

## LOCK OUT TAG OUT VERIFICATION (LOTOV)

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The person in charge of the activity is responsible for applying this procedure.

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		Date: 1 Aug 2023

LIST OF VERSIONS				
Version No.	Date	Section	Page(s)	Purpose of the Modification
1	March 4, 2017			Original version.
2	July 15, 2021	all	all	General revision
3	Aug 1, 2023	all	all	General revision to reflect changes from IMG to Zijin
DEFINITIONS APPLICABLE TO THIS DOCUMENT				
RGM		Rosebel Gold Mines N.V.		
Affected Employee		Anyone who may be affected by the machine or equipment being energized or started. Affected person should be trained (2 hours) in LOTOV affected person training before partaking in any maintenance activities.		
Authorized Employee		An authorized employee is a person who is trained and authorized to lock out and/or tags out machines or equipment to perform service or maintenance on that machine or equipment. Authorized person should be trained (8 hours) in LOTOV authorized person training before partaking in any lock out and tag out activities.		
Capable of Being Locked Out		An energy isolation device will be capable of being locked out either if it is designed with a handle or other attachment or integral part of which, or through which a lock can be safely affixed, or if it has a locking mechanism built into it. Other energy isolation devices will be considered capable of being locked out, if lockout can be achieved without the need of dismantling, rebuilding, or replacing the energy isolation device or permanently alter its energy control capability.		
De-energize		To remove the source of energy by such a means that the de-energized equipment can be readily restarted by reactivating the means used to de-energize. De-energizing is normally done at location using stop buttons, local valves, etc.		
Electrical system		Power lines, equipment, and other devices in which there is an electrical current more than 42 Volts Alternating Current.		

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Energy Isolation Device	An energy isolation device is 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 for an ungrounded supply conductors and where no pole can be operated independently; a slide gate; a slip blind; a line valve; a block; and any similar device used to block or isolate energy. This term does not include push buttons selector switches or other control circuit type devices.
Energy Source	Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, gas, water, steam, air, stored energy including gravity, or any other form of energy.
Energy Source Identification Checklist	An energy source identification checklist is a list that indicates all the energy sources with the magnitude associated with the machinery or equipment undergoing work.
Energy Source Verification Checklist	The energy source verification checklist is a written machine specific procedure which includes specific procedural steps for shutting down, isolating, blocking, and securing equipment to control hazardous energy.
Fluid system	Pipes, vessels etc. that contain or are designed to contain fluids such as liquids, vapors, and gasses.
Hydraulic systems	Equipment in which energy is applied to fluids in order to transfer energy to mechanical machinery e.g. cranes, forklifts etc.
Isolation	The physical interruption of the source of energy. Isolation will have been completed only when no associated control device, such as valve, push button control, interlock or automatic start-up control circuit, shall have the capability of energizing equipment.
Lock-out	Lock out is, the placement of a lock out device such as a padlock, on an energy-isolating device, in accordance with an established procedure, ensuring that the energy device and the equipment being controlled cannot be operated until the lock out device is removed.
Normal production operation	A normal operation is the use of equipment to perform its intended function.
Servicing or maintenance	A workplace activity such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining or servicing machines or equipment. These activities include lubrication, cleaning or un-jamming of machines or equipment and adjusting or tool changes.

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Special Authorized Procedure	Where an exception of this procedure is required, a special authorized procedure shall be written together with the safe work steps and shall at least be signed off by the division manager and the department heads. Special authorized procedure form should be filled in when working with live energy sources.
Tag Out	Tag-out is the act of placing a switch, lever, valve, or other isolating device in the off or safe position and tagging it indicates that it is not to be operated. A Tag is issued in conjunction with Lock Out.
Verification	Confirmation by an authorized employee that de-energization, isolation, and control of energy for equipment has been accomplished prior to starting work on locked out and/or tagged out equipment.
Zero Energy State	A state in which all energy at the sources are eliminated and/or controlled.
Plant	General name for equipment, machinery, appliances, tools and implements
High Voltage	Electrical systems greater than 600 volts; only qualified electrical workers with required PPE can work on power systems greater than 600 volts.
Low Voltage	Electrical systems with the range between 50 to 600 volts; only trained low voltage workers can work on power systems between 50 to 600 volts.

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## 1 PURPOSE

The purpose of this document is to provide guidance on the minimum predetermined steps that should be followed to keep plant and its components from being set in motion or to prevent the release of stored energy, to protect the safety of persons during plant inspection, repair, maintenance, or cleaning activities.

