



Pannier Corporation

Health and Safety Handbook

Marking System Group



Lockout Tagout

Original Date:	Section:	Revision date:	Page:
7/2/2009	17	5/20/2013	1 of 7

Authority and Scope

Regulation: 29 CFR 1910.147

Scope: This Plan covers the control of hazardous energy (mechanical, hydraulic, pneumatic, chemical, thermal, or other energy) to prevent the unexpected or accidental starting or activating by employees of machinery or systems while they are being repaired, cleaned, and/or serviced, and to establish a safe and positive means of shutting down machinery, equipment, and systems.

Policy Statement

All employees will be protected from injuries caused by unexpected energizing or start up of machines or equipment, or release of stored energy during service, repair, maintenance, operation, and associated activities. This policy establishes minimum performance requirements for the control of such potentially hazardous conditions. This will be accomplished by locking out and/or tagging out energy-isolating devices, and otherwise disabling machines or equipment to prevent unexpected energizing, start-up, or release of stored energy.

Plan Administration

Table 1 provides the roles and contact information for the administration of the Lockout/Tagout Plan. *[Modify the table and following job descriptions as applicable to your organization.]*

Table #1—Plan Contact Information

Task	Contact Person	Contact Information
Plan Administrator	John Visconti	412-492-1400 ext. 310
Trainer	Bob Barker	412-492-1400 ext. 315

Plan Administrator. The plan administrator will ensure compliance with all hazardous energy-control procedures, provide the necessary devices to lock out or tag out energy-isolating devices, and conduct an annual inspection to ensure that the hazardous energy-control procedures are being followed.

Trainer - Will conduct training for authorized and affected employees, and provide retraining whenever there is a change in an employee’s job assignments; a change in machines, equipment, or processes that present a new hazard; a change in the lockout or tagout procedures; or whenever an employee demonstrates a lack of knowledge or skill in lockout or tagout procedures.

Authorized employees. Authorized employees will recognize and control hazardous energy sources and implement established lockout/tagout procedures.

Affected employees. Affected employees will be familiar with the purpose and use of lockout/tagout procedures, and will be responsible for ensuring they do not attempt to restart or reenergize machines or equipment that are locked out or tagged out.

Plan Review and Update

This plan will be reviewed and updated whenever:

- There is a change in lockout/tagout procedures or in machinery or equipment.
- The lockout/tagout regulations change.

Definitions



Pannier Corporation

Health and Safety Handbook

Marking System Group



Lockout Tagout

Original Date:	Section:	Revision date:	Page:
7/2/2009	17	5/20/2013	2 of 7

Affected employee--an employee whose job requires him or 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 or her to work in an area in which such 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. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance covered under this section.

Energy-isolating device--a mechanical device that physically prevents the transmission or release of energy, including, but not limited to, the following: A manually operated electrical circuit breaker; a disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors, and, in addition, no pole can be operated independently; a line valve; a block; and any similar device used to block or isolate energy. Push buttons, selector switches, and other control circuit-type devices are not energy-isolating devices.

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

Lockout--the placement of a lockout device on an energy-isolating device, 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 the safe position and prevent the energizing of a machine or equipment. Included are blank flanges and bolted slip blinds.

Other employee--a person who works near machines or equipment during servicing or maintenance.

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.

Tasks that Require Lockout and Tagout

This Plan applies to the control of energy during servicing and/or maintenance of machines and equipment that could unexpectedly energize, start up, or release stored energy, and injure employees. It applies to normal production operations when an employee is required to remove or bypass a guard or other safety device, or places any part of his or her body into an area on a machine or piece of equipment where work is actually performed on the material being processed (point of operation), or where an associated danger zone exists during a machine operating cycle.

Exceptions

The following tasks do not require lockout or tagout procedures:

- Work on cord and plug-connected electric equipment for which exposure to the hazards of unexpected energization or start-up of the equipment is controlled by the unplugging of the equipment from the energy source and by the plug being under the exclusive control of the employee performing the servicing or maintenance.

