into an area where a danger zone exists.
 - All District employees required to perform equipment repair, servicing, or cleaning.
 - All District contractors required to perform repair, servicing, or cleaning on District equipment.
 - All other employees exposed to areas where lockout/tagout is being performed.
 - All District employees or contractors operating or using a machine subject to servicing under this Lockout Tagout Procedure (affected employee).
 - Electrical hazardous energy is anything above fifty (50) VAC or fifty (50) VDC.

This Lockout/Tagout Procedure does not apply to:

- Generating equipment, transmission or distribution lines and equipment energized at over 600 volts and under the authority of ECC.
- Electric equipment for which electrical energy is the only energy source and it can be isolated and controlled by unplugging the equipment from the outlet and keeping the plug under exclusive control of the employee performing the servicing or maintenance.

The Lockout/Tagout Process

The Lockout/Tagout Process includes the following requirements:

- Only qualified locks and qualified tags used.
- Qualified locks and/or lockout devices must be attached to the energy control point to keep hazardous energy from being reintroduced to the equipment while work is performed. Each lock placed will include a Do Not Operate tag. Do Not Operate tag includes the authorized employee's name, date, and the associated Lockout/Tagout Procedure line number if a Lockout/Tagout Procedure is being used.
- All District employees and contractors must have individual locks and keys such that the individual is the only person who possesses the key. (The authorized employee's employer may possess a second key. See section Non-routine Removal of a Lockout/Tagout Device).
- Employees working as a group must each have their own lock and utilize either a lockbox or multiple-user locking device.
- Any person entering any danger zone, regardless of length of time, is considered an authorized employee and must meet all requirements to become an authorized employee, including applying their own lock and tag per the Lockout/Tagout Procedure.

Preparing Equipment for Lockout/Tagout and Installing the Locks and Tags

Utilize the following process to lockout and/or tagout the equipment to be repaired, serviced, or cleaned. This process shall be performed by the authorized employee(s) who will be working on the equipment. If the maintenance requires a Lockout/Tagout Coordinator, the coordinator shall perform the following steps:

- An authorized employee who will be working on the equipment to be maintained, or the Lockout/Tagout Coordinator, shall complete a Lockout/Tagout Procedure Form. If a procedure has previously been developed, use that procedure as a template to complete the form. Verify nothing has changed and procedures include all control points for each source of hazardous energy.

If a new procedure is required, utilize the following steps:

- Identify the area of work in the lockout/tagout zone.
- Identify the proper control point of each source of hazardous energy.
- Complete the Lockout/Tagout Procedure Form with each control point listed in the logical sequence required to isolate the equipment.
- Sign and date the Lockout/Tagout Procedure Form.

If a Lockout/Tagout Coordinator is used, utilize the following steps:

- A second reviewer must review, sign, and date the Lockout/Tagout Procedure Form.
- Second reviewer must be an authorized employee involved with the equipment maintenance.
- Second reviewer will be the Lockout/Tagout Coordinator if the Lockout/Tagout Procedure form was originally completed by an authorized employee.

Additional Required Actions:

- Obtain qualified locks, tags, and locking and/or blocking devices as necessary.
- Notify workers of intent to de-energize. Affected employees relevant to the equipment to be maintained must be notified by the authorized employee prior to the application of any lockout or tagout device.
- Begin shutdown. De-energize and dissipate any residual energy (springs, hydraulic pressure, water pressure, steam, flywheels, gravity, etc.) by blocking, bleeding down or other appropriate means.
- Following the Lockout/Tagout Procedure, apply lockout devices and tagout tags to each energy source in the sequence notated in the procedure. Once the lockout device or tag has been applied, the key shall be removed and remains exclusively in the authorized employee's possession. If the lockout/tagout includes using a lockout/tagout coordinator, their personal lock shall be placed on effective lockable equipment, then the coordinator's key shall be placed in the lockbox.
- Tags shall be notated with name of the employee who placed the tag.
- Tags shall be placed on the lock or placed at the tag location if locks cannot be used.
- Initial and date the Lockout/Tagout Procedure for each lock or tag placed.
- Where more than one authorized employee will be working on a machine or piece of equipment, each authorized employee must apply their own lock or tag to the energy-isolation device. The key for each lock must be in the possession of the employee who applied the lock. (Exception: Lock Box)
- When a lockbox is used, each authorized employee must apply their own lock to the lockbox. The key for the lock must be in the possession of the employee who applied the lock.
- Confirm the equipment has been de-energized, grounded, and protected against possible re-energization. This may be accomplished by initiating a normal startup procedure, testing for the presence of AC or DC voltages, testing for the presence of hazardous pressures, or any other means suitable to confirm the equipment has been de-energized and cannot be re-energized.
- Obtain and utilize appropriate PPE.

