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WRM Lockout Policy

I. Purpose & Scope

The purpose of the Lockout policy is to establish requirements for preventing injuries to personnel from the unexpected energizing, start-up or release of stored energy from machines, equipment or processes during servicing or maintenance, and ensuring compliance with 29 CFR 1910.147 and lockout requirements of 29 CFR 1910 subpart S.

The scope of this policy covers activities conducted in the Mill that have the potential to expose personnel to hazardous energy, such as electrical, arc flash, chemical, thermal, pneumatic, radiation, hydraulic or potential energy (i.e. gravity and stored energy), is included as part of this procedure.

It is the intent of this policy that every individual needing protection from the inadvertent energizing of equipment must have a lockout in place.

This policy applies to instances where a zero energy state (ZES) is required to perform the work safely. Tasks where specific documented standard operating procedures (SOPs) or approved intermediate energy state (IES) systems that have properly taken into account the hazards associated with the tasks do not require the implementation of this policy.

II. Responsibility

The Mill Manager is responsible for ensuring compliance with this policy.

It is the shared responsibility of the Operations and Maintenance Departments to implement this procedure and to ensure safe control of potentially hazardous energy during servicing or maintenance.

All personnel are responsible for following the requirements contained in this policy.

The Safety Department is responsible for conducting periodic audits.

III. References

29 CFR 1910.147 "The control of hazardous energy (lockout/tagout)"

29 CFR 1910, Subpart S "Electrical"

Control of Hazardous Energy Sources Zero Energy State (ZES)

Wisconsin Rapids Mill Electrical Safety Program built on NFPA 70E, Standard for Electrical Safety in the Workplace 2009 (2015) Edition

IV. <u>Energy Control Practices</u>

Intermediate Energy State (IES): A state of energy of equipment or processes in which <u>designated</u> hazardous energy sources are at zero energy state (ZES) while maintaining other designated energies to perform minor tool changes and adjustments, or other minor, routine and repetitive servicing activities that are required to operate the equipment or process.



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- A. Written energy control procedures (ZES or IES) are in place to bring all equipment and processes to zero energy state except when all of the following conditions are met:
 - 1. Energy is controlled by a single, readily identifiable energy source;
 - 2. This energy source can be locked out by a single lockout device;
 - 3. There is no potential for stored or residual energy.
- B. Zero energy and intermediate energy procedures have been developed, as appropriate for each process, system or piece of equipment. The procedures identify all energy sources, methods for controlling energy to zero and intermediate levels, and methods to verify isolation and control.
- C. In the event that a specific ZES or IES procedure must be developed at the time of lockout, a minimum of two authorized persons must be involved in the review and issuance of the procedure. If a worker is added to a task covered by an IES procedure after work has begun, one of the workers already involved must review the IES procedures with the new worker.
- D. In the event that an existing ZES or IES procedure must be modified (i.e. adding locks) after initially being issued, a minimum of two authorized persons must be involved with review and update of the procedure.
- E If the ZES or IES procedure (lockout sheet) has been changed during the job to remove or relocate a portion of the lockout, the owning department will post a "revised lockout" addendum on the procedure advising all parties as to the modification. The notice should list the locks and jobs that have been removed or relocated due the revision.
- F. Intermediate energy state (IES) procedures are permissible as alternate methods of protection for tasks that require the operation of the equipment or process and the task is minor, repetitive or routine. Under no circumstances may IES procedures be used to permit exposure to point of operation or power transmissions hazards.
- G. Written IES procedures will incorporate the same criteria as ZES procedures, and will be developed by the department that will be performing the task.
- H. If an IES procedure is used, a person performing the task must have full control of all power to prevent any unauthorized operation of equipment that could affect the safety of person(s).

V. <u>Energy Control Procedure</u>

- A. General Requirements
 - 1. The custodian shall be responsible for maintaining the custodian lock sets, lockout tags, multiple lockout devices, chains, etc. that are adequate for their lockout needs.