- Hot tap operations involving transmission and distribution systems for substances such as gas, steam, water, or petroleum products when they are performed on pressurized pipelines, provided that the employer demonstrates that:

- Continuity of service is essential;

- Shutdown of the system is impractical; and



Pannier Corporation

Health and Safety Handbook

Marking System Group



Lockout Tagout

Original Date:	Section:	Revision date:	Page:
7/2/2009	17	5/20/2013	3 of 7

-Documented procedures are followed, and special equipment is used that will provide proven, effective protection for employees.

Hazardous Energy Control Procedures

General Use of Hazardous Energy-Control Devices

Lockout and tagout devices will be the only devices used for controlling hazardous energy and will not be used for any other purposes. Any devices used for lockout/tagout will be capable of withstanding the environment to which they are exposed for the maximum period they are expected to be exposed.

Employee Compliance

Lockout or tagout procedures may be performed by authorized employees only. All employees are required to comply with the restrictions and limitations imposed on them during the use of lockout. All affected employees, upon observing a machine or piece of equipment that is locked out to perform servicing or maintenance, will not attempt to start, energize, or use that machine or equipment.

Lockout Devices

Lockout is the primary and preferred method for controlling hazardous energy. During servicing or maintenance, a machine utilizing any mechanical power source such as electrical, pneumatic, steam, hydraulic, and/or air will be locked out when the unexpected energizing or start-up of the machine or equipment or release of stored energy could cause injury to employees. The lockout will render the machine inoperative and immovable. Lockout devices will be substantial enough to prevent removal without excessive force (i.e., use of bolt cutters or other metal-cutting tools). Lockout devices will indicate the identity of the employee who applied the device.

Tagout Devices

When the energy-isolating devices are not lockable, or they are capable of being locked out but locks are not available, tagout will be used. Energy-isolating devices will be tagged out of service with a warning tag attached at the power source. In the case of a plug-in power source, the tag will be attached at the plug. Tagout devices will be substantial enough to prevent inadvertent or accidental removal. They will be constructed and printed so that exposure to weather conditions or wet and damp locations will not cause the tag to deteriorate or the message on the tag to become illegible.

Tags will be designed to not deteriorate when used in corrosive environments such as areas where acid and alkali chemicals are handled and stored. They will be nonreusable, attachable by hand, self-locking, and non-releasable with a minimum unlocking strength of no less than 50 pounds and have the same resilience of a one-piece, all-environment-tolerant nylon cable tie.

The tagout devices will indicate the identity of the employee applying the device(s).

Tagout devices will warn against hazardous conditions if the machine or equipment is energized and will include a legend such as the following: "Do Not Start," "Do Not Open," "Do Not Close," "Do Not Energize," or "Do Not Operate."

Preparation for Lockout or Tagout

Following are the general procedures to lock out or tag out machinery or equipment:

1. Notify all affected employees that servicing or maintenance is required on a machine or equipment and that the machine or equipment will be shut down and locked out to perform the servicing or maintenance. The Program Administrator will provide the names of affected employees and how to notify them.
2. The authorized employee will identify the type and magnitude of the energy that the machine or equipment utilizes, will understand the hazards of the energy, and will know the methods to control the energy.
3. If the machine or equipment is operating, it will be shut down by the normal stopping procedure (depress the stop button, open switch, close valve, or other means).



Pannier Corporation

Health and Safety Handbook

Marking System Group



Lockout Tagout

Original Date:	Section:	Revision date:	Page:
7/2/2009	17	5/20/2013	4 of 7

4. Energy-isolating device(s) will be deactivated so that the machine or equipment is isolated from the energy source(s).
5. Each energy-isolating device will be locked or tagged out with assigned individual lock(s) or tag(s).
6. Stored or residual energy (e.g., energy in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure) will be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, or other appropriate means.
7. Authorized employees will verify that the equipment is disconnected from the energy source(s) by (a) checking that no personnel are exposed, then (b) verify the isolation of the equipment by operating the push button or other normal operating control(s) or by testing to make certain the equipment will not operate. Caution: Operating control(s) must be returned to neutral or the "off" position after verifying the isolation of the equipment.
8. The machine or equipment is now locked or tagged out.

