Phosphate Program – Environmental, Health and Safety (EHS) Department

# Lockout Tagout (Control of Hazardous Energy) Program

| | | | |
|---|---|---|---|
| **Document Title:** Phosphate Lockout Tagout (Control of Hazardous Energy) Program | | **Document Identifier:** <Generated by Content Server> | |
| **Applies To:** North America Phosphates | | **Managed By:** EHS PMO | |
| **Document Owner:** Director, NA Health & Safety Department | | **Document Approver:** VP EHS | |
| **Current Version Effective Date:** | 17 February 2026 | **Formal Review Cycle Due Date:** | Annual |

## TABLE OF CONTENTS



## 1. PURPOSE

1.1 To prevent the unexpected energization or startup of machines and equipment, release of stored energy, or provide isolation from hazardous materials in order to prevent injuries and equipment damage during service and maintenance operations as required in the MSHA and OSHA standards, and in the Mosaic Fertilizer LLC Corporate EHS Policy.

2. SCOPE

2.1 This Program applies to servicing and maintenance of all machinery or equipment within the Mosaic Phosphates Business Unit and U.S. Distribution facilities.

2.2 Exceptions to this scope are:

2.2.1 Servicing tasks where employees perform minor tool changes and adjustment and/or minor servicing activities that are routine, repetitive, and integral to the use of the production equipment and that occur during normal production operations provided the work is performed using alternative measures that provide effective protection. Some examples are: packing adjustment, lubrication.

2.2.2 Electrical circuits shall be de-energized, locked out and tagged prior to any work being performed unless it can be shown that it is necessary for troubleshooting. Trouble-shooting shall be done only by Qualified Electrical and Instrument Personnel.

a. Specific procedures to be followed for E/I Technician work are included in the Mosaic Electrical Program and Appendix NFPA 70 Guidelines.

2.2.3 Hot Tap Operations that involve transmission and distribution systems for gas, steam, water, petroleum products or other potentially hazardous materials. Hot Taps are permitted when they are performed on pressurized systems provided that:

a. Shutdown of the system is impractical.

b. Specialized equipment and training are used which will provide proven effective protection for employees.

c. Documented procedures are followed.

d. The Safety Dept. has reviewed and approved the operation.

**Ref:** *Phosphate Hot Tapping and In-Service Metal Equipment Program*

2.2.4 Cord and Plug connected electrical equipment where the equipment is unplugged from the energy source and the authorized employee has exclusive control of the plug.

**Ref:** *North America Business Electrical – All Personnel Program*

3. DEFINITIONS

3.1 Affected Employee - An employee whose job requires him/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/her to work in an area where such servicing or maintenance is being performed.

3.2 Archived Procedure – Procedures for infrequent or turnaround work that are kept in an archive folder. These do not require annual revies and are reference only until formally approved.

3.3 Authorized Employee - Employee who has received the prerequisite training and has been designated by management to safely perform Lockout or tagout procedures.

3.4 Cascading (Pyramiding) - Group Lockout where multiple Lock Boxes are used by Work Groups and the additional Lock Boxes cascade (pyramid) from the primary (existing) Lock Box.

3.5 Custodian - An Authorized employee in Production / Operations, Maintenance or Support who assumes responsibility for the Group Lockout of the equipment by placing their Personal Lock on the Lockbox.

3.6 Danger Tag – DANGER - DO NOT OPERATE tag used to identify locks or when isolating equipment. Danger tags shall be securely attached with a tie-wrap or through the shank grommet.

3.7 Control Lock – Lock or device used by the Work Group to maintain control of equipment when equipment is to be out of service for an extended period of time.

3.8 Energy Isolation Device - A mechanical device used to physically isolate equipment from its energy sources or hazardous materials. Examples include, but are not limited to: valves, blinds, electrical disconnects, mechanical stops.

3.9 Equipment Owner - Employee who is in Production / Operations, Maintenance or Support and is accountable for the equipment.

3.10 Equipment Owner Lock - Single-keyed lock or group of locks used by the Equipment Owner to secure equipment during Individual and Group Lockout for maintenance or other activities until work is complete, inspected, and the equipment is safe to return to service.

3.11 Equipment-Specific/Standard Energy Control/LOTO Procedures - Specific written procedures for the control of potentially hazardous energy, approved and up-to-date in Livelink (LL).

3.12 Group Lockout - A procedure utilizing a Lock Box that may be used when multiple personnel or locks are needed to secure the Energy Isolating Devices.

3.13 Individual Lockout - Equipment Owner locking out Energy Isolation Devices with Workers placing their Personal Locks on the same devices.

3.14 Infrequent Lockouts – Lockouts that do not typically occur at least once a year but have a

3.15 Lock Box – Box or container used for locking the keys for the Equipment Owner's Locks in a Group Lockout Procedure. The box will be substantially constructed so as not to allow the keys to be removed if any lock remains on the box.

