
	<b>STANDARD OPERATING GUIDELINE</b>				
	OPERATIONS				
	LOCKOUT, TAG OUT				
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## 1.0 Objective

- 1.1 The purpose of this guideline is to establish procedures for de-energizing, isolating, and ensuring the energy isolation of equipment. The program will be used to ensure that equipment is de-energized and isolated from unexpected start-up by physically locking machinery in a state of zero energy. In the absence of locking capabilities, the employee shall tag out the device to warn against energization, and take at least one additional precaution, such as removing the fuse.
- 1.2 These procedures will provide the means of achieving the purpose of this program: prevention of injury to Highland Park Fire Department personnel from the unexpected energization or start-up of machinery or from the release of stored energy.

## 2.0 Responsibility

- 2.1 It is the responsibility of all Department personnel to understand the procedures documented in this Standard Operating Guideline.

## 3.0 Application



- 3.1 This program applies to the control of energy during the servicing of machinery at the three Fire Stations of the Highland Park Fire Department, and on scenes where the Highland Park Fire Department responds where energized or potentially energized equipment is encountered.
- 3.2 Normal operations are covered by this program if a guard or other safety device is removed or bypassed, or any part of the body is placed into an area of the equipment or machinery where work is performed on the material, or a danger zone exists during the operating cycle. Minor tool changes, adjustments, and other minor servicing activities which take place during normal servicing operations do not require isolation and lockout/tag out if they are routine and integral to the use of the equipment, and the operator has direct control over all energy sources to the equipment. (Note: Once the operator leaves the area, direct control of the equipment has been lost and lockout/tag out is required.) Other exclusions include, but are not limited to, the following:
  - 3.2.1 Work on cord and plug connected electric equipment when it is unplugged and the employee working on the equipment has complete control over the plug.

## 4.0 Scope

- 4.1 This program will include all Highland Park Fire Department employees whose duties require them to inspect powered equipment or machinery that may also have the potential for stored energy, and to those responding to emergency calls involving powered equipment.

## 5.0 Definitions

- 5.1 Authorized Employee: A person who locks or implements a tag out system procedure on machines or equipment to perform servicing or maintenance. An authorized employee and an affected employee may be the same person when the affected employee's duties also include performing maintenance or service on a machine or equipment which must be locked or tagged out.
- 5.2 "Capable of Being Locked Out": An energy isolating device will be considered to be capable of being locked out either if it is designed with a hasp or other attachment or integral part to which, or through which, a lock can be affixed, or if it has a locking mechanism built into it. Other energy isolating devices will also be considered to be capable of being locked out if lockout can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.
- 5.3 Energized: Connected to an energy source or containing residual or stored energy.
- 5.4 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 slide gate; a slip blind; a line valve; a

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block; and any similar device used to block or isolate energy. The term does not include a push button, selector switch, and other control circuit type devices.

- 5.5 Energy source: Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.
- 5.6 Lockout: The placement of a lockout device on an energy isolating device, in accordance with an established procedure, that ensures that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.
- 5.7 Lockout device: A device that utilizes positive means such as a lock, either key or combination type, to hold an energy isolating device in the safety position and prevent the energizing of a machine or equipment.
- 5.8 Stored energy: Energy that is available and may cause movement even after energy sources have been isolated. Stored energy may be in the form of compressed springs; elevated equipment components; hydraulic oil pressure; pressurized water, air, steam, or gas; or rotating flywheels, shafts or cams.
- 5.9 Tag out: The placement of a tag out 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 tag out device is removed.
- 5.10 Tag out 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 opened until the tag out device is removed.

## 6.0 Program Responsibilities

- 6.1 The Department Safety Officer will have overall responsibility for the program to ensure that: authorized and affected employees receive adequate training and information; the program is evaluated annually; the lockout/tag out equipment is properly used; and the procedures of this program are followed. All supervisors will have the responsibility to insure that their employees are complying with this program.