## 2 SCOPE

This Lock-out Tag-out Verification (LOTOV) program applies to all Rosebel Gold Mine N.V. (RGM) controlled activities and locations and needs to be complied with by employees and (supervised or non-supervised) contractors at RGM.

## 3 RESPONSIBILITIES

### Occupational Health & Safety Superintendent:


- Approves & ensures that the LOTOV standard is current.
- Ensures all training programs for Affected and Authorized persons are updated according to industry standards.
- Informs all stakeholders of updates and best practices related to Lock Out Tag Out
- Investigate incident when RGM-F-05 Tag-lock removal is issued.

### Area Superintendent/ Supervisor:

- Document and identify all authorized and affected employee(s)
- Identify and list all machinery, equipment and systems affected by Lock-out / Tag out / Verification, using an "Equipment Inventory Listing".
- Identify all energy sources per machinery, equipment and systems using the Energy Source Identification checklist within the departments.
- Provide all isolation devices and locks for lock out (locks, tape, chains, pins etc.).
- Administer and issue the personal locks of their employees.
- Provides input to the LOTOV Plan.
- Communicates the LOTOV Plan to all affected persons.
- Ensures plant and or systems are shut down safely and that hazardous energy is released as per the LOTOV Plan.

### Authorized Person:

- Prepares and signs off on the LOTOV Plan
- Accountable for determining the correct LOTOV method used
- Verifies Isolations and place Authorized Person Locks
- Should complete Authorized person training
- Energize equipment when work is completed and all personal locks are removed


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**Affected Person:**

- Places his/ her personal lock
- Ensures to remove lock and tag before leaving the work place.
- If needed the affected person can verify the LOTOV plan.
- Should complete Affected person training

#### **4 MINIMUM REQUIREMENTS**

- 1) Develop LOTOV plan for removing the energy supply from machines and for putting appropriate lockout or tag out devices on the energy-isolating devices to prevent unexpected re-energization. When appropriate, the LOTOV plan also must address stored or potentially re-accumulated energy.
- 2) Train employees and contractors on the energy-control program, including the safe application, use, and removal of energy controls.
- 3) Inspect these procedures as needed to ensure that they are being followed and that they remain effective in preventing employee exposure to hazardous energy.
- 4) Each department shall:
  - a. document and identify all authorized and affected employees (see forms RGM-F-01 and RGM-F-02).
  - b. identify and list all machinery, equipment and systems affected by Lock-out / Tag out / Verification, using an "Equipment Inventory Listing" (see form RGM-F-03)
  - c. identify all energy sources per machinery, equipment and systems using the Energy Source Identification checklist within the departments.
  - d. administer and issue the personal locks of their employees (see form RGM-F-04)
- 5) Ensure that new or overhauled equipment is capable of being locked out.
- 6) Use only lockout/tagout devices authorized for the equipment or machinery and ensure that they are durable, standardized, and substantial.
- 7) Ensure that lockout/tagout devices identify the individual users.
- 8) Establish a policy that permits only the employee who applied a lockout/tagout device to remove it.
- 9) Provide effective training as mandated for all employees covered by the program.

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## 5. **INSTRUCTIVE NOTES**

The RGM LOTOV procedure has the following steps as requirements.

1. Preparation;
2. Equipment shutdown;
3. Equipment Isolation;
4. Perform Lock Out and Tag Out;
5. Lock out and Tag out of different energy sources;
6. Verification of zero energy state;
7. Restoring equipment back to service;
8. Lock / Tag Removal by someone else then the owner of the Lock

### 5.1 Preparation

- Review proposed work with the (area) supervisor in charge of machinery, equipment, or facility and reach an agreement on potential operating interference.
- Do a field check to confirm the sources as identified and to check whether there may be other energy sources present.
- Determine if energy sources are capable of being locked out.
- Prepare in consultation with the relevant area authorized person, a LOTOV plan detailing:
  - An Energy Source Identification checklist. Including where and how to isolate and lock out the energy sources.
  - Identification of affected people, plant and systems.
  - An equipment inventory listing for the machinery or equipment to be shutdown.
  - A Lock- out Tag-out Verification checklist
- Communicate the plan to all the affected persons and owners of affected plants.


#### **Note: If isolation is not practicable**

There may be plant that can only be cleaned, maintained, repaired or adjusted by moving components slowly under power. In this case, the plant should be fitted with controls that allow safe controlled movement. A written safety procedure SHALL be developed in consultation with relevant health and safety representatives, people who are doing adjustments, cleaning, maintenance, repairs or inspections of the plant and plant operators and those procedures should be approved by division and HSE manager.