Restoring the Equipment to Normal Operation When Service is Complete

- Inspect work area to ensure all non-essential items, tools, etc. have been removed from the danger zone.
- Ensure all guarding in safety controls has been properly replaced.
- Notify affected employees and ensure all workers are in a safe location prior to re-energizing the equipment.
- Remove locks, tags, blocking devices, and grounds in order notated on the Lockout/Tagout Procedure.
- Re-energize equipment/system according to start up procedures specific to each piece of equipment.
- Confirm the system is operating properly and safely before returning control of the equipment back to any affected employees.
- Check locks, tags and lockout devices for damage or cleaning needed. Replace as needed.

If an authorized employee who has applied locks/tags is not available to remove them, the Non-Routine Removal of Lockout/Tagout Device Procedure must be utilized. The removal of the lockout device has serious consequences and must not be taken lightly.

Temporarily Energizing a Machine/Equipment for Testing or Positioning

Follow the above steps for Restoring the Equipment to Normal Operation When Service is Complete to temporarily energize a machine or equipment for testing or positioning purposes. Reapply the lockout or tagout devices when testing or positioning is complete.

Crew Lockout

When a group or crew is assigned to service or repair a machine covered under the Lockout/Tagout Procedure, each authorized employee will affix a personal lock to the lockbox when they begin work and will only remove the device when they complete work on the machine or when they are planning on being absent.

Each authorized employee, including contractors, shall be allowed to verify individually that the hazardous energy has been isolated and/or de-energized.

Roles and Responsibilities

The District is responsible for providing tools and resources necessary to implement this policy and for ensuring provisions in this policy are being followed.

Affected/Other Employees

Affected employees are responsible for:

- Assisting authorized employee, as requested, for the proper shutdown and identification of isolation locations.
- Not attempting to start locked out or tagged out equipment/machines.
- Not attempting to remove or tamper with locks or tags for any reason.
- Not removing locks/tags or startup equipment/machines that could endanger the lives of those performing the work.

Authorized Employees

Authorized employee(s) are responsible for:

- Successfully completing necessary training on Lockout/Tagout Procedures.
- Understanding the purpose and function of the Lockout/Tagout Policy.
- Understanding and recognizing hazardous energy sources, their potential, and methods and means necessary for their control.
- Being familiar with, and utilizing, specific Lockout/Tagout Procedures written for specific equipment.
- Assisting in the development of new Lockout/Tagout Procedures as needed.
- Conducting a job briefing with the Lockout/Tagout Coordinator before locking on to a lockbox.
- Applying locks and tags in accordance with the Lockout/Tagout Procedure before beginning work.
- Keeping the lockout/tagout coordinator up to date with the work status during a Lockout/Tagout Process.
- Removing personal lock(s) from a lockbox or the individual locked points when the work is completed or when they are planning to be absent.
- Ensuring affected employees relevant to the equipment being maintained or serviced are notified of maintenance to be performed.

Lockout/Tagout Coordinator

See Generation Facility Lockout/Tagout Procedure section.

Manager or Superintendent

Manager or Superintendent is responsible for:

- Training authorized employees as needed on Lockout/Tagout Procedures written for specific equipment to assure competent application of a Lockout/Tagout Procedure.
- Documenting training and providing training records to the Safety department.
- Providing retraining as detailed in the Retraining of Authorized Employees section.
- Reviewing incidents where a lock or tag is not respected, Lockout/Tagout Procedure is not followed, or the Lockout/Tagout Policy is not followed.
- Ensuring only qualified locks and qualified tags are used.
- Acting as the employer's representative for the non-routine removal of a lockout/tagout device.