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- All custodian locks or other isolating or immobilizing devices used outside of an MCC must be accompanied by a "Danger-Do Not Operate" tag properly filled out indicating:
 - a. Date of Lockout; and
 - b. Name of Installer (neatly printed, no initials)
- 3. Use of this tag constitutes identification of the person performing the isolation, immobilization or lockout. For tags on custodian locks, it is not necessary to change the names on the tags when the custodian changes (at shift change, for example). The name on the tags indicates who originally locked out the system. The current custodian for that equipment may remove those locks and tags at the completion of the job.
 - a. Tags must have a minimum size of 3"x5".
 - b. Tags must be constructed of a durable material that will not deteriorate when in use within the Mill.
 - c. The tags must be of a type that will allow the lock shank to pass through the grommet of the tag.
- 4. Locks must be of substantial tamper-proof construction that can only be operated and readily removed by use of a key.
- 5. Locks used for lockout and tagout must be distinguishable from other facility locks (i.e. utility, security).
- 6. Locks used for personal protection must not have a duplicate key.
- Multiple lockout devices shall be made available to accommodate the locks of various crafts, groups, etc. who may be working on the equipment simultaneously.
- 8. All new equipment, including valves, must be capable of being locked out. This includes equipment that is:
 - a. Installed as a new process in the facility;
 - b. Installed as a change or addition to an existing process in the facility
 - c. Installed as a replacement for existing equipment in the facility.

NOTE: All new equipment installations attached to or to be attached to energy source must be locked out by the custodian as required by this procedure. The contractor installing the equipment shall not be allowed to act as the custodian.

- 9. A set of keyed-alike locks and one key is issued to non-maintenance personnel. The key must be securely stored to prevent others from having access to it.
- 10. A set of keyed-alike locks and one key is issued to maintenance individuals needing protection under a lockout. The key must be securely stored to prevent others from having access to it.

NOTE: Personal Lockout locks are not to be used for any other purpose other than locking out equipment.



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B. Custodian Responsibilities

- 1. Custodian locks and tags must be the first installed and the last removed. The custodian has primary responsibility for isolating potentially hazardous energy.
- 2. The custodian must locate all energy sources that present a potential hazard to a given job. Identify these energy sources in writing on a blank lockout list, or obtain a pre-developed lockout list from DMS. A lockout list will be maintained at the lock box for group lockouts and at the job site for personal lockouts.

NOTE: It is acceptable to add additional lockout points to a pre-developed lock out list while in the field if additional lock(s) are needed.

- 3. The custodian must notify all affected personnel that the equipment is being deenergized.
- 4. The custodian must shutdown the machine or equipment using safe procedures.
- 5. The custodian must position necessary energy isolation devices in a manner that isolates the machine or equipment from the potentially hazardous energy sources according to the Electrical Safety Program.
- 6. The custodian must lock and tag each energy isolation point using a custodian system lock set. Symbolic lockouts are not acceptable.
- 7. The custodian must contact an Authorized E&I Person to verify lockout of radiation energy sources.
- 8. The custodian must ensure verification that electrical energy is not present by one of the following:

NOTE: Activating the starting mechanism for the energy point will suffice in most cases. If not, one of the following can be used to meet the requirements.

- a. Having E&I personnel measure the voltage of each phase to confirm no electrical energy is present. NOTE: This is the only option that is allowed if electrical work is to be performed. See section 4.10.11 for requirements and PPE for work inside electrical control rooms.
- b. If electrical work is being performed on the isolated equipment, the equipment must be electrically cleared and the Yellow Electrical Verification Seal applied to the isolation device indicating such. This must also be indicated on the lockout list.
- c. Having E/I personnel use control logic to confirm that no electrical energy is present.

NOTE: This is only allowed if the control logic bypasses all interlocks (including hardwired interlocks) and will send energy potentials to the piece of equipment.



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- d. E&I personnel performing a visual examination of the mechanical components of the electrical switch that confirms that all three phases are disconnected (e.g., visual inspection of fused disconnects).
- e. Operations can perform a visual examination which confirms that all three phases are disconnected through a see-through panels, indication lights or meters installed on the electrical equipment.
- The custodian must ensure potentially hazardous, stored, residual energy is effectively relieved and, where necessary, secured to prevent re-accumulation. Bleed and drain valves are to be tagged open using a "Do Not Operate" tag and documented on the lockout list.
- 10. The custodian **MUST** try the equipment with a second person present by operating the starting mechanism while observing to verify that the equipment does not start, unless there is a green apple tag present that has been verified ZES with a Yellow Electrical Verification Seal.

NOTE: If personnel will be working on or near exposed de-energized electrical circuit elements and/or electrical parts of equipment, a qualified person must use test equipment to verify the exposed parts or elements are not energized. This must be done after the system has been de-energized, locked, tagged, and tried but before the job is initiated.