3.16 Lockout - The placement of a Lockout device on an Energy-Isolating Device.

3.17 Lockout Flow Chart - Chart that lists the steps for implementing control of hazardous energy for work involving Individual, Lock Box, and Jogging/Bumping Lockouts. Also includes steps for lock removal.

3.18 Lock Identification Tag (Lock ID Tag) – Personalized tag affixed to personal Locks which contains the person's name and picture.

3.19 Non-routine Lockouts – Lockouts that DO NOT have a standard LOTO procedure in LL.

3.20 Non-routine Lockout Checklist – Form (Appendix I) used to develop and approve a field lockout checklist for use when no standard LOTO procedure is available for the equipiment/system to be worked on.

3.21 Personal Lock - Single-keyed lock or set of locks assigned to an individual employee for the purpose of locking out equipment.

3.22 Routine/Standard Lockouts – Lockouts utilized by operations for routine outages, repair days, or typically use at least once a year. They are active documents in LL requiring an annual review.

3.23 Safe Work Permit - Permit containing required elements for documenting verification of hazardous energy control, hot work, and line or equipment opening.

3.24 Tagout - Control of hazardous energy procedure for securing energy isolation devices using Danger Tags only.

3.25 Tie Wrap - A single use nylon tie wrap having a minimum breaking strength of 50 pounds used to attach tags to locks or equipment.

3.26 Variance – Process and form (Appendix E) to be used whever work deviates for a standard LOTO procedure.

3.27 Work Group - Any group(s) of personnel performing work in an area.

3.28 Worker - Authorized person designated by the work group supervisor to perform work on equipment.

3.29 Workers Representative (Work Group Rep) - Authorized employee who is performing work on the equipment responsible for verifying Group Lockout.

## 4. ENERGY CONTROL PROCEDURES - GENERAL

4.1 Workers must be safely isolated from all hazardous energy sources before work begins. This includes, but is not limited to: electrical, mechanical, hydraulic, pneumatic, chemical, thermal or other energy.

4.2 An Equipment Owner assumes responsibility for the control of hazardous energy by placement of Equipment Owner locks on all Energy Isolation Devices.

4.3 Equipment Owner Locks shall be first on-last off on all Energy Isolation Devices.

4.4 Keys for Equipment Owner Locks will remain under the control of an Equipment Owner at all times.

4.5 An Equipment Owner becomes the Custodian in a Group Lockout by placing his/her Personal Lock on the Lock Box.

4.6 Any Worker performing service or maintenance on equipment shall:

4.6.1 Have their Personal Lock on the Energy Isolation Devices or Lock Box; and

4.6.2 The key to that lock in their possession at all times.

4.7 Workers shall remove all Personal Locks from Energy Isolation Devices or Lock Boxes at the end of the work day, when the job is completed, or when they are reassigned to a new job.

4.8 The Forced Safety Lock Removal procedures (Section 9) will be followed when Personal or Equipment Owner Locks remain on an Energy Isolation Device after work is complete.

4.8.1 The Forced Lock Removal Form (Appendix D) will be used and completed when a lock has to be forcibly removed.

4.9 Any employee who fails to follow the Control of Hazardous Energy Procedure (Lockout) will be subject to disciplinary action.

4.10 Stored energy such as that contained in springs, counterweights, elevated machine members, rotating flywheels, process vapors, hydraulic, steam or water pressure, etc. shall be relieved, disconnected, restrained, and otherwise rendered safe by methods such as repositioning, blocking, bleeding down, etc.

4.11 The use of tags in lieu of locks shall only be permitted when no mechanical locking Energy Isolation Device and no other effective means of positively locking out are possible. The Equipment Owner will write a work order to modify the equipment with installation of a locking Energy Isolation Device; this modification will be completed as soon as possible.

4.12 When tags are used in lieu of Locks, additional safety measures are required such as the removal of an isolating circuit element, blocking of a controlling switch, opening of an extra disconnecting device, or the removal of a valve handle to reduce the likelihood of inadvertent energization.

4.13 When replacement or major repair, renovation or modification of a machine or equipment is performed, and whenever new machines or equipment are installed, energy isolating devices for such machine or equipment shall be designed to accept a Energy Lockout Device.

## 5. LOCKS AND TAGS

5.1 Personal Locks shall be only issued with one key for each lock or set of locks.

5.1.1 Personal Locks will be yellow in color.

5.1.2 Keys to Personal Locks shall remain in the possession of the lock owner at all times.

5.1.3 Personal Locks shall be identified with a Lock ID Tag. A Danger Tag with the individual employee's name, employee's number and the name of the department may be used temporarily if a Lock ID Tag is not available.