Safety Department

The Safety Department is responsible for:

- Training authorized employees in the Lockout/Tagout Policy annually.
- Developing and periodically reviewing and updating the Lockout/Tagout Policy
- Developing and periodically reviewing and updating the training program.
- Retaining employee/contractor training records.
- Conducting an annual Lockout/Tagout Procedure review. See Annual Procedure Review section of this document.

Non-Routine Removal of a Lockout/Tagout Device

When the authorized employee who applied the lock and any associated tags is not available to remove them, the devices may be removed by the authorized employee's employer (manager or superintendent) in accordance with the procedures described below.

- The authorized employee's manager/superintendent must verify the authorized employee who applied lock(s) and associated tag(s) is not on duty and they are not within the hazardous energy zone.

All reasonable efforts will be made to contact the authorized employee(s) to discuss the planned removal of their lock(s) and determine if the authorized employee(s) have any safety concerns with the removal of their lock(s).

Removal of a lockout/tagout device has serious consequences and must not be taken lightly.

- The authorized employee's manager/superintendent shall remove the locks/tags and inform the Lockout/Tagout coordinator and other authorized employees associated with the work of the lock/tag removal.
- When the authorized employee(s) whose lock(s) were removed returns to work, their manager will notify them their lock(s) and tag(s) were removed.
- The employer (manager/superintendent) may keep a master key for the purpose of non-routine removal of a lock. All master keys must be retained in a locked drawer and controlled so only those persons authorized and trained to use the master key in accordance with this policy can gain access.

Substation AND Generation Facilities Lockout/Tagout (LOTO) Procedures – Low Voltage Conductors (50V > 600V)

When the work is performed on low-voltage conductors that are part of the transmission, distribution, or generation systems in Substation/Generation facilities, one of the following methods shall be used for employee protection when contact is necessary:

- Energized low-voltage relay, control, metering or communication equipment may be worked using insulated gloves or insulated tools OR;
- De-energized low-voltage relay, control, metering or communication equipment may be worked on using insulated gloves or insulated tools OR;
- De-energized low-voltage relay, control, metering, or communication equipment may be worked on when disconnected from their source with a visual open point, OR;
- De-energized low-voltage relay, control, metering, or communication equipment may be worked on without low-voltage gloves or insulated tools only when the LOTO Process are being followed. Employees must use a lockout device, except where use of a lockout device is either impossible or impracticable. Taking additional time to use a lockout device does not constitute impossibility or impracticability.

The tag must be:

- Secured with an individual padlock or a cable tie.
- The tag must be secured in a way that will withstand inadvertent or accidental detachment during the work. Tags must be located as close as possible to the energy isolating device and in a position immediately obvious to anyone tempting to operate energy isolating device.

Note: If it is impossible or impracticable to use a lockout device, employees must still apply a Do Not Operate Tag. In addition, a log of tagged-out equipment shall be maintained at the worksite and be readily available to the employees.

Contractors Working on Generation Facilities

The following conditions apply to outside contractors that perform servicing or maintenance requiring lockout/tagout:

- As stated by WAC 296-803-100, contractors shall follow their own lockout/tagout policies and procedures. The District will provide the contractor a copy of the District's LOTO Policy and Procedure(s), but the contractor shall follow their own policies and retain responsibility for assuring equipment is locked and tagged for safe maintenance.
- The District (authorized employee, project manager, or Safety department) shall inform the contractor of the District Lockout/Tagout Policy and supply them with a copy. The District shall also inform the contractor of energy control procedures for any equipment under maintenance, develop the Lockout/Tagout Procedure (by LOTO coordinator), and assist the contractor in locking out and/or tagging out equipment. All necessary safety information will be communicated to the contractor before work commences.
- The District (authorized employee, project manager, or Safety department) shall obtain and review a copy of the contractor's lockout or tagout procedures. If the contractor's lockout tagout procedures include additional requirements above and beyond the District Policy/Procedures, the District shall ensure the contractor follows the additional restrictions of its energy control program.