Routine lockouts require RGM to maintain a written procedure for:

- Each individual machine or piece of equipment, or
- Each group of similar machines or equipment



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## 5.2 Equipment shutdown

Use normal stop or shutdown procedures to shutdown machinery or equipment listed on the equipment inventory list in the LOTOV Plan e.g. if the equipment is operating, shut it down by the normal stopping procedure (such as: press stop button, open toggle switch).

If an immediate shutdown is required to protect employee(s) or equipment, use necessary emergency shutdown procedures.

## 5.3 Equipment Isolation

Isolation shall only be done by authorized employees who are qualified in this procedure and are experienced with the machinery or equipment.

- As per the LOTOV plan, operate the switch, valve, or other energy isolating devices so that the energy source(s) (electrical, mechanical, hydraulic, and other) is disconnected or isolated from the equipment.
- Ensure that all appropriate energy isolation devices are available.

Note: Employees authorized to perform lockout shall be certain as to which switch, valve, or other energy isolating devices apply to the equipment being locked out. More than one energy source (electrical, mechanical, or others) may be involved. Any questionable identification of sources shall be cleared by the employees with their supervisors before lockout commences. Job authorization should be obtained. Electricians shall operate and disconnect switches from 600V and higher (high voltage) for Lock-out Tag-out purposes, when visual verification of blade opening and or voltage checks are required.

## 5.4 Perform Lock Out and Tag Out

Only authorized employees are allowed to perform a lock-out/ tag-out within their department. The process of lockout and tagging of equipment follows 4 generic steps

### Lock Out

1. By using the Energy Source Identification checklist, Lock out and Tag-out all energy sources in the safe position using the equipment lock and equipment danger tag.
2. Bleed and/or drain all lines and valves, which may have the potential of stored energy. Stored energy, such as that in capacitors, springs, elevated machine members, rotating fly wheels, hydraulic systems, and air, gas, steam or water pressure, must also be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down.
3. Lock and Tag all valves, switches, etc. in the “de-energized” position as per the LOTOV plan.
4. All equipment lock keys will be placed in the lock out box and the authorized person’s lock shall be placed in the center hole of the lock out box.

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**Note:** It is important to remember that just turning off a switch is not the same as lockout because there is still energy in the switch. If there is a short at the switch or the machine is accidentally turned on, it will energize and cause it to run. If for whatever reason a piece of equipment or system cannot be or is not capable of being locked out a formal risk assessment needs to be done. Work can only be done with signoff by the area manager.

**Tag out may be an option:**

Tagged out means to place a tag out device on the machine or equipment to show that it is prohibited to restart or operate the machine or equipment.

The actual technique to achieve LOTOV, may vary depending on the system. Also see appendix 1 Guidance on Lock out techniques.

## 5.5 Lock out and tag out of different energy sources

### Fluid systems LOTO

Fluid systems must be blocked in by valves to prevent the fluids from the adjacent systems entering the equipment on which the work is to be done. Do not rely on valves. Where confined spaces are involved or work on equipment the isolation must be “positive isolated”.

Positive isolation SHALL be with spades or blinds or removal of a spool piece as close as possible to the equipment or confined space. When there are no valves to block in the system the entire system must be depressurized. The system is then isolated with slip blinds, "double-block-and-bleed", spool removal or other effective means of preventing the fluids from re-entering the equipment. The Area Supervisor in consultation with the relevant authorized person, shall identify isolation locations and types of isolating methods to be used. These must be included in the LOTOV Plan.

Where positive isolation is not possible a documented risk assessment must be approved and signed off by the department manager.


Shutting of valves and depressurizing of fluid systems is the responsibility of the Area Supervisor.

He/ She SHALL ensure that the correct valves are selected for blocking in the system and the most effective means of isolation are used.

All isolation points must be documented on a list, including the type and location of the isolation, the date and time it was installed and the responsible operator.

### Electrical systems

Before working on an electrical system it must be de-energized by turning off the local switch or circuit breaker to ensure that no current can flow to the equipment. The system is then isolated at the remote switch or circuit breaker.

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Operating personnel are responsible for turning off the local switch. The switching of remote isolation switches and circuit breakers must be done by an electrician who must lock out and tag the remote switch and also tag the local switch. In situations where it is not possible to apply locks on an isolating device, isolation may be accomplished by removal of fuses or disconnection of electrical cables.