5.2 Equipment Owner Locks shall be only issued with one key for each lock or set of locks.

5.2.1 Equipment Owner Locks will be blue in color.

5.2.2 Only one key shall exist for each lock or set of locks.

5.2.3 Equipment Owner Locks will be first on and last off for <u>all</u> Lockouts.

5.2.4 Equipment Owner Lock identification:

a. Equipment Owner Locks must be identified with the department name by tag, label or stamping the lock.
b. Equipment Owner Locks used for Group Lockout will have a tag indicating the Lock is being used for a Group Lockout. This may be the same tag or identification used in (a) above.
c. Equipment Owner Locks used for Group Lockout of specific systems (example – evaporators, ball mills, piping systems, etc.) may be identified by use of numbers, colored tags or other means that does not change the basic lock color.

5.3 Control Locks or devices may be used by the Work Group to maintain control of equipment when it is to be out of service for an extended period of time, and does not present a hazard (energy isolation or hazardous materials) to area personnel.

5.3.1 Control Locks or devices will be identified by:

a. Department name; and
b. A tag affixed with the date and time Control Lock or device was put in place; and
c. Color or style that is readily identifiable from Personal or Equipment Owner Locks.
d. Red locks will be used for electrical control locks only.

5.3.2 Control Locks or devices are not energy isolation devices. No work may be performed when only Control Locks or devices are in place.

5.4 Locks designated for Lockout purposes shall not be used for any other purpose.

5.5 Danger Tags, when used to secure or identify Energy Isolation Devices (Tagout) shall state required position of the Energy Isolation Device (example: “valve to remain open”), description of job, name of person placing tag and current date and time.

6. LOCKOUT PROCEDURES

6.1 Energy Control (Lockout) Workflows detail the Lockout steps. These Charts are:

6.1.1 Individual Lockout - Appendix A
6.1.2 Group Lockout - Appendix B
6.1.3 Jogging / Bumping - Appendix C

6.2 Individual Lockouts

6.2.1 The Individual Lockout procedure is detailed in Appendix A and summarized below:

a. Notification
   i. Any Worker: Notify Equipment Owner of need for shut down.
   ii. Equipment Owner: Initiate Safe Work Permit; notify any affected employees. Note: Safe Work Permit is not required if work is to be performed only by the Equipment Owner Workers.
b. Shut Down / Isolate / Release Residual Energy
   i. Equipment Owner: Shut down, isolate and release residual energy. Stored energy such as that contained in springs, counterweights, flywheels, hydraulic, steam or water pressure, etc. shall be relieved, disconnected, restrained, or otherwise rendered safe.
c. Place Locks on Energy Isolation Devices
   i. Equipment Owner: Place Equipment Owner Locks on Energy Isolation Devices. Keys remain under the control of an Equipment Owner.
   ii. Workers: Place Personal Locks on Energy Isolation Devices. The key to that lock shall be in their possession at all times.
d. Verify Effectiveness (Zero Energy)
   i. Equipment Owner: Clear equipment of tools and personnel. Try to start equipment, both locally and remotely. Verify all other energy control measures.

ii. Workers: Clear equipment of tools and personnel. Try to start equipment, both locally and remotely. Verify all other energy control measures.

e. Sign Safe Work Permit / Commence Work
   i. Equipment Owner: Identify all isolated equipment on the Safe Work Permit or the Equipment Specific Lockout Procedure. Sign the Permit or Procedure.
   ii. Workers: Sign the Permit or Procedure. Place at the work location. Work commences.

f. Additional Workers
   i. Additional Workers: Place Personal Locks on Energy Isolation Devices. Sign the Permit or Procedure. Add Workers to the job.

g. Work Complete
   i. Workers: Verify equipment is safe to return to service. Remove Personal Locks. One Worker sign and complete Work Complete section of Safe Work Permit. Return Safe Work Permit.

h. Lock Removal
   i. Work is complete
      A. Equipment Owner: Remove Equipment Owner Locks; or
   ii. Work not complete and work is stopped
      A. Equipment Owner: Keys for Equipment Owner Locks remain in the control of an Equipment Owner.
      B. Out-going Equipment Owner: Terminate expired Safe Work Permit; or
   iii. Work not complete and work is to continue
      A. Equipment Owner: Keys for Equipment Owner Locks remain in the control of an Equipment Owner.
      B. Out-going Equipment Owner: Terminates expired Safe Work Permit.

i. Return to Service
   i. Equipment Owner: Terminate Safe Work Permit. Verify equipment is safe to return to service. Return equipment to service.

6.3 Group Lockout

6.3.1 Group Lockout using Lock Boxes should be used for Lockouts requiring multiple personnel or locks to secure the Energy Isolating Devices or the work is expected to continue beyond the end of the shift.

