



HAYS COMPANIES

Effective Hazardous Energy Management

EFFECTIVE HAZARDOUS ENERGY MANAGEMENT: IT IS MORE THAN CONTROL

Most of those in the safety field are familiar with the terms “control of hazardous energy,” “LOTO” or lockout/tagout. These have been a few of the names associated with company-specific written programs, compliance-based training curricula, annual audits and regulatory documents on the subject for decades.

Despite widespread familiarity with this topic, effective implementation of these principles is not universal nor is it performed consistently. Employees continue to be injured, OSHA citations issued and there are still fundamental aspects that are not being understood and effectively communicated or executed. Combined, these factors result in failure to protect employees, comply with regulations and effectively manage the Hazardous Energy Program.



In the context of this article, we will take a non-traditional approach and utilize non-traditional language to describe the ‘Control of Hazardous Energy.’

There is a very intentional and strategic use of the phrase ‘Hazardous Energy Management.’ The goal is to challenge your current mindset and current lockout program from a noun (describing the policy as a thing) to a verb (an action, an occurrence, or a state of being).

The name of the program is, of course, subjective. The objective aspect of an effective Hazardous Energy Management program is the universal understanding that there is a necessity to take an active and ongoing *management* approach toward hazardous energy in order to protect employees. This means focusing on levels of performance beyond compliance, since compliance itself, insurance cost controls and other benefits are simply byproducts of protecting employees.

Fundamentally, the terms “lockout/tagout” and “control” confine or limit the comprehensive requirements of a hazardous energy program to control



(Padlock) and communication (Tag) and regulations limit the scope to service and maintenance activities. Hazardous energy management is a more comprehensive approach that focuses on all circumstances where employees can be exposed to hazardous energy throughout the course of work. During routine production, this looks like machine guarding. During service and maintenance activities it looks like traditional lockout/tagout. What does it look like for setup operators? What does it look like for troubleshooting a fault? Is protection needed for corded equipment when changing bits or blades? All these questions will be addressed in this article.

REGULATORY EXEMPTIONS THAT DON'T EXEMPT

The common practice for most organizations is to focus on a specific machine or operation and identify the active sources of energy and proper shutdown as required by OSHA regulation. This practice is known as generating Energy Control Procedures (ECPs) for use during service and maintenance activities.

Many who are familiar with OSHA regulations are familiar with their exemptions to the use of lockout/tagout and exemptions for the development of ECPs. These exemptions can create an inherent gap in employee safety if hazardous energy is not managed correctly. (See [OSHA Minor Servicing Exemption-1910.147\(a\)\(2\)\(ii\)\(B\)](#) and [ECP Exemption-1910.147\(c\)\(4\)\(i\)](#) for more details.) Make no mistake, an *OSHA exemption doesn't relieve an employer from the responsibility of protecting employees*. The exemption may not require lockout, provided that the work is performed using alternative measures which provide effective protection.”

Alternative measures are flexible and may differ based on equipment and production requirements. This can be the implementation of effective interlocks when lockout/tagout is not possible. It can be a rule requiring employees to place the plug on the corded equipment they are using in their pocket to prevent unintentional startup. It can be Setup Procedures, Troubleshooting Procedures, Work Instructions or Standard Operating Procedures that will identify appropriate methods for protection when an employee may encounter hazardous energy. Again, there is flexibility in accomplishing this but no exemption from an employer's duty of care, only an exemption from the fundamental use of a lock and tag. For those interested, the *ANSI/ASSP Z244.1-2016, The Control of Hazardous Energy Lockout, Tagout and Alternative Methods* consensus standard provides further guidance in best practices on this subject.

THE FUTURE

Take a few minutes to reflect on your own operations and management program:

Are you currently identifying both types of energy, kinetic and potential?

Are you confident that your employees know how to effectively protect themselves and achieve a zero-energy state when there is no energy control procedure provided or required?



Do your employees receive materials in your training program to decipher how energy can re-accumulate in a machine?

Do your ECPs identify methods for releasing or blocking potential energy?

Are employees trained on the identification of passive energy sources and the risks of stored energy? For example, pressure injection hazards or mass/gravity.

Is your energy control program included in confined space training and qualification for entrants?

If the answer is 'no' to the list above, or 'I am not confident,' it is probably time to revisit your written, training and annual auditing programs and ensure you are effectively managing the following eight pillars. These are divided into **four strategic** and **four tactical** management steps that are necessary to provide effective employee protection and diligently manage a hazardous energy program.

The 4 Strategic Pillars OF EFFECTIVE HAZARDOUS ENERGY MANAGEMENT

1 Written Programs

A formal written policy is not just a regulatory requirement; it is foundational to the next three steps. The written program is the standard for the management of hazardous energy in all circumstances and should include ECPs, Setup Procedures and Work Instructions/Standard Operating Procedures to ensure there is adequate employee guidance in all exposure scenarios.

2 Communication

Train employees on the aforementioned written policy. Training must be documented for all who can be exposed, not just Authorized and Affected employees. Contractors, visitors, vendors, etc. all need this information as well, according to OSHA's [Multi-Employer Citation Policy](#).

3 Auditing

Monitoring the effectiveness and gaps in the program is needed to continuously improve and identify leading indicators that can lead to injuries. An investigation is simply an audit after something bad has already happened. This may be necessary after an incident but is not the most effective way to proactively manage and prevent hazardous energy injuries.

4 Continuous Improvement

When problems are identified during an audit, the improvement is what is being done to prevent injury. It may be re-training, installing a bleed valve, disciplining an employee, purchasing more lock adapters, etc. The audit results will not likely be perfect and it will result in an opportunity for your program management to improve and to reduce risk for employees.



The 4 Tactical Pillars OF EFFECTIVE HAZARDOUS ENERGY MANAGEMENT

1 Identify & Isolate

Do I have kinetic or potential energy? How many sources? Where is the mechanical device to interrupt the kinetic and/or potential energy flow? All energy sources need to be identified in their frequency and severity. "Flow" of kinetic or potential energy should be mechanically disconnected or blocked to prevent kinetic energy (or potential to become kinetic) from contact with an employee.

2 Dissipate, Block or Release

(Potential Energy Sources,
if applicable)

Step one identifies energy sources and deals with the isolation of energy. This step now takes the potential energy identified in step one and prevents it from becoming kinetic. Action is likely needed to block, bleed, dissipate, etc. Valves, bars and other devices can be retrofitted for permanent installation as needed to ensure that safe and consistent methods are available for authorized employees.

3 Control & Communicate

This is the notorious lockout and tagout portion. There are many hasps and adapters available on the market and just about any mechanical isolating device can be controlled with an adapter that has a padlock opening. Tags communicate to any unauthorized employees that there is risk and energy present, or potentially present, and you and your coworkers are at risk if these controls are removed.

4 Verification

The final and most important step in the process is to verify or test. There are a variety of methods depending on the type of energy present, but the principle is to ensure that the energy isolated and dissipated in steps one and two are done appropriately. This is a vital step to avoid becoming a lagging indicator! Do not overlook nuisances like dysfunctional pressure gauges, inaccurate meters and buttons that can create a false reading on zero-energy.

For more information, assistance in review or development of your current Hazardous Energy Program, training curriculum, annual auditing, ECPs or any safety-related needs, reach out to your Hays Risk Control Engineer for support in your safety management efforts.

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