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Engineers | Environmental Specialists

OSHA REGULATIONS:

DECODING GENERAL INDUSTRY AND CONSTRUCTION STANDARDS

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Upcoming Topics 2024/2025:

Part 2 – State Plans: Impacts on DPW and Municipal Operation Plans

Part 3 – Trenching, Excavation, and Ground Disturbance Safety and Health

Part 4 – Confined Space – Evaluating Requirements Under 1910 and 1926

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Discussion Outline

This lecture will explore the relationships between the 1910 and 1926 Federal standards, Consensus, and standards incorporated by reference then examining select topics to further dive into compliance strategies and struggles. This will set the foundation for our next session on OSHA State Plans.

1) Standards Review
   - Federal: OSHA 1910 / 1926
   - Standards Incorporated by Reference
   - Consensus standards
   - General Duty Clause

2) Working at Height
   - General Industry
   - Construction
   - Consensus IR

3) Confined Spaces

4) Occupational Noise

5) Walking Working Surfaces

Standards Review – 1910 & 1926

1910: Regulations for General Industry

General Industry: all industries not included in agriculture, construction, or maritime.

- Process Safety Management (PSM) (1910.119)
- Hazardous Waste Operations and Emergency Response (HAZWOPER) (1910.120)
- Occupational Exposure to Bloodborne Pathogens (1910.1030)
- Control of Hazardous Energy (Lockout/Tagout) (1910.147)

Agriculture Industries
Crop Production
Animal Production and Aquaculture
Support Activities for Agriculture
Fishing, Hunting, and Trapping

Maritime Industries
Shipping and Transportation
Shipbuilding and Repair
Ports and Harbors
Offshore Energy:

OSHA's purpose: Ensuring safe and healthy working conditions.

Standards Review – 1910 & 1926

1926: Regulations for Construction

Construction: means work for construction, alteration, and/or repair, including painting and decorating.

- Scaffolds (1926 Subpart L)
- Steel Erection (1926 Subpart R)
- Demolition (1926 Subpart T)
- Blasting and the Use of Explosives (1926 Subpart U)

OSHA's purpose: Ensuring safe and healthy working conditions.

Standards Review – 1910 & 1926

Similar Standards

1926.33	1910.1020	Access To Employee Medical Records
1926.53	1910.1096	Ionizing Radiation
1926.59	1910.1200	Hazard Communication
1926.103	1910.134	Respiratory Protection
1926.602	1910.178	Powered Industrial Trucks (operator Training)
1926.1071	1910.1027	Substance Safety Data Sheet

Standards Review – General Duty Clause

PL 91-596 General Duty Clause

(a)

(1) shall furnish to each of his employees' employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;

(2) shall comply with occupational safety and health standards promulgated under this Act.

(b)

Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

Employers can be cited for violation of the General Duty Clause if a recognized serious hazard exists in their workplace and the employer does not take reasonable steps to prevent or abate the hazard. The General Duty Clause is used only where there is no standard that applies to the particular hazard.

Standards Review – Consensus and Referenced

National Consensus Standard

Occupational safety and health standard or modification thereof which has been adopted and promulgated by a nationally recognized standards-producing organization.

Incorporation by Reference 1910.6(a)(1)(i) 1926.6(c)

The standards of agencies of the U.S. Government, and organizations which are not agencies of the U.S. Government which are incorporated by reference in this part, have the same force and effect as other standards in this part. Only the mandatory provisions (i.e., provisions containing the word "**shall**" or other mandatory language) of standards incorporated by reference are adopted as standards under the Occupational Safety and Health Act.

ANSI, ASTM, ASME, MUTCD, ISO, NFPA…….

- Act as enforceable standard
- Often must be purchased form the agency
- Can create compliance challenges

Standards Review – ANSI and 1910 Example

Eyewash Requirements

29 CFR 1910.151(c)

Broadly mandates that suitable facilities for quick drenching or flushing of the eyes and body be provided within the work area for immediate emergency use if employees are exposed to injurious corrosive materials. OSHA does not prescribe specific technical standards regarding the design, installation, or performance of eyewash stations. Instead, it requires employers to provide appropriate facilities and follows general guidelines.

ANSI Eyewash Station Standard ANSI/ISEA Z358.1

Standard provides comprehensive guidance on the design, flow rate, temperature, installation, testing, and maintenance of eyewash and shower equipment.

- Must deliver at least 0.4 gallons per minute (1.5 liters per minute) for 15 minutes.
- Water temperature should be tepid, generally between 60-100°F (16-38°C).
- Station should be located within 10 seconds (approximately 55 feet) of the hazard.
- Requires regular testing and maintenance to ensure eyewash stations are fully operational

Could this lead to a General Duty Clause citation?
Is there a letter of interpretation (LOI)?