Multiple Energy Sources

Restoration of Service

When the servicing or maintenance is completed and the machine or equipment is ready to return to normal operating condition, the authorized employee will take the following steps:

1. Check the machine or equipment and the immediate area around the machine to ensure that nonessential items have been removed and that the machine or equipment components and guards are operationally intact.
2. Check the work area to ensure that all employees have been safely positioned or removed from the area.
3. Verify that the controls are in neutral.
4. Remove the lockout or tagout devices and reenergize the machine or equipment. Note: The removal of some forms of blocking may require the machine to be reenergized before safe removal.
5. Notify affected employees that the lockout or tagout devices have been removed and the machine or equipment is ready for use.

Testing of Systems or Equipment

Whenever lockout or tagout devices must be temporarily removed from the energy isolating device and the machine or equipment energized to test or position the system, equipment or component thereof, the following sequence of actions will be followed:

1. Clear the machine or equipment of tools and materials.
2. Remove employees from the machine or equipment area.
3. Remove the lockout or tagout devices.
4. Energize and proceed with testing or positioning.
5. Deenergize all systems and reapply energy control measures to continue the servicing and/or maintenance.

Group Lockout/Tagout

Responsible Authorized Employee

When the servicing and/or maintenance of an energized system or equipment will be performed by more than one person, an authorized employee will be assigned the responsibility to coordinate lockout/tagout under the protection of a group lockout or master



Pannier Corporation

Health and Safety Handbook

Marking System Group



Lockout Tagout

Original Date:	Section:	Revision date:	Page:
7/2/2009	17	5/20/2013	5 of 7

tagout device. A master tag is a personal tagout device if each employee personally signs on and signs off on it and if the tag clearly identifies each authorized employee who is being protected by it. The responsible authorized employee will monitor the status of individual group members concerning the lockout or tagout of the machine or equipment.

When more than one crew, craft, or department is involved, an authorized employee will be assigned the responsibility to coordinate all the affected workforces and ensure continuity of protection.

Group Procedures

1. Before any machine or equipment is shut down, each authorized employee involved during the servicing or maintenance operation will be made aware of the type, magnitude, and hazards related to the energy to be controlled and of the method or means to control the energy. In the event that the machine or equipment is already shut down, the authorized employee will be made aware of these elements before beginning his or her work.
2. An orderly shutdown of the machine or equipment will be conducted according to the Preparation for Lockout or Tagout section of this Plan, which will not create hazards.
3. All energy-isolating devices needed to isolate the machine or equipment will be positioned and/or installed.
4. Each authorized employee will place his or her own lock or tag to the *[type of device, e.g., group lockout device, group lockbox, or comparable mechanism]* when he or she begins work and will remove those devices when he or she stops working on the machine or equipment being serviced or maintained at each energy-isolating source. No employee may affix a personal lockout/tagout device for another employee.
5. Following the application of locks or tags, all potentially hazardous stored energy or residual energy will be relieved, disconnected, restrained, and otherwise rendered safe.
6. Verification of energy isolation will be monitored as frequently as necessary if there is a possibility of reaccumulation of stored energy. Monitoring may be accomplished, for example, by observation or with the aid of a monitoring device that will sound an alarm if a hazardous energy level is being approached.
7. Authorized employees will verify that isolation and deenergization have been effectively accomplished before starting servicing/maintenance work. Verification is also necessary by each group of workers before starting work at shift changes.
8. When the servicing or maintenance is completed and the machine or equipment is ready to return to normal operating condition, each authorized employee will follow the procedures listed in the Restoration of Service section of this Plan.

Procedure for the Emergency Removal of an Energy Control Device

Plan Administrator or designee may authorize the removal of a lockout or tagout device in the absence of the authorized employee that applied the device. In the event that a lockout or tagout device must be removed and the authorized employee that applied it is not in the facility, the following procedure will be followed:

1. Verify that the authorized employee who applied the device is not in the facility.
2. Make reasonable efforts to advise the authorized employee that the device has been removed.
3. Ensure that the authorized employee is informed of the removal of the device before the employee resumes work at the facility.

