

Leucadia Wastewater District

STANDARD OPERATING PROCEDURE

PAGE: 1 of 6
EFFECTIVE: July 1, 2016
REVIEW: July 1, 2017

SUBJECT: HAZARDOUS ENERGY CONTROL, LOCKOUT / TAGOUT

1.0 PURPOSE

This Lockout/Tagout procedure was developed to establish procedures ensuring that all sources of hazardous energy are clearly identified and positively controlled to prevent the unexpected energization, start-up or release of hazardous energy that could cause injury to employees or damage to equipment and/or piping systems.

2.0 SAFETY

All District Safety Procedures regarding Traffic Safety, Electrical Safety, Lockout/Tag out, Respiratory Protection, Confined Space, Hearing Protection, and Illness and Injury Prevention must be adhered to.

- ✓ ***Hearing Protection is always required when entering pump and lift stations.***
- ✓ ***Pre-atmospheric checks, using a calibrated gas detector, are required when entering any drywell.***
- ✓ ***No electrical breakers shall be operated and no electrical panel shall be opened without the express permission of the Field Services Supervisor (FS Sup) or the Field Services Superintendent (FSS).***

3.0 INFORMATION AND BACKGROUND

Whenever a maintenance task or activity requires a person to come in contact or work on a system, machinery, equipment, vehicle, or a device with the potential to release any form of hazardous energy electricity (voltage and/or current), high pressure, mechanical force, high or low temperature fluids, tensioned springs, elevated weights, chemicals, etc., the system must be identified using appropriate tags. The system will need to be de-energized or isolated and locked into a state that positively prevents workers from being injured or machinery from being damaged.

Additionally, Field Services Staff (FS Staff) must understand that, while the local stop switch adjacent to each piece of electrical equipment is meant to be used to stop a motor in an emergency situation, locking this switch does not isolate the machinery with respect to all the sources of hazardous energy present. Each maintenance situation requires a review of all sources of hazardous energy to ensure that lockout/tagout procedure is effective. For example, while opening and locking the individual motor breaker and the local switch for an electrical pump may effectively isolate the pump's motor from electrical energy, the piping system that the pump discharges into may have to be drained. The



Leucadia Wastewater District

STANDARD OPERATING PROCEDURE

HAZARDOUS ENERGY CONTROL, LOCKOUT / TAGOUT

PAGE: 2 of 6
EFFECTIVE: July 1, 2016
REVIEW: July 1, 2017

pump's discharge valve will need to be shut and locked to prevent the worker from being injured by the pump suddenly back-spinning when the motor is being removed.

Similar pre-cautionary actions must be taken when dealing with chemicals that are reactive, pressurized tanks, equipment with springs or any device under tension, vessels containing high or low temperature fluid, or even equipment or systems that are above the worker and the hazardous energy is overhead weight.

Tags ("DANGER" and "CAUTION") are essentially warning devices and provide the means of conveying information from one employee to all others. Tags do not provide the physical restraint and positive control that must be provided by a lock. Tags must be legible in order to be effective and will contain specific information about the tagout. At a minimum, the tags must identify the reason for the tagout, the date, and the name of the person attaching the tags.

CAUTION Tags can be used anytime conditional operating procedures or special (non-routine) circumstances exist. While there is no requirement to log these tags, the FS Sup must be notified whenever they are placed in use.

While any equipment can be taken out of service immediately to prevent injury or damage to machinery, lockout/tagout of any equipment/system must be ultimately reviewed and authorized by the FS Sup.

Due to the hazardous consequences of not following these procedures, employees who fail to properly lockout/tagout a system, machinery, equipment, vehicle, or a device, are subject to appropriate disciplinary action.

4.0 PROCEDURES

4.1 Electrical Equipment

Prior to performing corrective maintenance (repair), or immediately upon discovering an unsafe or hazardous situation involving a system, machinery, equipment, vehicle, or a device, FS Staff will secure the local Lockout/Stop switch located in the near vicinity of the affected piece of equipment. Then, place the control switch located on the Motor Control Panel (MCP) located in the Motor Control Center (MCC) for the specific equipment in the "off" position using the "Hand-Off-Auto" switch (press the "stop" button for start/stop controllers). Open the equipment's circuit breaker and disconnect the equipment's power source in the MCC. Finally, affix a completed "DANGER TAG" at the MCP and at the local lockout/stop switch. (Note: Putting a piece of equipment into the safest condition possible may require

Leucadia Wastewater District

STANDARD OPERATING PROCEDURE

HAZARDOUS ENERGY CONTROL, LOCKOUT / TAGOUT

PAGE: 3 of 6
EFFECTIVE: July 1, 2016
REVIEW: July 1, 2017

securing additional equipment. This includes valves and alternate power supplies or the de-pressurization, draining, or venting of fluid lines and tanks).