Standards Review – Working at Heights

Scope and Applicability

- 1910: Applies to a range of industries and services.
- 1926: Addresses unique risks like scaffolding, roofing, and steel erection.

Trigger Height for Fall Protection

- 1910: Requires fall protection at elevations of 4 feet or more
- 1926: Requires fall protection at elevations of 6 feet or more

Specific Fall Protection Systems

- 1910: Provides flexibility in choosing fall protection systems such as guardrails
- 1926: Mandates specific systems for certain tasks, including detailed provisions for guardrails, safety net systems, and personal fall arrest systems depending on the activity.

Use of Scaffolds and Ladders

- 1910: General requirements for scaffold and ladder use in broader environments.
- 1926: Contains detailed scaffolding and ladder regulations including assembly and dismantling procedures as specified in Subpart L and X.

Standards Review – Working at Heights

Safety Nets and Hole Covers

- 1910: General guidelines on protecting workers from holes and open-sided platforms.
- 1926: Specific conditions and requirements for using safety nets and covers for holes in construction, including materials, installation, and testing standards.

Enforcement and Compliance

- 1910: Enforcement can vary, focusing on the general applicability of safety measures.
- 1926: More rigorous due to the inherently risky nature of construction activities, emphasizing proactive site-specific safety plans.

Training Requirements

- 1910: Requires employers to provide training on fall hazards and the usage of fall protection systems, outlined in 1910.30.
- 1926: Requires more detailed training and re-training requirements specific to construction tasks, including scenario-specific hazards.

Standards Review – Incorporated by Reference

1910 Standards Incorporated by Reference

ANSI A1264.1
Provides guidelines on safety requirements for workplace walking and working surfaces, including protection against slips, trips, and falls.

ANSI/ASSE Z359 series
Relate to the fall protection and fall arrest systems that are commonly used to ensure safety when working at height. This series encompasses a range of topics, including harnesses, lanyards, and other equipment.

NFPA 101 (Life Safety Code)
While primarily focused on building safety, it covers egress safety which can include safe navigation of elevated surfaces, especially during emergencies.

Standards Review – Incorporated by Reference

1926 Standards Incorporated by Reference

ANSI A10.8 - Scaffolding Safety

This standard provides safety requirements for scaffolding systems and operations, outlining the expected specifications and safety practices to protect construction workers operating on scaffolds.

ANSI Z359 Series - Fall Protection Standards

These standards address comprehensive safety requirements for fall protection, including personal fall arrest systems, harnesses, lanyards, and other related equipment. They provide detailed guidance on the design, performance, testing, and use of fall protection systems.

ANSI A14 Series - Ladder Safety Standards

These standards relate to the safe construction, design, and use of ladders in construction scenarios, covering materials, load capacities, and precautions.

Standards Review – Confined Spaces

Definition and Identification

- 1910: Defines confined spaces and permits-required confined spaces based on hazards that must be evaluated before entry.
- 1926: Has a similar definition but emphasizes preemptive identification and continuous reassessment due to the evolving nature of construction sites and tasks.

Permit System

- 1910: Requires a detailed permit system for entry into permit-required confined spaces, with strict control measures including entry permits, atmospheric testing, and attendant presence.
- 1926: Also requires a permit system, but with added flexibility to account for construction's changing environments. For example, reclassification procedures can be more frequently utilized if atmospheric and physical hazards are eliminated.

Training and Communication

- 1910: Stipulates training requirements for all employees involved in confined space entries, including entrants, attendants, and supervisors.
- 1926: Involves an increased emphasis on communication and coordination between multiple employers and contractors, reflecting the collaborative nature of many construction projects.

Standards Review – Confined Spaces

1910 & 1926 Standards Incorporated by Reference

OSHA's does not specifically incorporate consensus standards by reference in the same way as other standards. Confined Space standards establishes its own requirements and guidelines specifically tailored to the general industry or construction industry. It is common for OSHA to use consensus standards to inform their rulemaking process or provide guidance on best practices.

Standards Review – Occupational Noise

Permissible Exposure Limit (PEL)

- 1910: The PEL is 90 decibels A-weighted (dBA) over an 8-hour time-weighted average (TWA), with a 5 dBA exchange rate.
- 1926: APEL of 90 dBA over an 8-hour TWA but generally includes less prescriptive guidelines for noise control and hearing conservation programs.

Hearing Conservation Program

- 1910: Requires implementation of a hearing conservation program when noise exposure equals or exceeds an 8-hour TWA of 85 dBA (action level). This includes monitoring, annual hearing tests, provision of hearing protectors, training, and recordkeeping.
- 1926: Does not have a specific mandatory hearing conservation program like general industry, although hearing protection must be provided and used to reduce noise exposure to acceptable levels.