6.3.2 The procedure is detailed in Appendix B and summarized below:

a. Notification
   i. Any Worker: Notify Equipment Owner of need for shut down.
   ii. Equipment Owner: Initiate Safe Work Permit; notify any affected employees.

b. Shut Down / Isolate / Release Residual Energy
   i. Equipment Owner: Shut down, isolate and release residual energy. Stored energy such as that contained in springs, counterweights, flywheels, hydraulic, steam or water pressure, etc. shall be relieved, disconnected, restrained, or otherwise rendered safe.

c. Place Locks on Energy Isolation Devices
   i. Equipment Owner: Place Equipment Owner Locks on Energy Isolation Devices. Place keys for Equipment Owner Locks in Lockbox.
   ii. Custodian: Verify Lockout. Place Personal Lock on Lockbox. Custodian's Personal Lock shall be the first on and last off the Lock Box.

iii. Workers Rep: Verify Lockout. Place Personal Lock on Lockbox. The key to that lock shall be in their possession at all times.

d. Verify Effectiveness (Zero Energy)
   i. Equipment Owner: Clear equipment of tools and personnel. With Workers Rep, try to start equipment, both locally and remotely. Verify all other energy control measures.
   ii. Workers Rep: Clear equipment of tools and personnel. With Equipment Owner, try to start equipment, both locally and remotely. Verify all other energy control measures.
   iii. Workers: Place Personal Locks on Lockbox.
e. Sign Safe Work Permit / Commence Work
   i. Equipment Owner: Identify all isolated equipment on the Safe Work Permit or the Equipment Specific Lockout Procedure. Sign the Safe Work Permit, Group Lockout List, or the Equipment Specific Lockout Procedure.
   ii. Workers Rep.: Sign the Safe Work Permit. Work commences.
   iii. Workers: Sign the Permit. Work commences.
f. Additional Workers
   i. Additional Workers: Place Personal Locks on Lockbox. Review and sign the Safe Work Permit. Add Workers to job.
g. Work Complete
   i. Workers Rep: Verify equipment is safe to return to service. Sign Safe Work Permit and notify Custodian. Remove Personal Lock.
   ii. Workers: Remove Personal Locks from Lockbox.
h. Lock Removal
   i. Work is complete
      A. Custodian: Verify equipment is safe to return to service. Remove Personal Lock from Lockbox.
      B. Equipment Owner: Verify equipment is safe to return to service. Remove Equipment Owner Locks from Energy Isolation Devices.
   ii. Work not complete and work is stopped
      A. Equipment Owner: Locks remain on Energy Isolating Devices.
      B. Incoming Custodian: Verify Lockout and apply Personal Lock to Lockbox.
      C. Outgoing Custodian: Remove Personal Lock from Lockbox and terminate Safe Work Permit if expired.
   iii. Work not complete and work is to continue
      A. Equipment Owner: Locks remain on Energy Isolating Devices.
      B. Incoming Custodian: Verify Lockout, apply Personal Lock to Lockbox and initiate new Safe Work Permit if required.
      C. Outgoing Custodian: Remove Personal Lock from Lockbox and terminate Safe Work Permit if expired.
i. Return to Service
   i. Equipment Owner: Terminate Safe Work Permit. Verify equipment is safe to return to service. Return equipment to service.

6.4 Jogging/Bumping

6.4.1 Jogging/Bumping Lockout Procedures shall only be used when repairs, testing, inspection or cleaning require that equipment be jogged or bumped. No work shall be performed on the system until the proper Lockout has been restored.

6.4.2 Areas around Jogging/Bumping operations shall be barricaded or otherwise protected when there is a possibility that other personnel not involved in the Jogging/Bumping operation could enter the work area.

6.4.3 When it becomes necessary to remove locks to jog or bump equipment the procedure in Appendix C will be followed, and is summarized below:

a. Equipment is inspected and verified that it is safe to jog or bump.
b. Workers remove Personal Locks from either the Energy Isolation Devices or the Lock Box;
c. Equipment Owner or Custodian:
   i. Individual Lockout - Equipment Owner removes Equipment Owner Locks from Energy Isolation Devices.
   ii. Group Lockout - Custodian removes their Personal Lock from Lock Box and removes keys from Lock Box; then removes Equipment Owner Locks from Energy Isolation Devices.
d. Equipment is jogged, bumped, or tested.
e. The Lockout is reapplied, and zero energy (field test) is verified by both the Equipment Owner and Workers.
   i. The jog and bump process may be repeated; or
   ii. If the work is complete, follow the Lockout Workflows for Individual Lockout or Group Lockout for returning the equipment to service; or
   iii. If the work is incomplete, follow the Lockout Workflows for Individual Lockout or Group Lockout for the Work to Continue steps.