- 11. The custodian must leave hand switches in the off position after the equipment has been tried to preclude the possibility of the equipment unexpectedly starting when power is restored.
- Each custodian who has applied their personal lock(s) must remove their lock once their work is completed or at the end of their work shift, whichever comes first.

C. Non-Custodian Responsibilities

 One non-custodian (a <u>person who did not place locks</u>) must field verify every lockout point with the lockout list and initial each isolation point identified on the list.

NOTE: Any person working on the system has the right to personally perform a verification of all energy isolation points prior to beginning work.

Each non-custodian applying a personal lock to begin work activities must verify that the lockout list is complete and be made aware of how the system was deenergized.

NOTE: If Lock Box technique is used, each non-custodian is to verify:

- a. Lock Box Seal is intact.
- b. Lock Box Seal number matches the number recorded on the front of the lockout sheet.



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- c. Custodian contact for the current shift has printed their name or job position on the front page of the lockout sheet.
- 3. Each non-custodian must apply their personal lock(s) according to the lockout technique established by the custodian.

NOTE: Contractors are only allowed to utilize the Lock Box technique.

 Each non-custodian who has applied their personal lock(s) must remove their lock once their work is completed or at the end of their work shift, whichever comes first.

D. Lock Box Technique

- Once the system has been properly shutdown and all locks have been placed on each required energy isolation point, the custodian shall secure the custodian system lockset key) in a Lock Box and attach a numbered Lock Box Seal to the Lock Box.
- The custodian shall record the Lock Box Seal number on the lockout front page along with the name of the person applying the Lock Box Seal as well as the date, time and reason the Lock Box Seal was applied (e.g., equipment being locked out).
- The custodian will ensure that the entire lockout checklist is completed and placed with the Lock Box.
- 4. The custodian will verify each lockout point with a non-custodian representative.

NOTE: If the custodian is the only one performing the work, then a non-custodian representative is not required.

5. With a non-custodian representative present, try the equipment by operating the starting mechanism while observing that the equipment does not start.

NOTE: If the custodian is the only one performing the work, then a non-custodian representative is not required.

NOTE: If personnel will be working on or near exposed de-energized electrical circuit elements and/or electrical parts of equipment, a qualified person must use test equipment to verify the exposed parts or elements are not energized. This must be done after the system has been de-energized, locked, tagged, and tried but before the job is initiated.

- 6. Each person working on the isolated equipment (custodian or non-custodian) must place a personal lock on the Lock Box.
- 7. Area manager is to review and make any changes necessary to electronic version. Lockout changes are to be communicated to those affected. Once all steps are completed documentation should be retained by area manager.



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E. Maintenance Custodian Personal Lockout

- 1. This technique is valid to be used when Maintenance is the custodian of the equipment (explicit or by documented change of custodianship).
- 2. This technique can only be used on a system up to 5 personal energy isolation points.
- 3. Each team member working under this lockout technique must apply their personal lock(s) at each isolation point(s) on the system.

NOTE: In the event that a person does not have enough personal locks for each isolation point; they are prohibited from working under this technique. If they are needed for the job, then the lockout must be re-done as a Lock Box technique.

- 4. The person establishing the lockout shall try the equipment by operating the starting mechanism while observing that the equipment does not start.
- 5. The person establishing this type of lockout must document, using a lockout list only, the following information:
 - a. Initial next to each item on the lockout list, once each personal lock(s) has been applied.
 - b. Document that "try" step was completed unless there is a green apple tag present that has been verified ZES with a Blue Lockout Tag.

NOTE: Documentation is not required if the equipment or process can be brought to a zero energy state through the use of a single, readily identifiable energy isolation device.

F. Operations Custodian Personal Lockout

- 1. This technique is used for lockouts when a lockbox is deemed not necessary.
- 2. Each team member working under this lockout technique must apply their personal lock to the isolation point(s) for the system.
- 3. The person establishing the lockout shall try the equipment by operating the starting mechanism while observing that the equipment does not start unless there is a green apple tag present that has been verified ZES with a Blue Lockout Tag.
- 4. Documentation is not required if the equipment or process can be brought to a zero energy state through the use of up to 3 isolation points that are readily identifiable energy isolation device.