Monitoring and Evaluation

- 1910: Requires employers to perform monitoring where employees are exposed to noise at or above the action level and reevaluate whenever there are changes in production, processes, or equipment that could increase noise levels.
- 1926: Monitoring is required based on site-specific assessments, though less explicitly detailed in the regulation compared to general industry.

Standards Review – Occupational Noise

Employee Training

- 1910: Requires detailed training for employees exposed at or above the action level, covering the effects of noise, the purpose of hearing protectors, and audiometric testing procedures.
- 1926: While not as prescriptive as general industry, it implies that training is necessary when hearing protectors are used or required.

Engineering and Administrative Controls

- 1910: Prioritizes engineering and administrative controls to reduce noise exposure, with PPE as a fallback option.
- 1926: Also emphasizes controlling noise through feasible administrative and engineering controls but often relies more on PPE due to the transient and variable nature of construction sites.

Specific Documentation and Recordkeeping

- 1910: Requires detailed records of noise exposure measurements and audiometric test results, maintained for specified durations.
- 1926: Less prescriptive about recordkeeping related to noise exposure unless specific types of hearing protection assessments necessitate records.

Standards Review – Incorporated by Reference

1910 Standards Incorporated by Reference

ANSI S1.4-1971 (R1976) - Specifications for Sound Level Meters
Specifies the requirements for sound level meters used to measure workplace noise levels accurately.

ANSI S1.11-1966 (R1976) - Specification for Octave, Half-Octave, and Third-Octave Band Filter Sets
This standard provides specifications for frequency filters used in conjunction with sound measuring equipment to accurately assess noise levels across different frequencies.

ANSI S3.19-1974:
Specifies the methodology for measuring the noise reduction capabilities of hearing protectors. OSHA references this standard to guide employers in selecting hearing protection devices that provide adequate noise attenuation for workers.

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Standards Review – Incorporated by Reference

1926 Standards Incorporated by Reference

While these are not incorporated by reference, they are routinely used to develop comprehensive noise control programs and ensure compliance with OSHA's intent.

ANSI/ASA S12.6 Methods for Measuring the Real-Ear Attenuation of Hearing Protectors
These standards from the Acoustical Society of America (ASA) provide guidelines on noise measurement, evaluation, and mitigation strategies, which are often used to supplement understanding and implementation of noise control measures in construction.

ANSI/ASA S12.42 - Methods for the Measurement of Insertion Loss of Hearing Protection Devices in Continuous or Impulsive Noise Using Microphone-in-Real-Ear or Acoustic Test Fixture Procedures
This standard is used to assess the efficacy of hearing protection devices against different types of noise.

ISO 1999
Standard offers methods for calculating noise exposure and its potential effects over time, providing useful frameworks to accurately assessing noise impacts in various environments.

Standards Review – Walking Working Surfaces

Regulatory Reference

- 1910 (General Industry): Walking-working surfaces are addressed under 29 CFR 1910 Subpart D, which focuses on fixed and permanent workplace settings.
- 1926 (Construction): Pertains to fall protection and related safety practices in 29 CFR 1926 Subpart M and includes additional sections like Subpart X (Ladders) and Subpart L (Scaffolds).

Scope and Application

- 1910: Applies to permanent buildings and facilities, covering everything from floors and stairs to ladders and elevated platforms in industrial and office settings.
- 1926: Applies to temporary structures and environments typical in construction, such as scaffolding, roofing, and unfinished structures.

Inspection and Maintenance

- 1910: Requires regular inspection and maintenance of walking-working surfaces to ensure safety in stationary work environments.
- 1926: Necessitates ongoing assessment of walking-working surfaces as construction progresses, accounting for evolving hazards and temporary installations.

Standards Review – Walking Working Surfaces

Ladder Safety

- 1910: Provides general requirements for portable ladders and fixed ladders, focusing on design, maintenance, and proper usage.
- 1926: Includes detailed specifications and safety practices for ladders used in construction, addressing additional risks associated with the temporary nature of construction sites.

Scaffold Safety

- 1910: Generally, addresses scaffold use as part of broader workplace safety measures, without extensive specifications.
- 1926: Contains comprehensive regulations for scaffold design, construction, and use, recognizing the critical role of scaffolds in construction projects and the higher risks involved.

Surface Conditions

- 1910: Emphasizes maintaining clean and dry floors to prevent slips and trips in general industry settings.
- 1926: Focuses on managing risks associated with unstable and unfinished surfaces common on construction sites, where conditions can change rapidly.

Standards Review – Incorporated by Reference

1910 Standards Incorporated by Reference

ANSI A14.1-2007 - American National Standard for Ladders – Portable Wood Ladders
Provides specifications for the safety and performance of portable wood ladders.