6.4.4 During jogging and bumping operations it may become difficult to coordinate with the Equipment Owner or Custodian, particularly if it is to be jogged and bumped numerous times. It is permissible during this time to transfer ownership of the equipment to the Workers or Work Group, who then become responsible for this operation. Custodial responsibilities will be transferred only to Mosaic employees.

a. A written specific procedure must be developed by each facility and approved by management to manage the transfer of ownership.
b. The procedure must meet all the other elements of this Program.

## 7. CASCADING OF LOCK BOXES

7.1 Cascading (pyramiding) of Lock Boxes is permitted.

7.2 A Mosaic Work Group setting up Cascaded Lock Box will:

7.2.1 Designate a Custodian to assume responsibility for the new Lock Box.

7.2.2 The Custodian shall:

a. Place an Equipment Owner Lock on the existing Lock Box, and affixes a Danger Tag indicating it is being used for Group Lockout. The tag will contain the name of the Custodian;
b. Place the key for the Equipment Owner Lock in the new Lock Box;
c. Then place his/her Personal Lock on the new Lock Box;
d. Verify the Lockout and sign the Safe Work Permit;

7.2.3 Workers within that Work Group will place their Personal Locks on the new Lock Box, then review and sign the Permit.

7.3 A Contractor Work Group setting up Cascaded Lock Box will:

7.3.1 Designate a Custodian to assume responsibility for the new Lock Box;

7.3.2 The Custodian shall:

a. Place a singularly keyed contractor lock on the existing Lock Box, with a Danger Tag affixed indicating it is being used for Group Lockout, the name of the Custodian, and contract company name;
b. Place the key for the contractor lock in the new Lock Box;
c. Then place his/her Personal Lock on the new Lock Box;
d. Verify the Lockout and sign the Safe Work Permit;

7.3.3 Workers within that Work Group will place their Personal Locks on the new Lock Box, then review and sign the Permit.

7.4 Cascading of lockboxes can only be performed by utilizing an existing lockbox established by a Mosaic Work Group. Contractors are not allowed to cascade lockboxes from one contract Work Group to another.

8. TAGOUT

8.1 The use of tags in lieu of locks shall only be permitted when no mechanical locking Energy Isolation Device and no other effective means of positively locking out are possible. The Equipment Owner will write a work order to modify the equipment with installation of a locking Energy Isolation Device; this modification will be completed as soon as possible.

8.2 When tags are used in lieu of Locks, additional safety measures are required such as the removal of an isolating circuit element, blocking of a controlling switch, opening of an extra disconnecting device, or the removal of a valve handle to reduce the likelihood of inadvertent energization.

8.3 When tags are used in lieu of locks all other provisions of the Lockout Procedure apply.

8.4 Additional Tagout requirements include:

8.4.1 Tags will be affixed directly to the energy isolating device or as close as safely possible to the device in a position that will be immediately obvious to anyone attempting to operate the device.

8.4.2 Tags will include the identification of the equipment or system being isolated, the name of the person(s) or Custodian isolating the equipment, and the date the equipment as isolated.

8.4.3 Tags shall be securely attached with a tie-wrap or through the shank grommet.

9. FORCED SAFETY LOCK OR TAG REMOVAL

9.1 This procedure is to be followed in the event that a Worker inadvertently leaves the facility without removing their locks or tags from locked out or tagged out equipment. Documented efforts must be made to contact the worker to remove their lock. Failing that, then the employee's supervisor will be contacted for authorization to remove the lock or tag.

9.2 Appendix D is the Forced Safety Lock or Tag Removal form with the steps to be taken in case a safety lock or tag must be removed, and to be used for documenting the event.

9.3 The employee shall be informed of the lock or tag removal immediately upon returning to work, and sign the lock removal form.

9.4 The form shall be forwarded to the Safety Department for filing.

10. VARIANCES

10.1 A BU LOTO variance is required when the following conditions occur:

10.1.1 PRIOR to the issuance of a SWP, the routine/standard LOTO procedure must be modified to propertly secure the equipment for the task performed; OR

10.1.2 AFTER the routine/standard LOTO procedure has been completed and the SWP has been issued, the routine/standard LOTO procedure must be modified.

