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PRESS RELEASE

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FOR IMMEDIATE RELEASE

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DON'T TAKE THE RISK

Develop and implement Lockout/Tagout across your farm/ranch operation.

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During repair and maintenance activities, why is it so important to understand how to shut down machines and equipment and use a process – lockout/tagout - that ensures nothing can be started again until all work is completed, and no workers are in harm's way?

Because failure to do so could and has caused severe injury, even death.

Identifying and encouraging use of proper lockout/tagout procedures is one of the aims of Central States Center for Agricultural Safety and Health (CS-CASH). This University of Nebraska Medical Center group (<https://www.unmc.edu/publichealth/feedyard/>) is conducting two research projects (funded by National Institutes of Occupational Safety and Health) that are designed to make a positive impact on the sustainability of cattle feedyards through increased safety and health efforts.

Anyone who works around large equipment – such as feed mills, grain bins, feed trucks, loaders, tractors, etc. – needs to recognize and be trained in using the safety principles related to shutting down and safely securing equipment through use of lockout/tagout. Among these principles is the practice of “isolating” equipment to make sure it cannot be accidentally restarted while someone works on it. All employees involved with operating equipment must be able to clearly identify the lockout/tagout requirements in the workplace and commit to always applying lockout/tagout practices for the sake of safety.

When lockout/tagout procedures are not followed, potential for causing harm to individuals through unexpected startup of equipment or release of stored energy common to hydraulics, pneumatics, etc. rises exponentially. Stored energy may occur in an air valve that retains pressure when equipment is shut down. Stored energy may also cause a coiled or compressed spring to move, hydraulic equipment such as grain truck beds, power presses or vehicle braking systems to move while equipment is powered off. Gravitational energy may also occur in equipment such as a load falling from a loader.

When lockout/tagout procedures are in place and consistently implemented, stored energy in equipment is dealt with as part of the process prior to the beginning of any maintenance or repair procedures. In addition, when equipment is locked and tagged so it cannot be operated until the person who isolated it unlocks it, there is little or no chance that anyone can be injured or killed by unexpected energy release or startups.

Energy isolating devices that may be a component of equipment include a manually operated circuit breaker, and electrical disconnect switch, a line valve or any other device used to block or isolate the equipment's energy. Locks and tags that are properly placed will help keep equipment shut down when necessary.

The lockout device used to isolate the equipment must be substantial enough to prevent its removal without the use of excessive force or unusual techniques, such as bolt cutters or other metal-cutting tools. Tagout devices, which identify the person who has isolated the machine/equipment, must be durable enough to prevent inadvertent or accidental removal.

In addition to listing information about the person isolating the equipment, a tagout form must contain warning language such as, "Danger! Do Not Remove!" or "Do Not Operate!"

The required lockout/tagout procedure must be completed and fully in place prior to any worker placing themselves in a danger zone that exists when a piece of equipment is operating. This procedure must also be fully completed prior to removing any safety features of equipment, such as a bypass, guard or other safety component.

Depending on a machine's electrical, mechanical, hydraulic and/or pneumatic features, the common steps of a lockout/tagout procedure may vary. In every case, the need for implementing a lockout/tagout procedure should include the following steps:

1. Notify all affected employees.
2. Identify the type and magnitude of energy involved.
3. Shut down the equipment.
4. Deactivate all sources of the equipment's energy.
5. Apply all lockout/tagout devices.
6. Release or restrain the equipment's stored energy.
7. Verify that the equipment is de-energized.
8. Complete all maintenance/repair.
9. Re-energize the equipment.

It's critical to inform everyone affected by equipment service or maintenance of the planned activity to reduce potential for the risk of an individual attempting to start equipment or release stored energy in the equipment while someone is working in a related danger zone. This is especially important in regard to equipment that has more than one energy source. All

personnel engaged in equipment maintenance or repair must be aware of the type and magnitude of the equipment's energy to avoid injury during maintenance or repair activities.

Equipment should be shut down using a normal shutdown procedure, including use of operator controls, a start/stop button or a programmable logic controller (PLC). If more than one energy source is used, ensure that all sources are deactivated and LO/TO devices are in place before attempting maintenance/repair.

Each person involved in maintenance or repair activities – referred to as a group lockout service-m must place their lockout device and tag on each energy isolating device. During a group lockout service, which involves two or more employees, one authorized employee must oversee every aspect of a lockout/tagout procedure throughout the process. The authorized employee must monitor the status of the lockout/tagout activities and the removal of lockout/tagout devices, ensuring that each member of the group has completed their role in the activity prior to restarting the equipment.

When dissipating restrained or stored energy, keep in mind that residual energy may be present in equipment capacitors, springs, elevated machine features, rotating flywheels and systems associated with hydraulics, pneumatics, steam and water pressure. Releasing or restraining the energy may be accomplished by acts such as grounding, repositioning, blocking or bleeding down pressure. Injuries sustained due to uncontrolled hazardous energy include electrocution, burns, crushing, cutting, lacerating, amputating or fracturing of body parts.

Among the workers who routinely experience the greatest risk of injury are electricians, machine operators and laborers. Incidents known to occur during equipment maintenance or repair include:

- A jammed conveyor system suddenly releases, crushing the worker who is trying to clear the jam.
- A steam valve is automatically turned on, burning workers who are repairing a downstream piping connection.
- Internal wiring on a piece of factory equipment electrically shorts, shocking a worker in the process of repairing the equipment. (per Occupational Safety and Health Administration - OSHA)

To ensure that equipment is fully de-energized before any employee is exposed to potential harm, use operator controls to attempt starting the equipment. If the energy has been fully isolated, the equipment will not operate.

Once service or maintenance is completed, five steps are required to re-energize the equipment.

1. Remove all non-essential items from the machine or equipment, which may involve removing tools, parts, materials, etc. from the immediate area. Ensure all guard covers and safety devices/features are in place and operating.
2. Survey the work area to ensure that all employees are safely positioned or removed from the work area or immediate vicinity of the equipment.
3. Verify that all equipment controls are in the "Off" or "Neutral" position.

4. Remove all lockout/tagout devices from each energy isolating derive. Each LO/TO device must be removed by the employee who installed it. Once all LO/TO devices have been removed, the equipment is ready to be re-energized.
5. Notify all affected employees that service or maintenance of the equipment has been completed and it is ready for use.

Information courtesy Safety Made Simple, LLC.

Additional lockout/tagout information is available at this OSHA site:

<https://www.osha.gov/sites/default/files/publications/factsheet-lockout-tagout.pdf>.