Consultants Working on Generation Facilities

Consultants, inspectors, regulatory inspectors, etc. may be required to be within the hazardous zone of equipment or machinery that has been locked out or tagged out to perform inspections or assess damage. Consultants shall follow the District's Lockout/Tagout Policy and Procedures and follow District requirements for qualifying as an authorized employee.

Generation Facility LOTO Coordinator

At District Generation facilities, work may require the use of both LOTO and Switching and Clearance Procedures and grounding. During these circumstances, a LOTO coordinator is required to coordinate the work with all parties involved with the maintenance, including but not limited to:

- All authorized employees involved with the maintenance
- All affected employees associated with the equipment under maintenance
- All other employees within the vicinity of the equipment under maintenance
- The District's Energy Control Center if clearances are involved
- The plant superintendent
- The project manager
- The contractor

Refer to the LOTO Coordinator Equipment List maintained by the hydro superintendent to determine if a LOTO coordinator should be assigned. The LOTO coordinator will determine sources of hazardous stored energy and the LOTO procedure and grounding to be used (i.e., lockbox, group lock-out).

Responsibilities

The LOTO coordinator will be used when LOTO and Switching and Clearance Procedures are both required, when multiple crews or groups of workers are working together on the equipment or systems that require the use of lockout/tagout, or if a contractor is performing maintenance on District equipment. The LOTO coordinator will provide oversight to different crews working on the project. The LOTO coordinator is responsible to:

- Prepare and maintain the Lockout/Tagout Procedure.
 - Determine the sequence of the placement of locks and tags in complex isolation events.
- Be first on and last off with locks.
- May direct authorized employees to do specific switching tasks and place Do Not Operate Tags.
- Validate all isolation points. Validation is defined as either personally inspecting all isolation points or directing an authorized employee to verify an isolation point and report back with the status.

Conditions Requiring a LO/TO Coordinator

- If the source of the equipment is 600 volts and above
- If a switching order is required
- If a contractor or non-generation staff are working on the equipment
- If the system is complex to isolate

Use of a lockbox:

- The lockbox is designed to be used when multiple authorized employees are required to work on complex systems. The LOTO coordinator shall lock and tag all sources of stored energy, rendering the system safe for the workers. Then the LOTO coordinator shall place their key in the lockbox allowing other authorized employees to lock onto the lockbox. This eliminates the need for everyone to lock on every piece of equipment with the potential of stored energy in the system. Although the lockbox is designed to be a stand-alone function, it can also be used in a daisy-chain fashion. If an authorized employee locked on to the original lockbox puts their key in the second lockbox, taking it to a remote location where work is being done, but still under the umbrella of the original LOTO, a second lockbox can then be established.

Shifts or Personnel Changes

When work involving lockout/tagout extends beyond a single shift, the authorized employee going off shift may keep their locks/tags in place during shift changes if they intend to return to continue the maintenance work.

At no time shall the machine being worked on be without the protection of a lockout device.

Annual Procedure Review

A sample of prepared Lockout/Tagout Procedures will be reviewed at least annually. The procedure will be reviewed for adequacy and completeness by an authorized employee who does not regularly use the machine/equipment. If any deviations or inadequacies are identified, the authorized employee will take all

necessary steps to update the procedure. The annual review will be performed by the Safety department. The review will include an interview of the authorized employee to determine if they understand the Lock-out/Tagout Policy and procedures under review. The Safety department shall document the review and retain the review documentation per District document retention policies.

Training

Authorized Employees

The District shall develop and provide lockout/tagout training for District employees and District-hired consultants on the recognition of applicable hazardous energy sources, the types, and magnitudes of the energy available in the workplace, the methods and means available for energy isolation and control, and removal of energy-control devices. Equipment-specific training will be accomplished by presenting applicable written Lockout/Tagout Procedures to authorized employees, verifying they understand the requirements of the procedures, and observing correct performance of the Lockout/Tagout Procedures.

Supplemental training for District managers/superintendents shall include a section on the procedures for the non-routine removal of a lockout/tagout device, including when non-routine removal may be implemented, and proper storage practices for the master key.

