Confined Spaces in Construction/General Industry

- Internal 105 Training

- ***1926.1200 Subpart AA***
- ***29 CFR 1910.146***

Presented by: ETTA, OSH Division, (919) 707-7876

NCDOL N.C. Department of Labor
OSH Division
Internal Training

Total : 914 deaths (2011-2018)

Table 2. Types of confined spaces for fatal occupational injuries, 2011-2018

Type of confined space	Fatalities	Most frequent event[1]
Tank, bin, vat interiors	205	Engulfment in other collapsing material (86)
Silo, grain bin interiors	107	Engulfment in other collapsing material (72)
Septic tank or water tank interiors	19	Falls to lower level (7)
Hopper interiors	10	Engulfment in other collapsing material (7)
Oil storage tank interiors	7	Inhalation of a harmful substance (4)
Grain elevator interiors	6	Engulfment in other collapsing material (3)
Trash bin or dumpster interiors	3	No publishable data
Ditches, channels, trenches, excavations	203	Trench collapse (166)
Underground mines, caves, tunnels	129	Inhalation of a harmful substance (29)
Sewers, manholes, storm drains	61	Inhalation of a harmful substance (27)
Underground mines, mine tunnels	58	Struck by falling object or equipment (21)
Confined spaces on vehicles	45	Inhalation of a harmful substance (20)
Tanker truck interiors	20	Inhalation of a harmful substance (16)
Manure pits	18	Inhalation of a harmful substance (7)
Crawl spaces	13	Direct exposure to electricity, 220 volts or less (5), Exposure to environmental heat (5)
Wells, cisterns	10	Falls to lower level (6)

[1] Based on the BLS Occupational Injury and Illness Classification System (OIICS) 2.01 implemented for 2011 data forward. More on OIICS can be found at https://www.bls.gov/iif/oshoiics.htm.

Objectives

At the end of this course, students will be able to:

- Discuss and recognize the differences/similarities in Confined Spaces in General Industry and Construction
- Use and understand the Terms and Definitions used within CSE application
- Understand the components of PRCS and employer responsibilities

Objectives

- Recognize and define a Confined Space and/or Permitted Space and incorporate that knowledge in your investigations

- Understand the required components of a PRCS such as Written Program, Alternate Entry, and Air Monitoring

Scope

1926.1201a / 1910.146

Construction Standard

- Standard contains practices and procedures to protect workers engaged in construction activities at a worksite with one or more confined spaces

General Industry Standard

- Standard contains practices and procedures to protect workers engaged in general industry from the hazards of entry into permit-required confined spaces.

Enforcement

- NC adopted the OSHA Confined Spaces in Construction standard verbatim
  - Effective date of October 2, 2015
  - Delayed enforcement of some sections until January 8, 2016
  - Now in full effect under Subpart AA 1926.
  - In comparison,1910.146 became effective on Nov 4, 1994.
- CPL 02-00-100 Confined Spaces-PRCS space inspection instructions for CSHO's.
- **NO CSHO is to enter a CS/ PRCS.**

Exceptions

1910.146(a)

- **1910.146(a),** excludes the General Industry Standard from agriculture, construction, and shipyard employment.

Exceptions

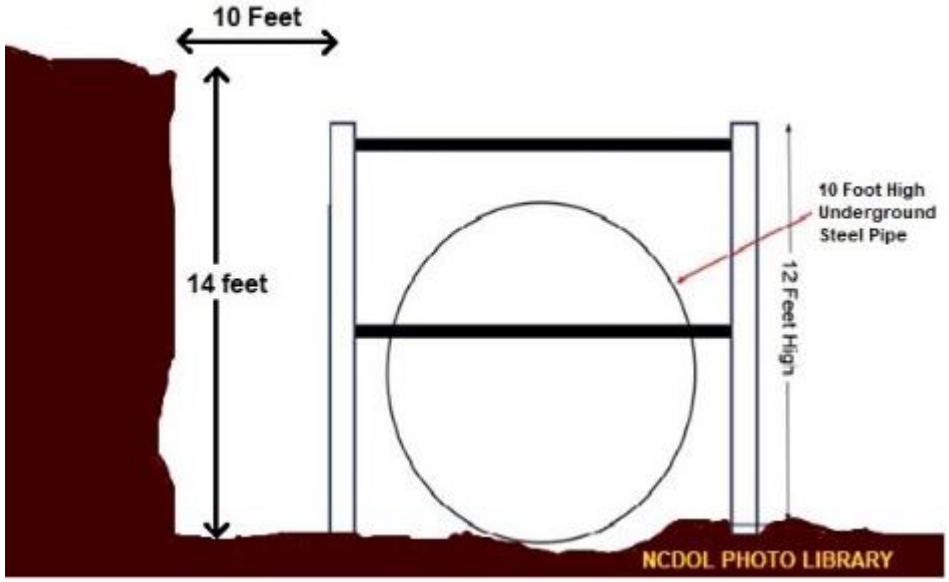
1926.1201(b)