### **Mechanical systems**

Energy stored in mechanical systems is provided by motors, gravity, springs or similar devices. Residual energy in any system must be removed before work begins. When the energy is supplied or is likely to be supplied by a motor, the motor must be isolated. Moving parts of the mechanical equipment, which can result in injury, must be chucked, pinned or otherwise secured from undesired motion. Isolation of a motor means isolation of the energy source, that is, electricity, steam, air or any other energy source that can cause undesired movement of the motor.

### **Hydraulic Systems**

Energy can exist in hydraulic systems both from the pumps used to pressure the fluid in the system and the weight or force of the machinery on the hydraulic fluid in the system. Both energy sources must be isolated when work is to be done on a hydraulic system.

### **Energy types:**

- **Electrical energy:** This is energy that is caused by electrical current that provides power to run the machine.
- **Hydraulic Energy:** This is power that utilizes liquid under pressure in a piston or cylinder to drive a motor, engine or the movement of machinery.
- **Potential energy from springs:** This is energy caused by force. When a spring is wound or forced closed, it has force energy waiting to be released or be un-sprung.
- **Gravitational Energy:** This is energy caused by gravity or weight, which could cause a crushing injury from a falling object.
- **Chemical Energy:** Are hazards presented by either chemical reaction in a process, or by the movement of chemicals themselves. Pipes and piping systems that provide chemicals to a process may need to be locked or tagged to prevent the feeding of these chemicals into a piece of equipment that is being serviced.
- **Radiation Energy:** is caused by either radiant heat or radioactive sources that emit hazardous energy.
- **Pneumatic Energy:** uses compressed air to power the equipment or move materials. Air supplies must be shut down or locked out before working on pneumatic equipment.
- **Thermal Energy:** is heat related energy. This can be through friction, chemical reaction, or heat generating equipment or processes (like ovens, kilns, welding, melting pots, etc.). The heat source must be prevented from reaching the mechanic or service person to maintain their safe working conditions.

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- **Mechanical Energy:** This is where moving parts may have force energy that needs to be restrained. For example: a rotating blade, such as on a lawnmower, may have residual energy in it if it was jammed. When the block or jam is removed the pent up energy remaining in the blade assembly could force the blade to spin, causing injury to the person un-jamming the blade assembly.

### **Tag Out**

A tag is **NOT** in itself an effective isolation device. A tag acts only as a means of providing information to others at the workplace. A lock **SHALL** be used in preference to a tag, as an isolation device.


Tags used are:

- **Personal danger tags:** Personal danger tags should be restricted to employees who will be working on equipment. A personal danger tag on the isolation devices of an item of equipment is a warning that the equipment is in an unsafe condition and that operation of that equipment may endanger the person who attached the tag.
- **Out of service tags:** An out of service tag is a notice that distinguishes appliances or equipment that is out of operation for repairs and alteration, or plant that is still being installed. While an out of service tag is attached to the appliance or equipment, it should not be operated. Out of service tags should **not** be relied upon to provide personal protection.  
Prior to attaching an out of service tag all required details on the tag should be clearly entered in the spaces provided, with emphasis given to the reason for placing the tag. Tags should be securely fixed, so as to be clearly visible.  
Except in an emergency, out of service tags should be removed only by a person who is both familiar with the plant and fully familiar with the reason that the tag was placed

Removal of an out of service tag effectively releases plant for use, and **SHALL** only be done after ensuring that:

- a) All affected people are clear of the plant; and
- b) Inspection of the plant confirms that plant is safe for normal use.

Note: Personal danger tags and out of service tags should not be used together on the same item of equipment because they relate to different circumstances. An out of service tag should be removed when a personal danger tag is added, and vice versa. On completion of maintenance, cleaning, etc. works, remove the tags before the plant is returned to operational status. Tags should only be removed by Authorized or Affected persons.

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## 5.6 Verification of zero energy state


The authorized employee(s) shall verify that isolation and de-energizing have been accomplished as per the LOTOV plan. The most critical and important part of LOTOV is to verify that the energy sources have been effectively isolated. After plant has been shut down, locked out and tagged, all isolated power sources should be tested first with appropriate instruments and then by trying to activate the plant, before any person attempts to start work on the plant. This SHALL be done by a person who understands the complexity of the plant (or parts of the plant, including control stations and computers remote from the plant).

Verification shall include all the appropriate, following practices, which are necessary to confirm isolation of hazardous energy sources. The verification shall be done using form RGM-F-03.