G. Custodian / Non-custodian Single Isolation Lockout

- 1. This technique is used for lockouts when a lockbox is deemed not necessary.
- 2. A custodian and non-custodian will both add a lock to the isolation point(s).



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3. Documentation is not required if the equipment or process can be brought to a zero energy state through the use of up to 3 isolation points that are readily identifiable energy isolation device.

H. Breaking of Lock Box Seals

- Unauthorized Breaking of a Lock Box- the work being conducted under the lockout must be stopped immediately. Once the work has been stopped, the following must occur:
 - a. Re-verification of the complete lockout must be performed.
 - b. Reseal the Lock Box.

NOTE: Once the verification is completed and Lock Box is re-sealed, work may resume. An investigation must be conducted by the custodian to try and determine the cause of the Lock Box Seal breakage. This will be recorded on the addendum sheet attached to the lockout procedure.

2. Authorized breaking of a Lock Box Seal

a. The current custodian contact will have a non-custodian representative present any time the custodian system key is not secured in a Lock Box.

NOTE: There is an exception to this when the key is secured in the key control box as explained in latter steps.

- b. If there is a need for the custodian system key to be unattended by the *non-custodian representative* for an extended time (i.e. hydro test of a boiler), the following will be done:
- c. Secure the custodian system key in the Key Control Box. The custodian and non-custodian will verify and document on the addendum the Lock Box Seal number and who applied it to the Key Control Box.

I. Transfer of Custodianship

- 1. Transfer of custodianship duties on Lock Boxes from one custodian to another should be performed as follows:
 - a. The custodian ending the shift shall thoroughly review the lockout as documented on the lockout list with the custodian starting the next shift; and
 - b. The custodian starting the shift shall document the review of the lockout by printing their initials on the lockout front page in the custodial contact section.
- 2. Transfer of custodianship from Operations to a non-custodian shall be performed as follows:
 - a. Transfer of Custodianship to be documented on lockout/tagout procedure shall be completed.



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K. Removal of Locks

- Only the person who applied their personal lock is to remove their personal lock. If individuals finish their assigned work before the whole job is complete, they must remove their lock.
- 2. The current custodian is authorized to remove custodian locks and tags at the completion of a job.
- 3. When an individual is not available, removal of the locks must be performed as follows:
 - a. Verify that the individual who applied the lock and tag is not at the Mill;
 - Make a reasonable effort to contact the individual to inform him or her that the individual's lock and tag needs to be removed (i.e. phone call). If notification is made, it shall be documented on a completed lock removal form (found in DMS);
 - c. If the individual that placed the lock cannot be contacted, a complete hazard review shall be conducted involving a representative of the Safety Department, Operations, and Maintenance. If the hazard review determines that it is safe to remove the lock, the lock will be cut and a lock removal form shall be completed;
 - d. Assure that the individual knows the lock and tag has been removed before he/she resumes work at the mill. The Supervisor of the team member will be responsible for making this notification.
 - e. Conduct an incident investigation.
- L. Restoring Machine or Equipment to Normal Operations
 - 1. Before custodian lockout devices are removed and energy is restored to the machine or equipment, the following actions must be taken by the custodian and non-custodian:
 - a. Inspect the work area for removal of non-essential items and ensure all components and guards are operationally intact;
 - Ensure that non-custodian(s) have removed all tools from the machine or equipment. Check the area around the machines or equipment for completeness of work; and
 - c. Ensure all team members are in safe position.
 - 2. When the entire job is complete and all personal locks have been removed, remove the custodian lock(s) and tag(s) using the lockout list and test the equipment for proper operation. All necessary removal initials shall be documented on the lockout list.
 - Retain completed lockout list in the area's safety files.



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M. Working On Electrical Systems and Equipment

- 1. Only qualified persons may work on electrical systems. A qualified person shall use test equipment to test the circuit elements and electrical parts of equipment to which team members will be exposed and shall verify that the circuit elements and equipment parts are de-energized. The test shall also determine if any energized condition exists as a result of inadvertently induced voltage or unrelated voltage back feed even though specific parts of the circuit have been de-energized and presumed to be safe. If the circuit to be tested is over 600 volts, nominal, the test equipment shall be checked for proper operation immediately before and immediately after this test.
- In control circuits where fuses or circuit breakers are the means available to deenergize the control power, circuit breakers will be locked out by applying a breaker lockout device and lock and tag.
- When leads are disconnected as a means of isolation, the disconnected leads will be taped and tagged and documented on the lockout list. It is ok to still tape and lock the leads in a modified Lock Box if desired, but is not required.
- N. Requirements for electrical safety when working inside electrical rooms for lockout.
 - This section covers work inside electrical rooms with regards to lockout only.
 Other work required inside electrical rooms require compliance with the electrical safety work practices procedures.

