

LINK 360 Lockout/Tagout Posted Procedure

ID#:	BRDY-001-430105	Facility:	Site 1 - Refrigeration	Location:	Engine Room
Created:	9/11/2013	Description: Refrigeration Compressor #4			
Revised:	9/13/2013				

5 Lockout Points

Note: This is an example of Link360's "Long Form". The long form allows you to freely define the actions of each step, add photos for each step, and add further detail that is required for complex lockout procedures. For simple lockout procedures, see the "Short Form".

Purpose:	This procedure establishes the minimum requirements for the lockout of energy isolating devices whenever maintenance or servicing is done on machines or equipment.
Scope:	This procedure shall be used to ensure that the machine or equipment is stopped, isolated from all potentially hazardous energy sources and locked out before employees perform any servicing or maintenance where the unexpected energization or start-up of the machine or equipment or release of stored energy could cause injury.
Authorization:	This procedure shall only be used by employees that have been trained as "Authorized" employees under OSHA 1910.147. Employees with the following job roles are authorized to use this procedure: <list job roles>
Enforcement:	Failure to properly follow lockout-tagout procedure may result in corrective action.

Lockout Application Process

1. Notify affected personnel. 2. Properly shut down machine. 3. Isolate all energy sources. 4. Apply lockout devices, locks, & tags. 5. Verify total de-energization of all sources.

Lockout Steps

Step #	Action	Info
1 Electrical ⚡ E-1 480V	<p>PROPER PPE REQUIRED: Arc flash shield, 8 cal/cm2, class E gloves, electrical rated hardhat.</p> <p>The E-1 Disconnect is located to the West of the machine. Turn Disconnect to the off position and lock out. Use a Lock and hasp device.</p>	
2 Note ⚠ !-1	<p>For the next step, you will need to obtain a universal lock and chain device from the Lockout/Tagout Station, located on the West wall of the Engine Room.</p>	<p>Upon re-energization, return universal lock and chain device to the Lockout/Tagout Station.</p>

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Lockout Steps

Step #	Action	Info
<p>3 Gas</p> <p> G-1 Ammonia</p>	<p>The G-1 Ball Valve is located to the North of the compressor. Turn Valve to the off position and lock out. Use a Universal Ball Valve lockoug device, and standard 1" red aluminum lock.</p>	 <p>A photograph showing a blue refrigeration compressor with a white ball valve labeled 'HTPL AMMONIA'. A red arrow points to the valve handle, and a small orange icon with a flame and 'G-1' is overlaid on the image.</p>
<p>4 Water</p> <p> W-1 Primary Supply</p>	<p>The W-1 Gate Valve is located to the East side of the compressor. Turn Valve to the off position and lock out. Use a universal gate valve lockout device.</p>	 <p>A photograph of a large industrial machine with a gate valve. A red arrow points to the valve handle, and a small green icon with a gate valve symbol and 'W-1' is overlaid on the image.</p>
<p>5 Note</p> <p> !-2</p>	<p>If step ladder is needed to reach the following step, retrieve the ladder from the LEAN tools area.</p>	<p>If the ladder is not available, see nearest supplies coordinator.</p>

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Lockout Steps

Step #	Action	Info
<p>6 Water</p> <p> W-2 Secondary Supply</p>	<p>The W-2 Gate Valve is located to the East side of the machine. Turn Valve to the off position and lock out using a universal gate valve lockout device.</p>	 <p>A photograph of the engine room showing a large blue machine. A red gate valve is highlighted with a green box and labeled 'W-2'. An arrow points to the valve.</p>
<p>7 Gas</p> <p> G-1 Fuel Supply</p>	<p>The G-1 Ball Valve is located on the Infeed side of the machine. Turn Ball Valve to the off position and lock out. Use a universal ball valve lockout device.</p>	 <p>A photograph of the engine room showing the same blue machine. A red ball valve is highlighted with a purple box and labeled 'G-1'. An arrow points to the valve.</p>

Verification of Energy Isolation

Verify that all energy sources are isolated and at a Zero Energy State by attempting to start machine with normal operating controls.

Lockout Removal Process

1. Ensure all tools and items have been removed. 2. Confirm that all employees are safely located. 3. Verify that controls are in neutral. 4. Remove lockout devices and reenergize machine. 5. Notify affected employees that servicing is completed.

Lockout Tagout Procedure

- Purpose:** To protect authorized employees against unexpected or unplanned activation of equipment or energy while servicing equipment.
- Scope:** Utilize this procedure for all scheduled PM shutdowns, any maintenance task that requires you to place your body in harms way of the equipment, or if you have to leave the area while the equipment is in service.
- Enforcement:** **Failure to properly follow lockout-tagout procedure may result in corrective action.**

SHUTDOWN, LOCK, TAG & TEST SEQUENCE

#	STEP	DESCRIPTION
1	<i>Notify Employees</i>	Notify all affected employees that servicing or maintenance is required on a machine or equipment, and that the machine or equipment must be shut down and locked out to perform the servicing or maintenance.
2	<i>Review Lockout Procedure</i>	The authorized employee shall refer to the company procedure to identify the type and magnitude of the energy that the machine or equipment utilizes, shall understand the hazards of the energy, and shall know the methods to control the energy.
3	<i>Perform Machine Stop</i>	If the machine or equipment is operating, shut it down by the normal stopping procedure (depress the stop button, open switch, close valve, etc.). Reference machine operating procedure for normal shutdown.
4	<i>Isolate Energy</i>	Follow graphical lockout-tagout procedure from top to bottom to de-activate the energy isolating device(s) so that the machine or equipment is isolated from the energy source(s). NOTE: It may be necessary to dissipate the non-lockable energy sources before isolating the lockable energy sources. (i.e. lower the machine to lowest position before locking out.)
5	<i>Lockout Energy</i>	Lock out & tagout as required the energy isolating device(s) with assigned individual lock(s) and tag(s).
6	<i>Dissipate Energy</i>	Stored or residual energy (such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, as well as air, gas, steam, or water pressure, etc.) must be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.
7	<i>Attempt Restart</i>	Ensure that the equipment is disconnected from the energy sources by first checking that no personnel are exposed, then verify the isolation of the equipment by operating the push button or other normal operating controls or by testing to make certain the equipment will not operate. Caution: Return operating controls to neutral or "off" position after verifying the isolation of the equipment.

RESTORE TO SERVICE SEQUENCE

#	STEP	DESCRIPTION
1	<i>Check Machine</i>	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 are operationally intact.
2	<i>Check Area</i>	Check the work area to ensure that all employees have been safely positioned or removed from the area.
3	<i>Verify Machine</i>	Verify that the controls are in neutral.
4	<i>Remove Lockout</i>	Remove the locks, tags and lockout devices and re-energize the machine or equipment. In reverse order, follow all of the steps from the visual lockout-tagout procedure found on the previous page. Note: The removal of some forms of blocking may require re-energization of the machine before safe removal.
5	<i>Notify Employees</i>	Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use.