The FS Sup will then be notified and, upon review of the system and confirmation of the hazard and the actions taken to properly secure and/or isolate the hazard, affix multi-lock devices and red "Supervisor" locks at the MCP and the local lock out/stop switch. The FS Sup will then inspect the tags and the Lockout/Tagout log book for completeness and accuracy.

4.2 Tanks and Piping Systems

FS Staff securing tanks and/or piping systems must isolate the affected system by closing off all lines and connections leading to or from it with valves, blank flanges, or other blocking devices (This may include the valves used for draining or filling the system). Next, attach completed "DANGER TAGS" on all affected valves or gates required to ensure the maintenance action can be safely accomplished.

The FS Sup will then be notified and, upon review of the system and confirmation of the hazard and the actions taken to properly secure and/or isolate the hazard, affix multi-lock devices and superintendent locks to the secured isolation valves, blank flanges, etc. The FS Sup will then inspect the tags and the Lockout/Tagout log book for completeness and accuracy.

4.3 Testing/Return to Service

Prior to testing or returning the tagged out system/equipment to service, the FS Sup will be informed that all required maintenance actions have been completed and all individual color-coded locks have been removed from the multi-lock devices. The FS Sup will ensure that all tools and other non-essential material are clear of the affected equipment/tank/piping system, that the maintenance actions are complete, and all guards or protective devices have been reinstalled.

Remove "Supervisor" lock(s) from the MCP circuit breaker and close the circuit breaker, restoring power to the equipment.

Remove "Superintendent" lock from local lockout/stop switch and commence appropriate testing.

If system/equipment is successfully tested, remove all associated tags and return it to full service.

Leucadia Wastewater District

STANDARD OPERATING PROCEDURE

HAZARDOUS ENERGY CONTROL, LOCKOUT / TAGOUT

PAGE: 4 of 6
EFFECTIVE: July 1, 2016
REVIEW: July 1, 2017

Finally, the FS Sup will ensure the Lockout/Tagout log book entries have been properly closed out (Note: the Lockout/Tagout log book will always be located in the Leucadia pump station and list all tanks, equipment, piping systems and/or valves that have been secured and tagged out).

4.4 Routine Preventative Maintenance (PM) / Color-coded Locks

Each employee, performing routine preventative maintenance (PM) actions, will be issued individual color-coded locks and a multi-lock device. These will be used during **daily** PM actions to safely lockout the equipment/system being serviced. No tag will be required since the locks are color-coded to specific individual employees (see Attachment A). These locks will be removed immediately upon completion of the PM action and always by the end of the workday. If the PM action cannot be completed by the end of the workday, Tags and “Supervisor” locks are to be attached in accordance with the procedures outlined above. FS Staff working on an equipment/system already tagged and locked out are to affix their individual color-coded locks to the multi-lock device whenever performing maintenance actions.

5.0 RESPONSIBILITIES

The FS Sup will ensure all FS Staff is instructed on the proper use of Lockout/Tagout procedures. Each new employee shall be instructed in the safety practice of the Lockout/Tagout procedure before they can assume the responsibility of this practice.

The FS Sup will ensure all Lockout/Tagouts are completely and accurately recorded in the Lockout/Tagout log book.

Each employee issued color-coded locks are responsible for these locks and keys. If the employee who installed the lock or tag is absent from the workplace, the FS Sup may remove the color-coded lock. The FS Sup will supervise the testing of the equipment/system to assure its readiness for return to full service.

The FS Sup will routinely audit the Lockout/Tagout log book and inspect all equipment during facility inspections for adherence to proper Lockout/Tagout procedures.

6.0 TRAINING

A. LWD employees:

1. Will be issued a copy of this procedure and its attachments as part of their “new hire” training.
2. Will become and remain familiar with this procedure.



Leucadia Wastewater District

STANDARD OPERATING PROCEDURE

HAZARDOUS ENERGY CONTROL, LOCKOUT / TAGOUT

PAGE: 5 of 6
EFFECTIVE: July 1, 2016
REVIEW: July 1, 2017

B. Field Services Superintendent and Supervisor

1. Will provide regular training and updates on these procedures. Record attendance in Training Log.
2. Will conduct annual review of these procedures



Leucadia Wastewater District
STANDARD OPERATING PROCEDURE
HAZARDOUS ENERGY CONTROL, LOCKOUT / TAGOUT

PAGE: 6 of 6
EFFECTIVE: July 1, 2016
REVIEW: July 1, 2017

Attachment A

LOCKOUT/TAGOUT
ASSIGNMENT TABLE for COLOR-CODED LOCKS

Field Services Supervisor	RED
Steve Krason	BLUE
All other Field Services staff	YELLOW