ANSI A14.2-2007 - American National Standard for Ladders – Portable Metal Ladders
Establishes criteria for the design, construction, testing, care, and use of portable metal ladders.

ANSI A14.5-2007 - American National Standard for Ladders – Portable Reinforced Plastic Ladders
Covers the requirements for portable reinforced plastic ladders.

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Standards Review – Incorporated by Reference

1926 Standards Incorporated by Reference

Walking-working surfaces in construction do not generally incorporate consensus standards like in general industry. Instead, like those pertaining to ladders, stairways, and scaffolds—are largely self-contained within the OSHA regulations.

Ladders

ANSI A14 series standards provide guidance on the safe design, construction, testing, and use of portable wood, metal, and reinforced plastic ladders, which can complement OSHA's specific ladder safety requirements (29 CFR 1926 Subpart X).

Scaffolding

While not directly incorporated, ANSI standards for scaffolding can advise on safety practices in line with OSHA's regulations (29 CFR 1926 Subpart L).

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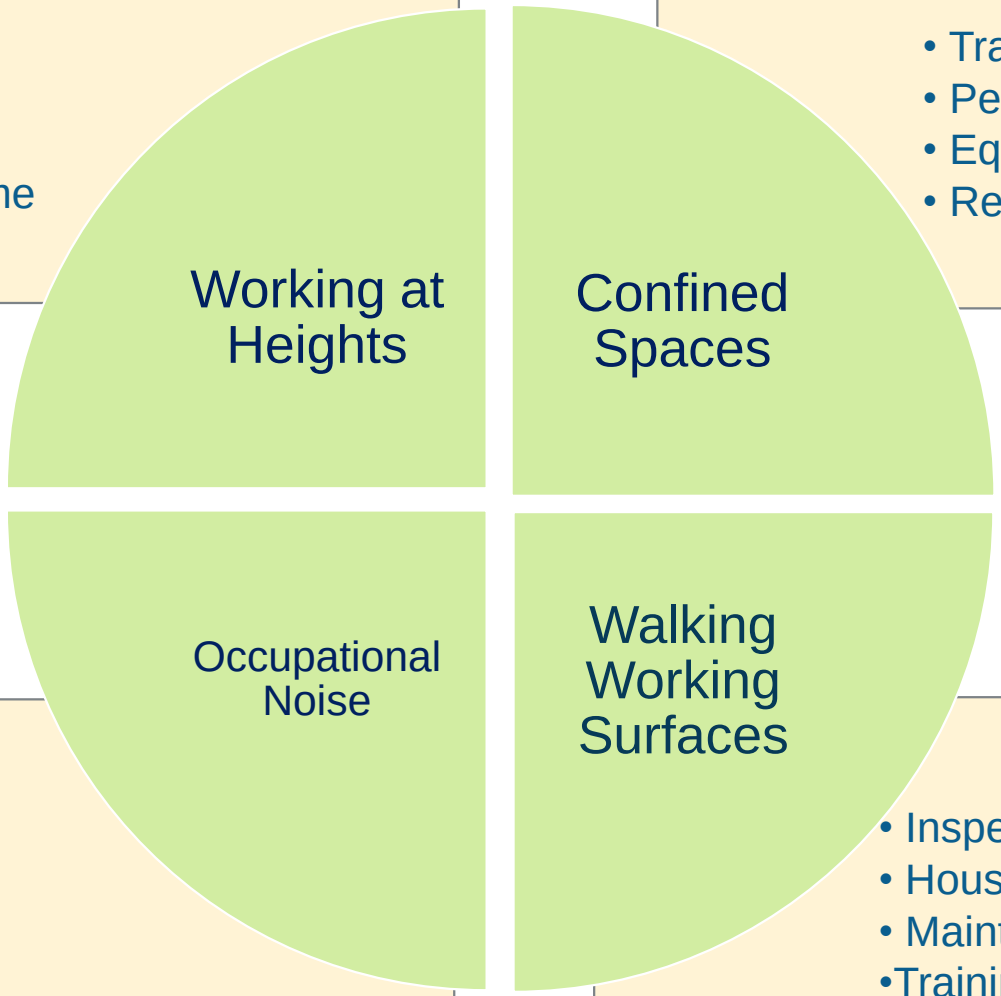
Leading Indicators of Compliance



- Training Completion
- Inspection Reports
- Worksite Audits
- Findings Closure Time

- Training Completion
- Permit Tracking
- Equipment Inspection
- Reclassification Rate

- Participant Tracking
- Noise Monitoring
- Engineer Controls
- Audiometric Testing (Baseline)

- Inspection Records
- Housekeeping Audits
- Maintenance Records
- Training Completion

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