2. PPE

- a. E&I personnel will be required to follow the electrical safety policies and procedures according to the Electrical Safety Program.
- b. Operations will be required to follow the electrical safety policies and procedures according to the Electrical Safety Program.
- 3. The minimum safe distance for an operator is considered to be 10 feet. This is the minimum distance an operator must be from work being performed on electrical equipment inside electrical rooms. This includes breakers being thrown or opens cabinet doors. Exceptions can be made, but this will require the operator to be trained to perform the desired task and will also increase the PPE required for task completion.
- 4. The use of proper PPE will meet this requirement for long sleeve non-melting, untreated fiber. However, **all** clothing must be non-melting and untreated fiber.

O. Plug and Cord Equipment

- 1. Equipment that is connected to an electrical power supply by means of a plug and cord can be excluded from Lockout requirement provided:
 - a. The equipment is unplugged during servicing; and



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- b. The plug is physically in the possession of the individual or within arm's reach and line-of-sight of the individual.
- 2. If any of the above requirements cannot be met, the plug must be covered with a plug cover, locked and tagged out.

P. Testing

 Certain tasks performed by qualified electricians or instrument technicians require all circuit voltage to be present, such as checking amperage on a starter. Where the requirements of this procedure render it infeasible to perform work of this nature, the work shall be performed in accordance with the requirements specified in 29 CFR 1910, Subpart S and NFPA 70E.

Q. Minor Tool Changes and Adjustments

 Minor tool changes and adjustments, and other minor activities which take place, require isolation but not lockout and tagout if they are routine, repetitive and integral to the operation of the equipment. However, alternate measures that provide effective protection must be implemented. Examples include lathes, drill press, etc.

R. Custodians for Non-Processing Equipment

- Although operating technicians and operating representatives will be the custodian of most equipment, there are some exceptions. The following is a list of examples, it is not all inclusive, of equipment or areas that will have custodians from outside the operations group and the identity of the custodian of the equipment:
 - a. Electrical in buildings Maintenance
 - b. Air Conditioning/Man Cooler units Maintenance
 - c. Bridge cranes and house cranes Maintenance
 - d. Elevators Maintenance
 - e. Lube oil systems for lubrication only Maintenance (does not include power lift points. Example of what's not included:
 - f. Main Mill Shop Air Compressor Maintenance
 - g. Maintenance Shops Maintenance
 - h. All Chillers Maintenance
 - i. Feeder Breakers Maintenance
 - j. Air Compressors on Paper Machines Maintenance
 - k. Lighting Maintenance
 - Roof/Wall exhaust fans Maintenance



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- m. AGV's Maintenance
- n. High rise Cranes Maintenance
- S. Precautions when working near energized equipment
 - Troubleshooting- Circumstances may warrant that troubleshooting or testing tasks be performed with the equipment energized. This work must only be performed for analyzing and diagnosing potential problems. Unlocking equipment during maintenance is permitted for essential troubleshooting activities.
 Temporarily unlocking and energizing equipment for troubleshooting and testing must be performed by a qualified person and in accordance with 1910.147(f), that states:
 - a. Clear the equipment of tools or materials;
 - b. Remove team members from the equipment area;
 - c. Remove lockout and proceed with troubleshooting or testing;
 - d. Reapply lockout before continuing maintenance.
 - Barricade the area 10 feet away if moving equipment is exposed or unguarded during troubleshooting if equipment will be unlocked for testing/troubleshooting.
 - 2. Work that is not in compliance with this Lockout procedure is permitted only after an addendum has been approved and completed.
 - 3. A deviation may be considered when:
 - a. The written Lockout procedure cannot be adhered to
 - b. Relocating a lock from the location identified on the computer-generated lockout list due to a failure of a energy isolating device
 - 4. Maintain deviation form with the lockout paperwork in the appropriate Department's safety files.