Affected/Other Employees

- Affected employees working in areas where lockout/tagout may be used are required to have the same training as an authorized employee.
- Affected employees must be retrained if a significant regulation or lockout/tagout guideline change has been made.
- Retraining can be delivered through awareness training.
- Other employees will be trained as needed if they are in the vicinity of a LOTO area.

Retraining of Authorized Employees

Retraining is required if:

- There are changes to this policy that merit retraining.
- There is a change in task assignment that involves use of different Lockout/Tagout Procedures for which the authorized employee has not been physically trained.
- There is a change in the machine, equipment or processes that presents new hazards.
- There is a change in the energy-control procedures.
- The manager or superintendent has reason to believe, or determines through a periodic inspection or observation, an authorized employee is performing the energy-control procedures inadequately or has deviated from or lacks sufficient knowledge of established policies and procedures.
- District management has reason to believe retraining is necessary.

Record Retention

- All training records, including employee/contractor's names and training dates will be maintained in the Safety department.
- Training records will be maintained indefinitely.
- Perform and document periodic reviews to verify employees know and follow the energy control procedures per WAC requirements (296-803-70005).

Definitions

Affected employee: An employee whose job requires them to operate or use a machine or equipment to which servicing, or maintenance is being performed under lockout or tagout, or whose job requires work in the area where such servicing or maintenance is being performed. An example: A machine operator who does not service or maintain the equipment they typically operate.

Authorized employee: A person who locks out and/or tags out machines or equipment to perform servicing or maintenance on that machine or equipment. An employee may only become an authorized employee after:

- Successfully completing necessary training on Lockout /Tagout Procedures
- Understands the purpose and function of the Lockout/Tagout Policy
- Understands and recognizes hazardous energy sources, their potential, and methods and means necessary for their control.

Note: Contractors shall follow their own LOTO policies, procedures, or programs to qualify their employees as an authorized employee.

Contractor: A person or company that undertakes a contract to provide materials or labor to perform a service or do a job with the District.

Consultant: A person or company retained by the District to perform professional services that may include equipment inspection. This term includes regulatory inspectors.

Crew: A group of workers on the same project who are using the same LOTO procedures on the same set of energy-isolating devices.

The District: Public Utility District No. 1 of Snohomish County

ECC: Snohomish County PUD Energy Control Center. ECC is responsible for and authorized to operate the District electrical power system for the District.

Hazardous energy: Electrical, mechanical, hydraulic, pneumatic, chemical, thermal, gravity or other form of energy that could cause injury due to the unintended motion of energizing, starting-up, or release of such stored or residual energy in machinery, equipment, piping, pipelines or process systems.

Lockout: The process of blocking the flow of hazardous energy from a power source to a piece of equipment and keeping it blocked out by placement of a lock.

Lock box: A toolbox-style box of rugged construction capable of receiving a lock or hasp when the box is shut. When the lock or hasp is attached, a person cannot enter the box until the lock/hasp is removed.

Lockout/Tagout Coordinator: A lead authorized employee responsible for coordinating group lockout/tagout for a crew of authorized employees, multiple crews, or complex situations.

Lockout/Tagout Policy: This document is the District's Lockout/Tagout Policy.

Lockout/Tagout Procedure: The completed form identifying all points that must be locked or tagged per the Lockout/Tagout Policy.

Lockout device: A device such as a lock, chain, block, pin, or bolt that positively holds an energy isolating device in its safe position to prevent energizing machinery or equipment.

Other employee: Employees who are neither authorized nor affected employees but are in the vicinity of areas where lockout/tagout is being performed but are not within the hazard zone.

Qualified lock: A lock designed for the purpose of being used for lockout procedures. The authorized employee using a qualified lock must be the only person that possess the key. Each lock shall be placed with a Do Not Operate tag including the authorized employee's name, date, and the associated Lockout/Tagout Procedure line number, if necessary.

Qualified tag: A District Do Not Operate tag is the only tag qualified to be used for tagout purposes.

Tagout: The process of securing/deactivating, stopping or blocking the flow of energy and placing a qualified tag on the energy-isolating devices to act as a warning not to restore energy.

LOTO: Lockout/Tagout