## 7.0 Training

- 7.1 Employees will be provided instruction in the purpose and function of the energy control program to ensure that they understand the significance of locked or tagged out equipment and also have the knowledge and skill to correctly apply and remove energy controls. Training will be provided to personnel covered by this SOG.

## 8.0 Authorized Employees



- 8.1 Authorized employees will be made aware of the purpose, the recognition of applicable hazardous energy source(s), the type and magnitude of energy available, and the policies and procedures of the energy control program.
- 8.2 Instruction in the limitations of tag out as a sole means of energy control.
  - 8.2.1 Tags are warning devices and do not provide the physical restraint that a lock would.
  - 8.2.2 Tags may provide a false sense of security.
  - 8.2.3 Tags may become detached during use. Initial training will be provided during energy control program implementation.

## 9.0 Training Records

- 9.1 Records of employee training will be maintained and will include the employee's name and date(s) of training.

## 10.0 Guidelines

- 10.1 General
  - 10.1.1 The Highland Park Fire Department will provide the necessary devices to effectively lockout or tag out energy isolating devices. Lockout/tag out devices will be the only devices used for controlling energy and shall not be used for other purposes. Any devices used for lockout/tag out will be capable of withstanding the environment to which they are exposed for the maximum period they are expected to

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be exposed. The devices will be substantial enough to prevent removal without excessive force. Excessive force for a locking device would be bolt cutters or other metal cutting tools. Tag out devices will be attached by a non-reusable method, attachable by hand, and very difficult to remove by hand. A nylon cable tie or equivalent will be used.

- 10.1.2 Lockout is the preferred method of energy isolation. When physical lockout is not possible, the energy isolation device will be tagged out of service with a warning tag attached at the power source. In the case of plug-in power source, the tag will be attached at the Plug. To ensure full employee protection using tag out instead of lockout, additional steps should be taken to guard against accidental or inadvertent energization. These steps may include, where applicable: removal of fuses, blocking of switches, and removal of a valve handle.

## 10.2 Application of Controls

### 10.2.1 Preparing to Shut Down Equipment

10.2.1.1 Prior to equipment shutdown, the authorized employee(s) must have knowledge of:

10.2.1.1.1 The type(s) and magnitude of power.

10.2.1.1.2 The hazards of the energy to be controlled.

10.2.1.1.3 The method(s) to control the energy.

10.2.1.1.4 The location and identity of all isolating devices that control or feed the equipment to be locked/tagged out.

10.2.1.2 Notify all affected employees that the lockout/tag out system will be in effect. When shutting down equipment which will affect other personnel, insure that these personnel or areas are notified and signs or warnings are posted as necessary.

10.2.1.3 Assemble applicable lockout/tag out devices – padlocks, tags, multiple lock hasps, etc.

## 10.3 Equipment Shutdown and Isolation

10.3.1 If equipment is in operation, shut it down by the normal stopping procedure (stop button, switch).

10.3.2 Operate disconnects, switches, valves, or other energy isolating devices so that the equipment is de-energized and isolated from its energy source(s).

10.3.3 Verify that equipment is shut down by attempting to operate the equipment from the normal operating location and any remote locations.

## 10.4 Installation of Lockout/Tag out Device, Release of Stored Energy, and Verification.

10.4.1 Attach individually assigned lock(s) or tag(s) to energy isolating device(s). Where it is not possible to lock a switch, valve, or other isolating device, electrical fuses must be removed, blank flanges installed in piping, lines disconnected, or other suitable methods used to ensure that equipment is isolated from energy sources. A tag must be installed at the point of power interruption to warn against energizing.



## 11.0 Appendix A

### 11.1 Emergency Scene Operation.



11.1.1 Review the written shut down procedure for the particular machine/equipment, if documented, and make a survey to locate and identify all isolating devices to be sure which switch(es), valve(s) or other energy isolating devices apply to the equipment to be locked or tagged out.

11.1.2 Notify the building representative that a lockout/tag out operation is going to be utilized and the reason. The representative or the Fire Department will then notify all affected occupants.