- Try the equipment “start” controls after Lock- out tag-out to make sure that the machine or equipment does not operate.
- For electrical instrumentation maintenance personnel: verify if blades are in open position, measure zero potential on the isolated equipment, mandatory when working on electrical equipment. Grounding is additional for High Voltage equipment isolation. Test and inspect for stored air, gas, steam, hydraulic fluid, etc., that remains under pressure in piping, accumulators, and cylinders.
- Operate enough combinations of controls to ensure elimination of stored energy.
- Confirm that energy stored in springs or elevated devices are at a zero-energy state.
- Check for leaking valves.
- Confirm that all necessary caps, blanks, or blinds are in place and lines containing potential hazardous energy sources are disconnected.
- Determine if system components have been bled or purged.
- Assure that upstream and downstream pressures adjacent to control valves have been relieved.
- Ensure mechanical drives are disconnected, where applicable (e.g. vessel entry procedures)
- After all checks have been performed, return controls to the neutral, off, or safe position before beginning work.

Once it has been determined that all is safe and locked & tagged out, an authorized person will attach their lock on the lockout box.

All employee(s) assigned to the job, must verify the zero-energy state or witness this verification. When the authorized person has placed their lock to the center hole of the lockout box, all employees working on that job will affix their Personal Danger Tag with their lock to the lockout box. All tags shall be legible. First name or Initial(s) and the surname shall be clearly written on all tags.

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**Note:** Always leave one hole open on the lock box to facilitate placement of a lockout hasp. The Lock-out Tag-out Verification checklist SHALL be clearly posted near the lockout box, so that all employees can visually inspect and verify keys to lock points on the checklist.

## 5.7 Restoring Equipment to Service

When work is complete, and the equipment is ready for testing or normal service the authorized individual must:

- Remove any tools & equipment from inside the machine and from the immediate area.
- All workers to remove their personal locks and tags.
- Ensure that all employees keep a safe distance from the equipment during the re-energization process. Check the equipment area to see that no one is exposed
- Remove the LO/TO devices that were applied to the machine.
- Restore the energy sources to the equipment, and then
- Notify the machine operators and area supervisors that the work is complete and the equipment has been released from LO/TO status.

A personal lock or tag can only be placed or removed by the person whose name appears on the tag when:

- The necessary work has been completed
- The work has been re-assigned
- At the end of the shift

When the employee leaves the area prior to the end of the shift and the work is incomplete.

## 5.8 Lock / Tag Removal by someone else then the owner of the Lock

A personal danger tag/lock shall be removed **only** by the person whose name is written on the tag. Removal of a personal danger tag/ log from an isolating device should be carried out as soon as possible after completing the work. In every case a personal danger tag/ lock should be removed prior to leaving the worksite at the end of the shift.

Removing someone's personal lock is one of the most severe violations of Safety regulations and will result in disciplinary actions.

All reasonable efforts must be made to contact the authorized / affected employee, to inform him/ her tag / lock needs to be removed. **This employee SHALL return to RGM to remove their lock.**

Only when the whereabouts of the owner has been established and it is physically impossible to come and remove the lock will it be allowed to, after authorization according to the lock removal form (see form RGM-F-05)

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To ensure the integrity and effectiveness of the LOTOV system removal of someone else's lock must strictly follow the steps below.

- Verification must be made to confirm that the authorized / affected employee who applied the lock/ tag is not on the plant (e.g. Check with security, Camp Services, physical room check, etc.).
- The Area supervisor must fill out the personal danger tag and lock removal form.
- The Area manager or his/her designee shall approve and sign the personal danger tag and lock removal report.
- This report should be retained in the department.
- The report will be forwarded to Human Resources for investigation of the case.
- Upon return to RGM person should report to division manager who will inform the person that the lock has been removed and result of the HR investigation.

Having to apply "Lock / Tag Removal by someone else then the owner of the Lock" should be considered an incident that needs to be investigated.