VI. <u>Documentation</u>

A. Lock, Tag, & Try Q&A (to be developed once training begins).

VII. Approval, Issue and Review:

A. This procedure has been reviewed, approved, and issued by the Mill's Safety Steering Team.

VIII. Training

- A. Each team member who potentially could be involved will go through initial and annual refresher training.
 - 1. Initial training is conducted during the team members orientation.



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- 2. Annual refresher training is conducted and documented via the Mill's computerized training system.
- B. Lockout Proficiency
 - 1. All team members who are involved in lockout must demonstrate proficiency in lockout annually.
 - 2. Results of the lockout proficiency shall be documented using the lockout proficiency verification checklist.
- C. Contractors are trained on this policy and the expectation is that they adhere to the Mill's policy occurs during their orientation.

IX. Audits

- A. A review and update of this Lockout written procedure will be conducted, as necessary, whenever one of the following occurs:
 - 1. Corporate or governmental requirements change;
 - 2. The Lockout process is changed;
 - 3. An undesirable condition occurs involving this Lockout procedure; or
 - 4. Whenever the annual evaluation indicates changes are needed.
- B. A member of the Safety Department shall conduct a field evaluation using the Key Procedure Audit and form. These audits are typically conducted during an outage.



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Appendix A

Definitions

<u>Addendum</u> – The approval process for performing work not in compliance with this written Lockout Procedure.

<u>Affected Personnel</u> – Individuals who occupy an area in which servicing or maintenance of equipment is performed requiring isolation of potentially hazardous energy.

<u>Blue Lockout Tag</u> – The blue tag that verifies electrical energy has been isolated (ZES) used for personal lockouts not requiring a checklist.

<u>Custodian</u> – The operating technician or operating team representative having immediate charge and control of equipment requiring isolation of potentially hazardous energy. The custodian is familiar with the sources, type and magnitude of potentially hazardous energy and the method and means for safe energy isolation and control.

NOTE: For non-operating custodians, see exceptions (Section V, Paragraph R, Page 11).

<u>Custodian System Lock Set</u> – Set of locks controlled by the custodian of the equipment which can either be designated for a particular lockout, piece of equipment, or as a lock set that may be used on different equipment depending on the situation. These locks are to be permanently identified and marked individually to clearly reflect to which lock set they belong.

<u>Deviation</u> – See "Addendum"

<u>Energized</u> – Equipment that is connected to an energy source that has not been isolated and/or equipment that contains potentially hazardous stored energy or residual energy.

<u>Energy-Isolating Device</u> – A device that physically prevents the transmission or release of energy. For example:

- Manually operated electrical circuit breaker;
- Disconnect switch;
- Manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors, and in addition, no pole can be operated independently;
- Slide gate;
- Slip blind;
- Block valves;
- Pinning devices;
- Blocking devices; and
- Any similar device used to block or isolate energy.



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NOTE: Energy isolating devices **DO NOT** include a push button, selector switch, interlock and other control circuit type devices.

<u>Energy Sources</u> – Energy sources have been identified and classified as follows:

- Electrical: Alternating and direct current sources, static electricity or stored electrical energy in devices such as capacitors.
- Chemical: Energy released through direct contact or by combining chemical substances.
- Thermal: Heat generated from electrical, combustion, mechanical (friction), or nuclear sources.
- Pneumatic: Gaseous systems operating at positive (compressed) or negative (vacuum) pressure.
- Radiation: Ionizing sources including alpha, beta, neutron, gamma and x-ray and non-ionizing sources including ultraviolet, infrared, microwave and visible light.
- Hydraulic: Fluids pressurized to perform work.
- Mechanical potential: Movement of a body or an object by gravity, spring of striking force.
- Other: Any other energy source capable of causing injury to personnel.

NOTE: Team members working from ladders, scaffolds, manlifts or other elevated work surfaces must first assess the area where there tasks will be performed to ensure none of the energy sources listed above are present. Precautions such as locking out fans, placing insulation over thermal surfaces, and verifying no chemical leaks exists must be taken whenever the change in an team member's work surface subjects the team member to a hazardous energy source.

<u>Green Apple Tag Process</u> – Signifies the following process has been completed by identifying an electrical source through a try-lock-try, electrical continuity check, or physically tracing the conductor from the source to the electrical device. The Green Apple tag shall be placed at the device showing its source and at the MCC showing the equipment location once verification is complete.

<u>Intermediate Energy State (IES)</u> – a system of partial control of energy that renders the equipment safe for the person working on the equipment or process, control is maintained by the person working on the system, and clearly defined for specific tasks.