Procedures for Shift or Personnel Changes

The following steps will be followed to ensure continuity of employee protection during shift or personnel changes:



Pannier Corporation

Health and Safety Handbook

Marking System Group



Lockout Tagout

Original Date:	Section:	Revision date:	Page:
7/2/2009	17	5/20/2013	6 of 7

1. All authorized employees involved in the maintenance or servicing activity will be notified that a transfer of personal locks/tags is about to occur.
2. All personnel will move away from hazardous area(s) of equipment.
3. Under the supervision of the shift supervisor or group designee, the off-going employee will remove his or her lock and tag, and the on-going employee will immediately install his or her lock and tag.
4. If more than one employee will transfer work responsibility, locks/tags will be removed and replaced one at a time in order of installation. All authorized employees transferring work responsibility must be present during this exchange.
5. When the transfer of lockout/tagout devices is complete, the effectiveness of all energy-isolating devices will be verified to the satisfaction of all personnel involved.
6. Once the effectiveness of energy isolation protection is confirmed, the service or maintenance operation may continue.

Procedures for Contractors

All contractors, including temporary employees, will be advised that Pannier Corporation has and enforces the use of lockout and tagout procedures. They will be informed of the use of locks and tags and notified about the prohibition relating to attempts to restart or reenergize machines or equipment that are locked out or tagged out. Pannier Corporation will obtain information from the contractor about the restrictions and prohibitions associated with the contractor's energy-control procedures and advise affected employees of this information.

The contractor will be required to sign a certification form.

Program Inspection

An inspection of all energy-control procedures will be conducted at least annually to ensure that the procedures and the requirements of this Plan are being followed. An authorized employee (inspector) other than the authorized employee(s) implementing the energy-control procedure(s) being inspected will conduct the inspection.

The Quality Manager will ensure that any deviations or inadequacies identified during the inspection are corrected.

The inspection will include a review, between the inspector and each authorized employee, of that employee's responsibilities under the energy-control procedure being inspected, including the limitations of tags when tagout systems are used.

Inspection Certification

Plan Administrator will certify that the periodic inspections have been performed. The certification will identify the machine or equipment on which the energy-control procedure was being utilized, the date of the inspection, the employees included in the inspection, and the person performing the inspection.

Employee Training

Initial Training

Authorized Employee

Each authorized employee will be trained in the recognition of applicable hazardous energy sources, the types and magnitude of energy sources available in the workplace, and the methods and means necessary for energy isolation and control.

Affected Employee



Pannier Corporation

Health and Safety Handbook

Marking System Group



Lockout Tagout

Original Date:	Section:	Revision date:	Page:
7/2/2009	17	5/20/2013	7 of 7

Each affected employee (all employees other than authorized employees utilizing the lockout/tagout procedure) will be instructed in the purpose and use of the lockout/tagout procedure and the prohibition relating to attempts to restart or reenergize machines or equipment that are locked out or tagged out.

Employees who exclusively perform functions related to normal production operations, and who perform servicing and/or maintenance under the protection of normal machine safeguarding, need only be trained as affected employees even if tagout procedures are used.

Other Employees

Other employees whose work operations are or may be in an area where energy-control procedures may be utilized will be instructed about the procedure and about their responsibility not to restart or reenergize machines or equipment that are locked out.

Tagout Limitations

Employees will be trained in the following limitations of tags:

- Tags are essentially warning devices affixed to energy-isolating devices and do not provide the physical restraint on those devices that is provided by a lock.
- When a tag is attached to an energy-isolating means, it is not to be removed without authorization of the authorized person responsible for it, and it is never to be bypassed, ignored, or otherwise defeated.
- Tags must be legible and understandable by all authorized employees, affected employees, and all other employees whose work operations are or may be in the area in order to be effective.
- Tags and their means of attachment must be made of materials that will withstand the environmental conditions encountered in the workplace.
- Tags may evoke a false sense of security, and their meaning needs to be understood as part of the overall energy-control program.
- Tags must be securely attached to energy-isolating devices so that they cannot be inadvertently or accidentally detached during use.

Refresher Training

Retraining for all authorized and affected employees will be provided to ensure employee proficiency and introduce new or revised control methods and procedures whenever:

- There is a change in their job assignments.
- There is a change in machines, equipment or processes that present a new hazard.
- There is a change in the energy control procedures.
- There are deviations from or inadequacies in the employee's knowledge or use of the energy control procedures.

Training Certification and Recordkeeping

Pannier Corporation will maintain written certification that training for each employee has been completed. The certification will include each trainee's name and date that training was completed.

Completed certification forms will be kept at Pannier Corporation.