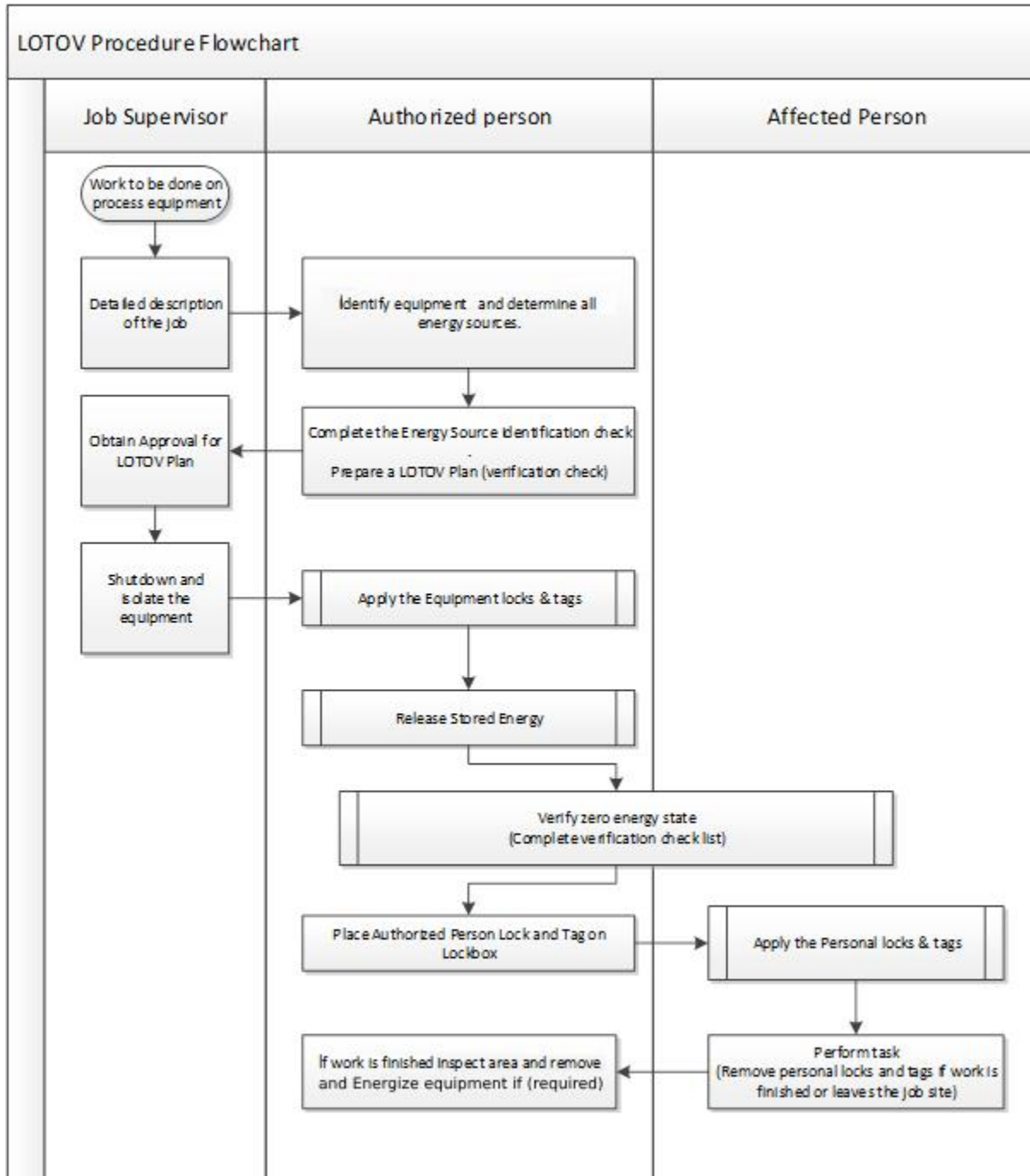
- It shall be clear that each person is personally responsible for their personal lock and should remove them when they are no longer affected.
- Where appropriate retraining and or disciplinary will be taken.

## 6. DOCUMENT CONTROL

Document	Primary File Location	Frequency of Review/Update
RGM-SRCS 02 Lock Out Tag Out Verification	RGM-DMS	Annual
RGM-F-01 Affected Person List	RGM-DMS	Annual
RGM-F-02 Authorized Person List	RGM-DMS	Annual
RGM-F-03 Energy source verification form;	RGM-DMS	Annual
RGM-F-04 Personal lock assessment log	RGM-DMS	Annual
RGM-F-05 Tag-lock removal form	RGM-DMS	Annual