- **1926.1201(b)** this standard does not apply to construction work in the following standards which have their own parts:
  - 1926 Subpart P –Excavations
  - 1926 Subpart S -Underground Construction, Caissons, Cofferdams and Compressed Air
  - 1926 Subpart Y -Diving

Exception example

1926.1201(b)

- 1926 Subpart P - Excavations
  - If there is a confined space within an **excavation**, such as a sewer pipe, and a worker enters the pipe to perform work**, it is covered by both 1926 Subpart AA and P** above.
  - **NO CHSO** entry allowed in the pipe.



Exception example

1926.1201(b)

- 1926 Subpart S - Underground Construction, Caissons, Cofferdams and Compressed Air (construction)
  - Work done in an underground space that does not involve altering the “structure” of the space is covered by **1926 Subpart AA** (such as installing equipment)

Definitions

1910.146(b),1926.1202

- Confined Space - a space that:
  - Is large enough and so configured that an employee can bodily enter and perform assigned work
  - Has limited or restricted means for entry or exit; ***and***
  - Is not designed for continuous employee occupancy

* www.osha.gov/laws-regs/standardinterpretation/1995-10-27

Would these meet the CS definition?

Definitions (continued):

- "Permit-required confined space (permit space)" is a confined space that has one or more of the following characteristics:
  - Hazardous atmosphere
  - Internal configuration (inwardly converging walls, sloping floors)
  - Engulfment hazard
  - Recognized serious safety or health hazard

Definitions

1926.1202 / 1910.146(c)

- Competent person

  One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has the authorization to take prompt corrective measures to eliminate them.

  – In the 1910's the employer shall evaluate using Appendix A.

Definitions

1910.146(b)

- Entry Supervisor (employer)
  - Means the person(such as the employer, foreman, or crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned for, for authorizing entry and overseeing entry operations, and for terminating entry as required by this section.

Definitions

1910.146(b) / 1926.1202

- Entry
  - Action by which any part of a person passes through an opening into a **permit-required confined space**
  - Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of entrant's body breaks the plane of an opening into the space, whether or not such action is intentional or any work activities are actually performed in the space

Definitions

1926.1202

- Control
  - Action taken to reduce level of any hazard inside a confined space using engineering methods (for example, by ventilation), and then using these methods to maintain the reduced hazard level

    Note: **Personal protective equipment is not considered a control.**

- Controlling contractor
  - Employer that has overall responsibility for construction at worksite.

Definitions

1926.1202

- Host employer
  - Employer that owns or manages the property where construction work is taking place
- Monitor or monitoring
  - Process used to identify and evaluate hazards after an authorized entrant enters space
- Early-warning system*
  - Method used to alert authorized entrants and attendants that an engulfment hazard may be developing

Definitions

1926.1202

- Physical hazard
  - An existing or potential hazard that can cause death or serious physical damage
    - » Examples include, but are not limited to:
      - Explosives (as defined by 1926.914(n));
      - Mechanical, electrical, hydraulic and pneumatic energy; radiation; temperature extremes; engulfment; noise; and inwardly converging surfaces
    - » Includes chemicals that can cause death or serious physical damage through skin or eye contact (rather than through inhalation)