<u>Lock Box</u> – A designated container that secures the custodian or system lockset keys, or mini-system lockset key(s) used to lockout equipment.

<u>Lock Box Seal</u> – A device with a plastic body and metal clasp that once closed prevents reopening so that any tampering is evident. Each device has a unique number embossed in the plastic body.

<u>Lock Box Technique</u> – Allows personnel to lock out an entire system by utilizing one personal lock, or a lock and tag.



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<u>Lockout</u> – The placement of a lock and tag on an energy-isolating device to prevent movement until the lock has been removed.

<u>Lockout Device</u> – A device that utilizes a positive means such as a lock and chain to hold an energy isolating device in the safe position and prevent the energizing of a machine or equipment.

<u>Lockout List</u> – a written list used by the custodian for documenting and communicating all required isolation points that must be locked out.

<u>Mini-System Lockout and Tagout</u> – The mini-systems locks are keyed unique to all other sets in the Mill and will be grouped in sets of five or ten. The mini-system lockout locks will be permanently marked on the side (i.e. "System 1, 2, 3)." Their primary use is in situations where lockout of individual equipment within an established larger system is desired.

<u>Non-Custodians</u> – The individuals performing servicing or maintenance of equipment.

<u>Personnel</u> – Team members, contractors, subcontractors, vendors, or any other individuals on the Wisconsin Rapids Mill premises

<u>Personal Lock</u> – A lock(s) with one key issued to each team member for locking out. The lock is keyed unique to all other locks in the Mill and will be permanently marked with the team member's first initial and last name.

<u>Personal Lockout</u> – A lockout technique where person(s) working on the equipment are required to apply their personal lock at each isolation point.

<u>Primary Lockbox</u> – The designated container securing the keys to the custodian locksets and all accompanying paperwork used in a lockout.

<u>Project Manager (PM)</u> – A representative from the Wisconsin Rapids Mill who is responsible for a contractor working on-site.

<u>Maintenance Custodial Personal Lockout</u> – This method is only valid up to the use of 5 personal locks and only the lockout list is required for documentation.

<u>Operations Custodial Personal Lockout</u> – This method is valid for single isolation point lockouts and no documentation is required.

<u>Qualified Person</u> – Those who have training in avoiding the electrical hazards of working on or near exposed energized parts.

<u>Satellite Box</u> – A secondary lockbox established by placing a lock on a primary lockbox and securing the key for that lock in a secondary lockbox. A copy of the lockout checklist from the primary lockbox must accompany the satellite box and be kept current daily.

<u>Single Isolation Lockout</u> – This method is used for a single isolation point requiring non-custodian work. The custodian will apply there lock or system lock and the non-custodian will apply a system lock; no documentation is required.



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<u>Servicing or Maintenance</u> – Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or unjamming a machine or equipment and making adjustments or tool changes where the team member may be exposed to the unexpected energizing or startup of the equipment or release of hazardous energy.

<u>Standard Operating Procedure (SOP)</u> – a specific written procedure which allows the custodian to perform tasks in which it is allowable for the person to interact with equipment or process without isolating energy points.

<u>Symbolic Lockout</u> – The placement of a lockout device that does not physically prevent movement of the energy-isolating device.

System Content and Magnitude- The physical properties and extent of the hazards associated with the system being isolated (E.G. 1200lb. Steam, 480V, 93% Acid, etc.)

<u>Tag</u> – A laminated tag with the following wording. "DANGER-DO NOT OPERATE", "DO NOT REMOVE THIS TAG".

<u>Tag(ged)</u> – The placement of a tag on a locked out energy isolating device:

- The first and last name of the person who installed the lock
- The date of the lockout.
- Tags must be legible.
- Tags must meet requirements found in the OSHA standard.

<u>Transfer of Custodianship</u> – The transfer of authority and responsibility for a lockout from one custodian to another.

<u>Yellow Electrical Verification Seal</u> - A seal placed on the electrical disconnect after the power has been thrown off verifying stab disengagement occurred through either the use of a voltage detector or visual verification.

Zero Energy State (ZES) – The absence of any hazardous energy (potential or kinetic). When line breaking, a slight wisp, drip, or trickle is permitted as long as the Custodian and Non-Custodian/ management / maintenance agree that any hazardous energy has been adequately relieved.



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Appendix B