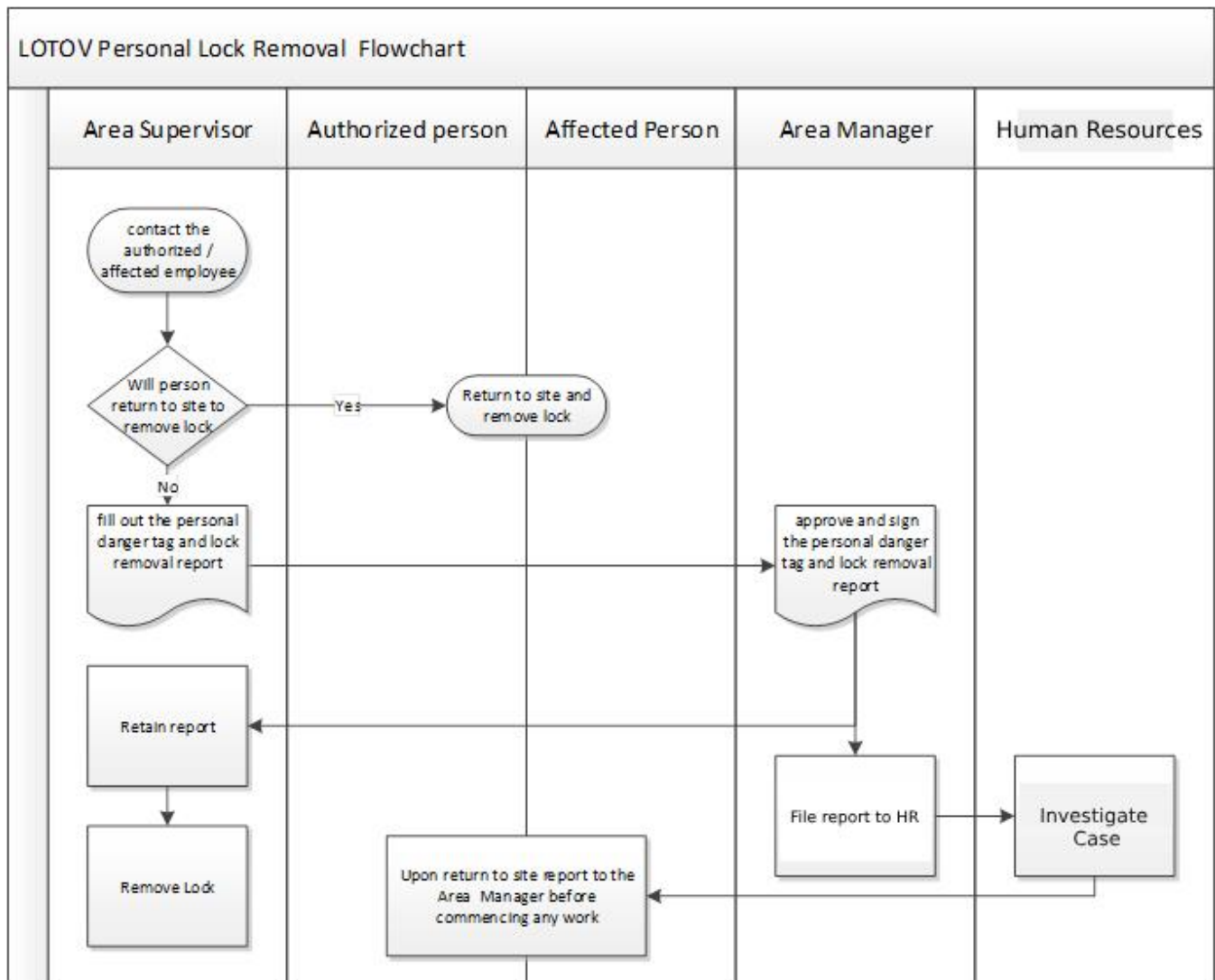
If you have any comments, questions, or requests for corrections regarding this document, please contact one of the signatories.

**FLOWCHARTS**




**LOTOV procedure flowchart**





LOTOV Personal Lock Removal Flowchart

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## REFERENCES

- OSHA - 1910.147 The control of hazardous energy (lockout/tagout).
- OSHA - 1910.147 App A - Typical minimal lockout procedures
- OSHA – Factsheet ([https://www.osha.gov/OshDoc/data General Facts/factsheet-lockout-tagout.pdf](https://www.osha.gov/OshDoc/data%20General%20Facts/factsheet-lockout-tagout.pdf))