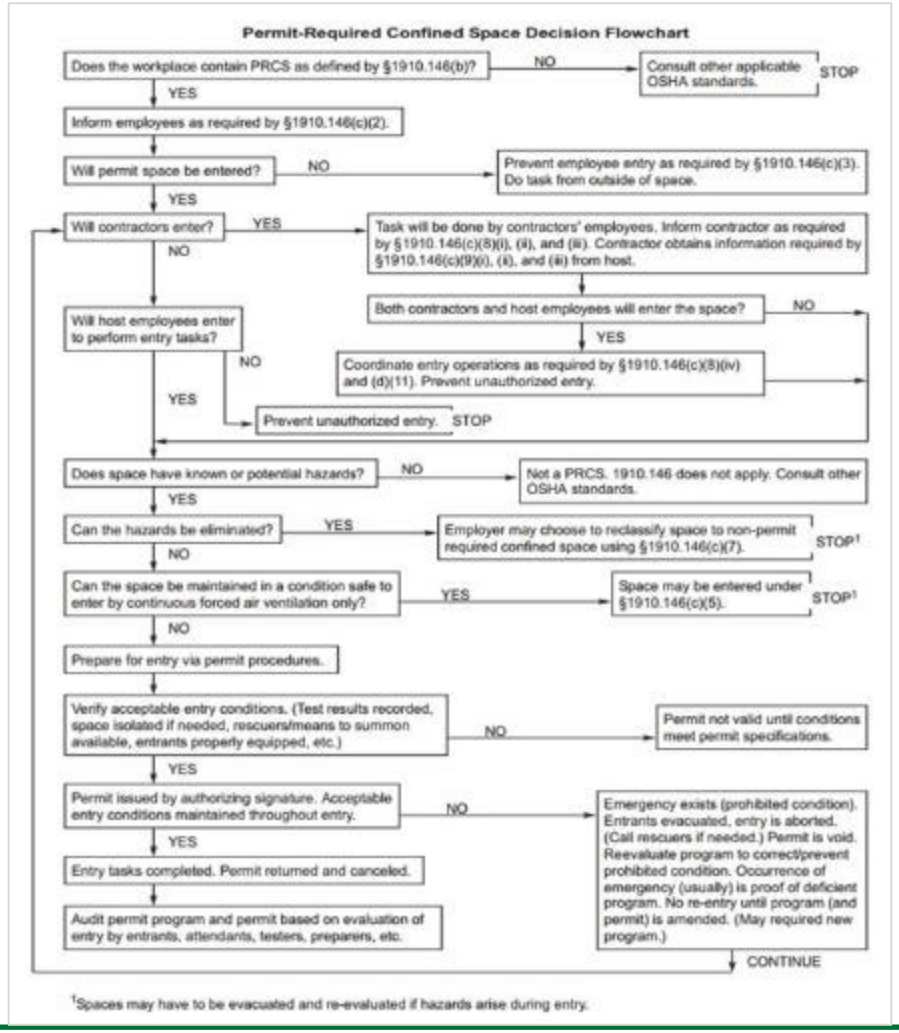
Responsible persons

- General Industry **1910.146**
  - The qualified person normally determines CS/PRCS locations
  - A management team member (Supervisor, Maintenance Lead, Safety person) would be responsible for any entries into the PRCS.
  - All spaces that are Confined or Permit Required must be marked and categorized and are typically static without change in location.

Responsible persons

- Construction **1926.1200**
  - The General Contractor or Host Employer, Competent Person, and Subcontractors are all involved in performing and responsible for PRCS entry on a construction site.
  - The competent person, however, is the key lead person responsible at the worksite.

Permit Space Decision Making Tool



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General Requirements

1926.1203(a)

- Prior to work starting, a competent person must evaluate the worksite
  - Identify confined spaces, including permit spaces
- When there are changes in use or configuration to the non-permit space
  - Competent person must reevaluate the space and reclassify it, if necessary

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CONFINED SPACE
DO NOT ENTER

General Requirements

1926.1203(b)

- Competent person must identify all permit spaces - those workers will enter, and those they will not enter
- **All permit spaces** must be posted/identified in some way

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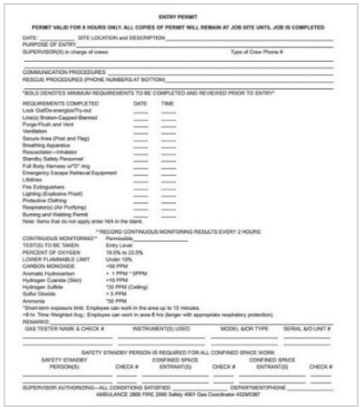
General Requirements

1926.1203(c)-(d)

- If workers will not perform work in permit spaces
  - Employer must ensure that workers are prevented from entering permit spaces
- Employers who have determined that workers will perform work in permit spaces must develop a permit space program



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General Requirements

1926.1203(e)(1)(i)

- Employers may use **alternate procedures** for entering a permit space when only hazard is actual or potential atmosphere
  - Must demonstrate that all physical hazards in the space are eliminated or isolated through engineering controls

General Requirements

1926.1203(e)(1)(ii)-(vi)

- Employers must:
  - Demonstrate that continuous forced air ventilation alone is sufficient to maintain that permit space safe for entry
  - Develop monitoring and inspection data
  - Document the determinations and supporting data and make them available to each employee who enters the permit space
- Permit space can be reclassified after all hazards within the space have been eliminated. **1926.1203(g)/1910.146(c)(7)**

General Requirements

1926.1203(e)(2)(ii)

- If entrance covers are removed, the opening must:
  - Be immediately guarded by a railing or temporary cover or barrier to prevent an accidental fall through the opening
  - Protect each employee working in the space from foreign objects entering the space