11.1.3 If the machine/equipment is operating, shut it down following normal or emergency stopping procedures.

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- 11.1.4 Operate the switch, valve or other energy isolating device(s) so that the equipment is isolated from its energy source(s). Dissipate any “stored” energy (such as springs; elevated machine members; rotating flywheels; hydraulic systems; and air, gas, electric, steam or water pressure) from its restraining method(s), by repositioning, blocking, bleeding down, etc.
- 11.1.5 Lockout/tag-out the energy isolating devices with an assigned individual lock(s) or tag(s).
- 11.1.6 Ensure that no personnel are exposed and then check to ensure energy operating pushbutton disconnect sources or other normal controls will not operate.
- 11.1.7 Return operating control(s) to “neutral” or “off” position after the test.
- 11.1.8 The equipment is now locked out or tagged out and necessary emergency operations may begin.
- 11.2 To restore machines/equipment to normal operating conditions, the authorized repair/maintenance person shall follow the following procedures (the Fire Department may assist, as necessary):
  - 11.2.1 Check the area around the machine/equipment to ensure that no one is exposed.
  - 11.2.2 Ensure all tools and braces/blocks have been removed and guards have been reinstated.
  - 11.2.3 Remove all lockout/tag out devices.
  - 11.2.4 Operate the energy isolating devices to restore energy to the machine or equipment.
  - 11.2.5 Test run machine or equipment.
- 11.3 At the emergency scene Fire Department personnel should stand by and remove all lock out/tag-out devices when the all clear is given.
  - 11.3.1 Return operating control(s) to “neutral” or “off” position after the test.
  - 11.3.2 The equipment is now locked out or tagged out and necessary emergency operations may begin.
- 11.4 To restore machines/equipment to normal operating conditions, the authorized repair/maintenance person shall follow the following procedures (the Fire Department may assist, as necessary):
  - 11.4.1 Check the area around the machine/equipment to ensure that no one is exposed.
  - 11.4.2 Ensure all tools and braces/blocks have been removed and guards have been reinstated.
  - 11.4.3 Remove all lockout/tag out devices.
  - 11.4.4 Operate the energy isolating devices to restore energy to the machine or equipment.
  - 11.4.5 Test run machine or equipment.
- 11.5 At the emergency scene Fire Department personnel should stand by and remove all lock out/tag-out devices when the all clear is given.
- 11.6 All equipment shall be locked or tagged out to protect against accidental inadvertent operation when such operation could cause injury to repair/maintenance personnel.
- 11.7 No person may remove any lockout or tag out device without the permission of the person that installed it or the on scene Commander.
- 11.8 No person may attempt to operate any switch, valve or other isolating device where it is locked or tagged out.

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**12.0 Appendix B**

12.1 Highland Park Fire Department Machinery and Equipment List

EQUIPMENT/LOCATION	ENERGY SOURCES/LOCATION
<b>STATION #33</b>	
Apparatus room, lights, outlets , fans Station Washer/Dryer	Mechanical Room electrical panel Mechanical Room electrical panel
Living quarters, lights, switches	Mechanical Room – personnel side
Air Compressor – SCBA Room	Mechanical Room electrical panel breaker #36, 37,39,41,
Air Compressor – Mezzanine West	Mechanical Room – electrical panel breaker #26
Hi-Lift – Hose tower	Batteries (contained within unit) No outside power except during recharge mode.
Generator – outside south wall	Main Electrical Panel-Laundry room

<b>STATION #32</b>	
Generator – Rear outside (West Wall)	Electrical Panel (basement) Natural Gas
Electrical Panel – Basement	Basement

<b>STATION #34</b>	
Generator	Workroom Breaker Panel – Natural Gas Shutoff (outside west wall) apparatus room.
Living quarters	Furnace Room
Workroom equipment, lights	Workroom Breaker Panel
Apparatus room outlets, lights	Workroom Breaker Panel

**13.0 Reference**

13.1 Highland Park Fire Department

Approved:  Fire Chief