

# Z244 COMMITTEE

AN ANSI/ASSP STANDARDS COMMITTEE  
CONTROL OF HAZARDOUS ENERGY – LOCKOUT/TAGOUT  
AND ALTERNATIVE METHODS

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November 29, 2023

Ms. Kimberly Stille  
Director of Enforcement  
U.S. Occupational Safety and Health Administration, OSHA  
200 Constitution Ave NW  
Washington, DC 20210

**RE: Letter of Interpretation 29 CFR 1910.147 - Types of Energy**

Dear Ms. Stille:

The Committee for Z244 *Control of Hazardous Energy – Lockout/Tagout and Alternative Methods* requests that OSHA change the wording in its 1995 interpretation of 29 CFR 1910.147.

During a recent meeting of the committee revising ANSI/ASSP Z244.1 *The Control of Hazardous Energy-Lockout, Tagout and Alternative Methods*, an issue was brought before the committee with significant regulatory compliance implications for employers and their employees. We wish to bring the situation to OSHA's attention and request assistance in addressing the issue.

In 1989, OSHA promulgated 29 CFR Part 1910.147 the Control of Hazardous Energy (Lockout/Tagout) standard, and shortly thereafter in 1993 produced 29 CFR Part 1910.146 Permit Required Confined Spaces standard. In 1995, OSHA received a routine confined space interpretation request. The partial response by the Director of Compliance Programs (John B. Miles, Jr.) to the inquiring law firm is excerpted as follows (the full letter is attached):

*Q 1. Is compliance with the Lockout/Tagout Standard 29 CFR 1910.147, sufficient to demonstrate that possible energization is no longer a hazard and that, as a consequence, a permit-required confined space can be classified as a non-permit required confined space?*

*R. A permit-required confined space can be reclassified as a non-permit required confined space if it does not contain any actual or potential hazardous atmosphere and all hazards within the space are eliminated. For the purpose of reclassifying a permit-required confined space, which has potential energy sources in it, the*

*methods which must be utilized are dependent upon what types of energies must be eliminated.*

***Compliance with OSHA’s Lockout Tagout Standard is considered to eliminate electro-mechanical hazards. However, compliance with the requirements of the Lockout/Tagout Standard is not considered to eliminate hazards created by flowable materials such as steam, natural gas, and other substances that can cause hazardous atmospheres or engulfment hazards in a confined space [emphasis added].***

*In a permit-required confined space these types of hazards will be considered eliminated only by the use of the techniques described in the definition of the term "isolation". The definition of the term "isolation" is in paragraph (b) of 29 CFR 1910.146. The techniques listed in the definition are blanking, blinding, misaligning or removing sections of lines or pipes and a double block and bleed system.*

This interpretation appears to have remained relatively obscure due to its source and apparent limited compliance application. However, in the promulgation of 29 CFR 1926.1201(2015), Confined Spaces in Construction (Final Rule), it has appeared once again in the Preamble Summary and Explanation section of the Final Standard on Page 25406, second paragraph as follows:

*“For the purpose of reclassifying a permit-required confined space that has potential energy sources in it, the methods the employer must use depend on the types of energies requiring elimination or isolation. **OSHA’s lockout/tagout requirements address electro-mechanical hazards, but lockout/tagout will not eliminate hazards associated with flowable materials such as steam, natural gas, and other substances that can cause hazardous atmospheres or engulfment hazards in a confined space. See OSHA Directive CPL 02-00-147: The Control of Hazardous Energy-Enforcement Policy and Inspection Procedures, at pp 3-10 (Feb. 11, 2008). Employers can isolate these hazards by using techniques described in the definition of the terms “isolate” or “isolation”:** blanking, blinding, misaligning or removing sections of lines or pipes, and a double-block and bleed system. See also August 25, 1995 letter to William K. Principe.” [emphasis added]*

“Electro-mechanical hazards” are not defined in 29 CFR 1926.1200, OSHA’s 29 CFR 1910.147, or in any revision of the ANSI/ASSP Z244.1 standards. By definition, the term “energy isolating devices” have always included valves, blanks, blinds, plugs, bladders, gates, etc., and have been used historically to isolate flowable materials. The very definition of energy isolating device implies the effect of preventing the transmission of energy beyond the device’s function regardless of the energy state or type.