**Roles and Responsibilities**

The table below outlines the roles and responsibilities for the Routine Lockout Tagout Variance process.

| Role | Responsibility |
|---|---|
| Equipment Owner | • Notify their supervisor if an Equipment Specific LOTO checklist must be modified to properly secure equipment for the task to be performed BEFORE a Safe Work Permit is issued.<br>  ○ Proceed with LOTO/walk down using the approved Variance and LOTO checklist<br>• Notify their supervisor if an Equipment Specific LOTO checklist must be modified AFTER a Safe Work Permit has been issued<br>  ○ Stop work and close Safe Work Permit<br>  ○ Ensure all worker personal locks are removed from lockbox.<br>  ○ Conduct LOTO/walk down using the approved Variance and LOTO checklist<br>  ○ Issue new Safe Work Permit |
| Work Group Rep | • Review and understand the variance |
| Equipment Owner Supervisor or Designee | • Walk down the revised lockout (for Variance) to ensure it is complete and work can proceed safely.<br>• Obtain approval for Variance<br><br>***Information:*** Designee must be Step-up Supervisor, Management representative or an employee who has been given supervisor level approval authority |
| General Mgr, Sr Manager, or Supt of Prod/Ops/Maint, or Designee: | • Approve Variance form either in writing (if possible) or verbally. |

**Initiating the Process**

The Routine Lockout Tagout Variance process must be initiated when a modification to the equipment specific LOTO checklist is identified.

| If modification is identified… | Then, |
|---|---|
| **BEFORE** the issuance of any permits | • initiate the variance process and<br>• issue permits as necessary after obtaining approvals for the variance. |
| **AFTER** the issuance of permits | • stop all work,<br>• collect and close all initial permits,<br>• have employees remove locks (custodian last),<br>• initiate the variance process, and<br>• re-issue permits as necessary after obtaining approvals for the variance. |

**Process**

The following outlines the process for Routine Lockout Tagout Variances.

| Stage | Who | Description |
|---|---|---|
| 1 | Equipment Owner | Provide written description of the modification to the Lockout on the **Appendix E Variance Form** (Variance Form). |
| 2 | Equipment Owner Supervisor or designee | Walk down modified checklist to verify all energy sources have been identified for lockout and work can proceed safely. |
| 3 | Work Group Rep | Review and sign the checklist |
| 4 | Equipment Owner Supervisor or designee | Obtain signatures/approvals on the Variance Form from the General Mgr, Sr Manager, or Supt of Prod/Ops/Maint, or Designee. |
| 5 | Equipment Owner | Walk down the modified equipment LOTO with the Work Group Representative(s) (including contractors) and issue necessary permits. |
| 6 | Equipment Owner | Discuss approved variance with all involved employees.<br><br>***Reminder:*** If contractors are involved, the contractor work group superintendent / supervisor must be notified. |
| 7 | Equipment Owner | Attach approved Variance Form and modified equipment LOTO checklist to Safe Work Permit. |

10.2 A supervisor involved with the work may deviate from the standard Lockout and Tagout procedure only after performing the following:

10.2.1 Consult with the Equipment Owner Superintendent and Work Group Superintendent(s) to ensure the intent of the Lockout Procedure is fulfilled.

10.2.2 Provide a written description of the variance on the Lockout / Tagout Variance Form - Appendix E. Discuss the variance with all involved employees.

10.2.3 Obtain signatures on the Variance Form from the Work Group Superintendent(s) and the Equipment Owner Superintendent.

10.3 When the job is complete a copy of the completed variance will be routed to the Safety Department.

11. EQUIPMENT-SPECIFIC ENERGY CONTROL PROCEDURES (PHOS)

11.1 Equipment-Specific Energy Control procedures shall be developed, documented and utilized for the control of potentially hazardous energy when employees or contractors are engaged in any activity requiring isolation from energy sources.

11.2 The Equipment-Specific Energy Control procedures shall clearly and specifically outline the scope, purpose, and procedure to be utilized for the control of hazardous energy. Procedures for Lockout of hazardous energy sources shall be followed for all equipment-specific energy control procedures. The following additional specific information shall be included in the equipment specific procedures:

11.2.1 Specific procedural steps for shutting down equipment.

11.2.2 Specific procedural steps for isolating, blocking and securing machines or equipment to control hazardous energy.

11.2.3 The type and magnitude of the energy to be controlled.

11.2.4 The method or means to control the energy.

11.2.5 Specific procedural steps for equipment start-up.

11.3 Written Equipment-Specific Energy Control procedures are not required for equipment having a single source of hazardous energy when all the following conditions are satisfied:

11.3.1 There is no potential for stored residual energy or re-accumulation of stored energy.

11.3.2 The single source of energy can be readily identified and isolated, which when isolated and locked out will completely de-energize and deactivate the equipment.

11.3.3 The single source of energy is isolated from the energy source and locked out/tagged out during the servicing or maintenance.

11.3.4 A single Lockout/isolation device will achieve a locked-out condition, and that Lockout/isolation device is under control of the authorized employee performing the servicing or maintenance.

11.3.5 The servicing or maintenance does not create hazards for other employees.

11.3.6 There have been no accidents involving the unexpected activation or re-energization of the equipment during servicing or maintenance.