## APPENDICES






### Appendix 1 – Guidance on Lock out techniques.

<b>LOTOV Vessels and Pipelines</b>	<p>These systems shall require pre-planning to identify all potential hazards before starting work. A review of confined space entry procedures shall be included. Of special interest are:</p> <ul style="list-style-type: none"> <li>• Closed valves that may leak.</li> <li>• Entrance or release of fluids may constitute a hazardous condition.</li> <li>• Capping, blanking, blinding, or even disconnecting all service, process, vent, or overflow lines shall be required.</li> <li>• Bleeding and purging are other alternatives.</li> <li>• Upstream and downstream pressure may exist adjacent to a hydraulic or pneumatic control valve. Both pressures <b>MUST</b> be relieved by bleeding off, or by disconnecting the proper piping connections. Open bleed valves shall be locked and tagged.</li> </ul>
<b>LOTOV Valves</b>	<p>Process valves shall be locked out, tagged and verified when:</p> <ul style="list-style-type: none"> <li>• Pipeline or system the valve protects contains flammable or combustible liquids, gases or particulates</li> <li>• Pipeline or system contains nitrogen, oxygen, chlorine, carbon monoxide, carbon dioxide, H<sub>2</sub>S, SO<sub>2</sub> or similar gases that could present an IDLH (immediately dangerous to life health) atmosphere or other significant risk in a confined space entry.</li> <li>• Pipeline or system that the valve protects represents an immediate and certain engulfment potential of such a magnitude that exit from a confined space entry would be unlikely or impossible</li> <li>• Pipeline or system the valve protects contains steam or condensate, hydraulic fluid or compressed air.</li> </ul> <p><b>Note:</b> If there is an entry into a confined space, there must be a physical isolation (positive) on all pipelines</p>
<b>LOTOV Mobile Equipment</b>	<ul style="list-style-type: none"> <li>• Any vehicle determined to be in an unsafe condition will be tagged immediately with a yellow Equipment Tag by the equipment owner, hooked on the main switch (when provided), or for equipment not provided with a main switch, the equipment tag shall be hung on the ignition switch or the steering wheel.</li> <li>• With a maintenance work request, the equipment is then turned over to the Maintenance department for repair.</li> <li>• When preparing to do maintenance Mobile equipment mechanics will, in cases where the battery of the vehicle is the energy source, Tag, Lock and Verify. At least the negative pole of the battery shall be locked by means of plug lockout together with equipment lock and tag.</li> </ul>

	<p>Personal tags and locks shall be placed on the lockbox together with the work permit tag</p> <ul style="list-style-type: none"> <li>When maintenance work is completed, the maintenance personnel will remove all of their personal tags and locks where applicable.</li> <li>The Equipment Tag, attached by the Maintenance department, will be removed when the equipment is accepted for operation.</li> </ul>
<b>LOTOV Overhead Cranes</b>	<ul style="list-style-type: none"> <li>Travel the crane to the “inspection “location.</li> <li>Release or prevent release – of stored energy.</li> <li>Shutdown the power of all motor’s to the crane.</li> <li>Lock out tag out and try out to convince yourself.</li> <li>Barricade area</li> <li>Place “overhead working” signs.</li> </ul>

## Appendix 2 – Locks and Tags

	<p><b>Lockout box</b></p> <p>A red durable, secure, tamper resistant box that can accept multiple locks and store keys visibly.</p> <p>This box can be portable or stationary. The lock box is used for all LOTOV jobs to lock: keys to equipment locks, key to the permit lock, etc.</p> <p>Each worker/contractor needs to lock the box on the outside and affix his/her tag.</p>
	<p><b>Work Permit Lock</b></p> <p>Work permit locks must be individually keyed, identified, and assigned to a specific department.</p> <p>At RGM, these locks are used by the Authorized person (will be the first lock on the lock boxes and the last one to be removed).</p> <p>They are identified by the color BLUE</p>
	<p><b>Equipment Locks</b></p> <p>Equipment locks must be individually keyed, identified, and assigned to a specific department.</p> <p>At RGM, these locks are used only for locking of energy sources of equipment.</p> <p>They are identified by the color YELLOW</p> <p><b>Note:</b> Equipment locks can also be on a series. One series of padlocks with one key. The key goes inside the lockbox.</p>

	<p><b>Personal Locks</b></p> <p>Personal locks must be individually keyed. They are to be assigned or checked out to an individual and are only to be used in conjunction with a Personal Danger Tag for a specific lockout job.</p> <p>They are identified by the color RED.</p> <p>Note: At shift change, the next contractor or employee puts his padlock on before the one leaving removes his/hers</p>
	<p><b>Snap-On Lockout Hasp</b></p> <p>Used when multiple locks have to be placed on the same lockout point.</p>
	<p><b>Personal Danger Tag (White/Red)</b></p> <p>This tag is for personal safety.</p> <p>This tag is attached to isolation devices as verification and on the lock box for the protection of individuals.</p>
	<p><b>Equipment Danger Tag/ Out of Service Tag (Yellow)</b></p> <p>Is to be placed on the machine, equipment, or other isolating devices only by the department that owns the equipment.</p>
	<p><b>Work Permit Tag (White/ Blue)</b></p> <p>Is to be placed on the lockout box on the work permit lock and is to be provided only by the owner department authorizing the work.</p> <p>This tag is placed after Tag out/Lock out and verification has been completed.</p>