Flowable materials such as sand, water, grain, aggregate, oil, concrete, steam, gases, etc. are commonly moved by vacuum or pressure. Pumps typically supply the driving force for movement and are isolated by routine lockout means. The “state” of energy (solid, liquid, gas) or its “type” are not relevant as to application in the standards or to confined spaces.

For example, in the recently published ANSI/ASSP Z117.1-2022 *Safety Requirements for Entering Confined Spaces*, the following language exists in clause 8.0 Hazardous Energy Isolation and Lockout/Tagout:

Lockout, tagout or alternative methods shall be used to control all hazardous energy sources by using and securing all appropriate energy isolating devices or by other means specified in the employer's energy control procedures.

*Note 1: Energy-isolating devices prevent the transmission or release of energy and include pieces of equipment such as a valve, slip blind, slide gate, disconnect, circuit breaker, switch, block, restraint, pin, prop, chain, inflatable bladder, pipe plug, freeze plug, etc.*

*Note 2: Machines, equipment or processes shall be locked, tagged or alternative methods applied per the employer's energy control program and procedures. For more complete information on hazardous energy control, see ANSI/ASSP Z244.1, Control of Hazardous Energy - Lockout/Tagout and Alternative Methods and 29 CFR 1910.147, Control of Hazardous Energy-Lockout/Tagout.*

There is no distinction made as to the state or type of energy to be controlled.

During the recent Z244.1 committee meeting, the more than 30 members in attendance were informally polled as to their view of the aforementioned OSHA position that 29 CFR 1910.147 only applies to electro-mechanical hazards. The committee members unanimously did *not* support the idea that OSHA's Lockout/Tagout standard applied only to electro-mechanical energy.

The 1995 OSHA interpretation regarding the limitation of 29 CFR 1910.147 to electro-mechanical hazards/energy can create compliance confusion for employers, particularly with regard to training. After 30+ years of lockout/tagout employee training, this conflicted interpretation is contradictory and counterproductive because it now creates two classes of hazardous energy control (isolation) based on the state or type of energy, which is a foreign concept to those conditioned to understand otherwise.

On behalf of the Z244 Committee, we respectfully request that OSHA take our concerns under advisement and administratively change this interpretation of 29 CFR 1910.147 or take any other appropriate regulatory action to address this situation.

We are available to discuss this matter further, if needed, to develop a solution.

Sincerely,

Bruce Main, PE CSP  
Chair, Z244 Committee

Ted Sberna  
Vice-Chair, Z244 Committee

Edward V. Grund, PE CSP  
Past Chair, Z244 Committee

Attachment: Letter of Interpretation

Copy To: Prentice Cline, [Cline.Prentice@dol.gov](mailto:Cline.Prentice@dol.gov)  
Sanji Kanth, [Kanth.Sanji@dol.gov](mailto:Kanth.Sanji@dol.gov)  
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**ASSP Headquarters Contact Information for Z244**

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August 28, 1995

William K. Principe  
Constangy, Brooks & Smith  
Suite 2400  
230 Peachtree Street, N.W.  
Atlanta, Georgia 30303-1557

Dear Mr. Principe:

This letter is in response to the questions in your letter of January 3, 1995. The questions and responses are as follows:

Q 1. Is compliance with the Lockout/Tagout Standard 29 CFR 1910.147, sufficient to demonstrate that possible energization is no longer a hazard and that, as a consequence, a permit-required confined space can be classified as a non-permit required confined space?

R. A permit-required confined space can be reclassified as a non-permit required confined space if it does not contain any actual or potential hazardous atmosphere and all hazards within the space are eliminated. For the purpose of reclassifying a permit-required confined space, which has potential energy sources in it, the methods which must be utilized are dependent upon what types of energies must be eliminated.