11.4 The Equipment-Specific Energy Control Procedures shall be documented. The Equipment-Specific Control Procedure form in Appendix F should be utilized when new procedures are developed. Alternative forms may be used if the required information listed in 11.2 is included.

11.5 An index for each area shall be developed and maintained by the site for the Equipment-Specific Energy Control Procedures.

12. U.S. DISTRIBUTION EQUIPMENT-SPECIFIC ENERGY CONTROL PROCEDURES

12.1 For U.S. Distribution Sites, equipment-specific energy control procedures shall be documented using the U.S. Distribution Equipment-Specific Energy Control Procedure (Form), Appendix J.

13. NON-ROUTINE LOTO

13.1 If an equipment specific routine/standard LOTO procedure does not exist, a non-routine LOTO checklist shall be completed PRIOR to issuance of a SWP.

**Roles and Responsibilities**

The table below outlines the roles and responsibilities for the **Non-Routine Lockout Tagout process.**

| Role | Responsibility |
|---|---|
| Equipment Owner | • Complete Non-Routine Equipment Specific LOTO checklist<br>• Obtain approval before Non-Routine LOTO checklist is used.<br>• Once approved, proceed with LOTO/walk down using the approved Non-Routine checklist. |
| Work Group Rep | • Review and understand the checklist |
| Equipment Owner Supervisor or designee | • Walk down the newly created Non-Routine LOTO checklist to verify all energy sources are identified for lock out and work can proceed safely.<br>• Obtain approval for the newly created Non-Routine LOTO checklist from the Area Manager or Designee before LOTO checklist is used.<br><br>***Information:*** Designee must be Step-up Supervisor, Management representative or an employee who has been given supervisor level approval authority |
| General Mgr, Sr Manager, or Supt of Prod/Ops/Maint, or Designee | • Approve Non-Routine LOTO Checklist(s) |

**Process**

The following outlines the process for Non-Routine Lockout Tagouts.

| Stage | Who | Description |
|---|---|---|
| 1 | Equipment Owner | Complete **Non-Routine Equipment Specific Lockout Checklist** (checklist). |
| 2 | Equipment Owner Supervisor or designee | Walk down checklist to verify all energy sources have been identified for lockout and work can proceed safely. |
| 3 | Work Group Rep | Review and sign the checklist. |
| 4 | Equipment Owner Supervisor or designee | Obtain the required signatures/approvals. |

| Stage | Who | Description |
|---|---|---|
| 5 | General Mgr, Sr Manager, or Supt of Prod/Ops/Maint, or Designee | Approve checklist as necessary. |
| 6 | Equipment Owner | Discuss approved checklist with all involved employees.<br><br>***Reminder:*** If contractors are involved, the contractor work group superintendent / supervisor must be notified. |
| 7 | Equipment Owner | Attach approved checklist to Safe Work Permit. |

14. ARCHIVED PROCEDURES
    - 14.1 Procedures for infrequent lockouts may be archived in a LL folder and will not require an annual review.
    - 14.2 Infrequent/turnaround LOTO procedures will be archived after the task/turnaround is complete and will not require an annual review.
    - 14.3 When an archived infrequent or turnaround procedure is used, the procedure must be formally reviewed and approved in LL prior to use.

15. TRAINING
    - 15.1 Lockout training must ensure that all employees understand the purpose, function, and restrictions of the energy control program and that Authorized employees possess the knowledge and skills necessary for the safe application, use, and removal of energy controls.
    - 15.2 Initial training and retraining as necessary must be provided and certified. The certification must contain each employee's name and dates of training.
    - 15.3 Retraining:
        - 15.3.1 Lockout training shall be provided to all Authorized and Affected employees at least annually.
        - 15.3.2 Retraining must be provided as required. This includes whenever there is a change in job assignments, a change in machines, equipment or processes that present a new hazard, or a change in Specific Energy Control Procedures.
        - 15.3.3 Additional retraining must be conducted whenever a periodic inspection reveals, or whenever there is reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of the energy control procedure.

16. PROGRAM REVIEW / PERIODIC INSPECTIONS
    - 16.1 A review of the Lockout-Tagout (Control of Hazardous Energy) Program will be conducted at a minimum on an annual basis. The review will be initiated by the Safety Department.
    - 16.2 The review of the Control of Hazardous Energy Procedure will consist of:
        - 16.2.1 Each facility will review their Specific Energy Control Procedures for accuracy.
        - 16.2.2 Inspections of the Specific Energy Control Procedures will be performed at each location. A system will be established such that a representative sample of the procedures at each facility is inspected.
            a. The inspections will consist of a field audit to verify they are being implemented correctly, and documented on the Energy Control Inspection form or an equivalent form.

b. These inspections are performed by Authorized employees other than the ones performing the energy control procedures being reviewed.

16.3 A summary of the review will be compiled by the Safety Department and communicated to all affected employees.

16.4 The program review will be documented using a certification form similar to the Lockout / Tagout Program Review Certification in Appendix G.

17. SPECIAL LOCKOUT PROCEDURES

17.1 De-Energizing Power Lines

17.1.1 Specific procedures to be followed for E/I Technician work are included in the Mosaic Electrical Program and Appendix NFPA 70 Guidelines.

17.1.2 De-energizing of power lines shall be completed according to the National Electrical Code. A written Power Line Clearance Procedure for de-energizing power lines shall be followed and shall include:

a. Clearance and de-energizing;

b. Release from work and restoration of power;

c. Line testing; and

d. Safety grounds.

17.2 Mine Pumping Systems Clearance

17.2.1 Lockout Procedures to work on Minerals extended pumping systems may be completed as per the Mine Pumping Systems Clearance Procedure and documentation.

17.3 Draglines Lockout Procedure

17.3.1 Lockout Procedures for work on and around draglines will be completed as per the Draglines Program.

17.4 Railroads Lockout Procedure

17.4.1 Lockout Procedures for work on and around railroad operations will be completed as per the Railroads Program.

17.5 Heavy Mobile Equipment Lockout Procedure

17.5.1 Lockout Procedures for work on and around heavy mobile equipment will be completed as per the Heavy Mobile Equipment Program.

18. CONTRACTORS

18.1 Whenever contractors and other outside servicing personnel perform tasks covered by the Control of Hazardous Energy Program, they must adhere to all the Mosaic Fertilizer LLC program requirements.

18.2 Mosaic Fertilizer personnel shall ensure that prior to the start of a job contractors understand Mosaic Fertilizer's Control of Hazardous Energy Procedure.

18.3 Contractor Lockout Locks must:

18.3.1 Be identifiable by color, shape, or size.

18.3.2 Not be blue in color, which is reserved for Mosaic, unless approved by the Mosaic Safety Department.

18.3.3 Be singularly keyed.

18.3.4 Include lock identification with employee's name.

18.3.5 Include Contractor company name.

19. APPENDICES

19.1 Appendix "A" - Lockout Workflow - Individual Lockout

19.2 Appendix "B" - Lockout Workflow - Group Lockout
19.3 Appendix "C" - Lockout Workflow - Jogging and Bumping
19.4 Appendix "D" - Forced Safety Lock or Tag Removal (Form)
19.5 Appendix "E" - Lockout / Tagout Variance (Form)
19.6 Appendix "F" - Equipment Specific Energy Control Procedure (Form)
19.7 Appendix "G" - Lockout / Tagout Program Review Certification (Form)
19.8 Appendix "I" - Non-Routine Equipment Specific Lockout Checklist (Form)
19.9 Appendix "J" - U.S. Distribution Equipment Specific Energy Control Procedure (Form)

20. REFERENCES
20.1 MSHA
20.1.1 30 CFR 56.12017, 56.14105
20.2 OSHA
20.2.1 29 CFR 1910.147
20.2.2 29 CFR 1910.269
20.2.3 Letter of Interpretation, Sept. 19, 1995, reply to Lawrence P. Halprin
20.3 Mosaic EHS Phos Program – Hazardous Work-Safe Work Permit

21. REVISION LOG

| Revision Log | | | | |
|---|---|---|---|---|
| Rev. No. | Requested By | Approved By | Revised By | Review Date |
| 0 | Initial Issue for Mosaic Fertilizer LLC | Sr. Management | Safety Dept. | 12/5/06 |
| 1 | Clarified wording for cascading lockboxes | Safety Dept. | Safety Dept. | 2/22/07 |
| 1 | Reformat for ISO | | D. Allen | 8/9/2011 |
| 2 | Update per Phosphates Program revision process | Mike Neal – EHSS Director | Todd Smith | 3/31/2012 |
| 2 | Reformat for ISO | | R. Withers | 4/23/2012 |
| 3 | Todd Smith-minor change | | R. Withers | 6/10/2013 |
| 4 | EHSS | Pat Kane | EHSS PMO | 3/31/2019 |
| 5 | EHSS | Pat Kane | EHSS PMO | 11/01/2020 |
| N/A | Annual Review | EHSS PMO | EHSS PMO | 12/15/2021 |
| N/A | Annual Review | EHSS PMO | EHSS PMO | 12/19/2022 |
| N/A | Annual Review | EHSS PMO | EHSS PMO | 11/14/2023 |
| N/A | Annual Review | EHS PMO | EHS PMO | 11/14/2024 |
| N/A | Annual Review | EHS PMO | EHS PMO | 11/17/2025 |
| 6 | U.S. Distribution – to follow Phos program but use USD specific Appendix J. | NA Safety Dept. | EHS PMO | 2/17/2026 |