Compliance with OSHA's Lockout Tagout Standard is considered to eliminate electro-mechanical hazards. However compliance with the requirements of the Lockout/Tagout Standard is not considered to eliminate hazards created by flowable materials such as steam, natural gas, and other substances that can cause hazardous atmospheres or engulfment hazards in a confined space. In a permit-required confined space these types of hazards will be considered eliminated only by the use of the techniques described in the definition of the term "isolation". The definition of the term "isolation" is in paragraph (b) of 29 CFR 1910.146. The techniques listed in the definition are blanking, blinding, misaligning or removing sections of lines or pipes and a double block and bleed system.

Q 2. Does the implementation of an appropriate lockout procedure which blocks out a potentially hazardous atmosphere, allow an employer to treat a confined space as not having a potential for an atmospheric hazard?

R. No. As indicated in the response to the first question flowable materials, which can cause either a hazardous atmosphere or an engulfment hazard, can only be eliminated by the use of the techniques described in the definition of the term "isolation". Continuous ventilation used to insure that a hazardous atmosphere is not created is considered to be a control method rather than elimination of the atmospheric hazard. It is important that the distinction between elimination and control be understood.

Q 3. For permit-required confined spaces that have been reclassified as non-permit required confined spaces, can continuous monitoring be used to ensure that atmospheric hazards remain eliminated?

R. Such a procedure should not be necessary if the atmospheric hazard is eliminated. In order for a permit-required confined space, with an actual or potential atmospheric hazard, to be reclassified as a non-permit required confined space the atmospheric hazard must be eliminated.

Q 4. Under paragraphs (c)(5)(i) and (c)(5)(ii) of 29 CFR 1910.146 can continuous monitoring be used in lieu of continuous forced air ventilation if no hazardous atmosphere is detected?

R. No. The entire basis for the permitting the alternate entry procedures, described in paragraph (c)(5) of 29 CFR 1910.146, is that any actual or potential hazardous atmosphere will be controlled by continuous ventilation. This is of particular significance since among other things the alternative procedures do not require the presence of an attendant during entry operations. Entrants could be severely injured or killed if a hazardous atmosphere does develop and there will be no one available to aid them in getting out of the space.

In addition to the preceding questions there were several issues raised in the examples in your letter relative to three different permit-required confined spaces. Those issues are addressed in the following paragraphs.

Two different procedures must be implemented in order to reclassify the tank, described in example "a" of your question 4, as a non-permit required confined space. The hazard associated with the agitator will be considered to be eliminated if the requirements of the Lockout/Tagout Standard are followed. The hazard associated with the dump valve, if the result of a release from the dump valve will be a hazardous atmosphere or engulfment hazard, must be eliminated by utilizing the techniques described in the definition of the term "isolation". See the response to questions number one and two for further clarification of requirements related to elimination of hazards.

The tank described in your example "b" cannot be entered under the alternative procedures permitted by paragraph (c)(5) unless continuous ventilation is provided. Additionally, the alternative procedures described in paragraph (c)(5) can be implemented in permit-required confined spaces in which the only hazard is an actual or potentially hazardous atmosphere. If the input or output for the dry material can cause or permit material to enter the tank and create an engulfment hazard the techniques described in the definition of the term "isolation" must be used in order for the hazard to be considered eliminated. See the response to question number three for further information relative to use of the alternative procedures.

The underground vault/pit described in your example "c" cannot be reclassified as a non-permit required confined space unless all the hazards associated with the space are eliminated. Since the only hazards in that space seem to be either atmospheric hazards or engulfment hazards the procedures described in the definition of the term "isolation" must be used to eliminate the hazards. Underground vaults/pits have the potential for actual or potential hazardous atmospheres. Contaminants can enter such spaces and certain chemical reactions, such as oxidation, which can deplete the oxygen in such spaces. If atmospheric hazards cannot be eliminated and continuous ventilation is used to control them the procedures set forth in paragraph (c)(5) must be followed.

As indicated in the response to question number two water is not considered to be an atmospheric hazard. Water in a permit-required confined space such as a pit can be an engulfment hazard or a hazard because it creates or conceals other unsafe conditions. If water in a permit-required confined space presents an engulfment hazard then the procedures described in the definition of the term "isolation" must be utilized.

If you require any additional information regarding the preceding, please contact Don Kallstrom by telephone at (202) 219-8031.

Sincerely,

John B. Miles, Jr., Director  
Directorate of Compliance Programs