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General Requirements

1926.1203(e)(2)(v)(A)-(C)

- Continuous forced air ventilation
  - Employees must not enter the space until forced air ventilation has eliminated any hazardous atmosphere
  - Be so directed as to ventilate immediate areas where an employee is/will be present within the space and continue until all employees have left space
  - Air supply for forced air ventilation must be from a clean source and must not increase hazards in space

General Requirements

1926.1203(e)(2)(ix)

- Employers who allow workers to enter a permit space using *alternate entry procedures*
  - Must verify that space is safe for entry with the following:
    - » Written certification that contains date
    - » Location of space *and*
    - » Signature of the person providing certification

Alternate Entry Certificate	Date: 8/30/2016 Time: 8:00am
1926.1203(e) Space Location:_____	
I certify that all the non-atmospheric hazards have been eliminated and the atmospheric hazards are being controlled by forced air ventilation.	
Supervisor's Name: _____	Signature:_____

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General Requirements

1926.1203(f)

- When there are changes in use or configuration of a non-permit confined space that might increase hazards to entrants, *or:*
  - Some indication that initial evaluation of space may not have been adequate
- Each entry employer must have a competent person reevaluate that space and, if necessary, reclassify it as a permit-required confined space

General Requirements

1926.1203(g)

- 1926.1203(g) A space classified by an employer as a permit-required confined space may only be reclassified as a non-permit confined space when a competent person determines that all applicable requirements have been met

- 1910.146(c)(7)

General Requirements

1926.1203(h)(1)

- Permit space entry communication and coordination
- Before entry operations begin, host employer must provide the following information:
  - Location of each known permit space
  - Hazards or potential hazards in each space or reason it is a permit space
  - Precautions that host employer or any previous controlling contractor or entry employer implemented for protection of employees in permit space

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General Requirements

1926.1203(h)(2)(i)-(ii)

- Before entry operations begin, controlling contractor must:
  - Obtain host employer's information about permit space hazards and previous entry operations, *and*
  - Provide the following information to each entity entering a permit space and any other entity at worksite whose activities could foreseeably result in a hazard in permit space

General Requirements

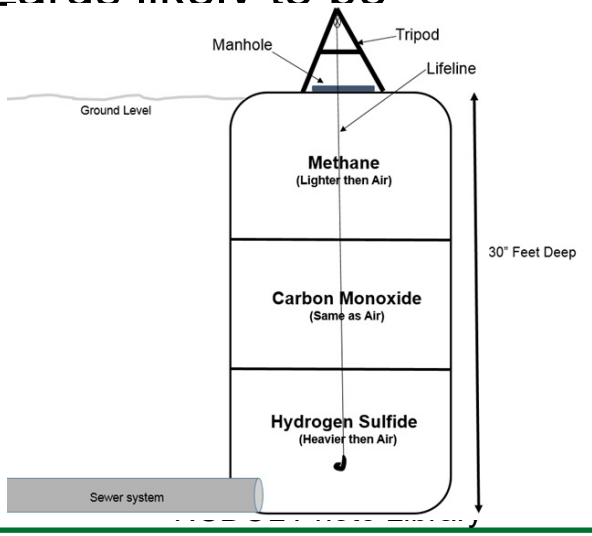
1926.1203(h)(2)(ii)(A)-(C)

- Information received from host employer
- Any additional information the controlling contractor has about subjects (permit space location, hazards)
- Precautions host employer, controlling contractor, or other entry employers implemented for protection of employees in permit spaces

General Requirements

1926.1203(h)(3)(i)-(ii)

- Before entry operations begin, each entry employer must:
  - Obtain all controlling contractor's information regarding permit space hazards and entry operations, *and*
  - Inform controlling contractor of permit space program that entry employer will follow, including any hazards likely to be confronted or created in each permit space



General Requirements

1926.1203(h)(4)(i)-(ii)

- Controlling contractor and entry employer(s) must coordinate entry operations when:
  - More than one entity performs permit space entry at same time, *or*
  - Permit space entry is performed at same time that any activities that could foreseeably result in a hazard in permit space are performed

General Requirements

1926.1203(h)(5)

- After entry operations, controlling contractor must debrief each entity that entered a permit space regarding the permit space program and any hazards confronted or created in permit space(s) during entry operations
  - Entry employer must inform controlling contractor in a timely manner of the permit space program and of any hazards confronted or created in permit space(s) during entry operations, *and*
  - Controlling contractor must apprise host employer of information exchanged with entry entities

General Requirements

1926.1203(i)

- If there is no controlling contractor present at worksite, requirements for, *and role of,* controlling contactors must be fulfilled by host employer or other employer who arranges to have employees of another employer perform work that involves permit space entry

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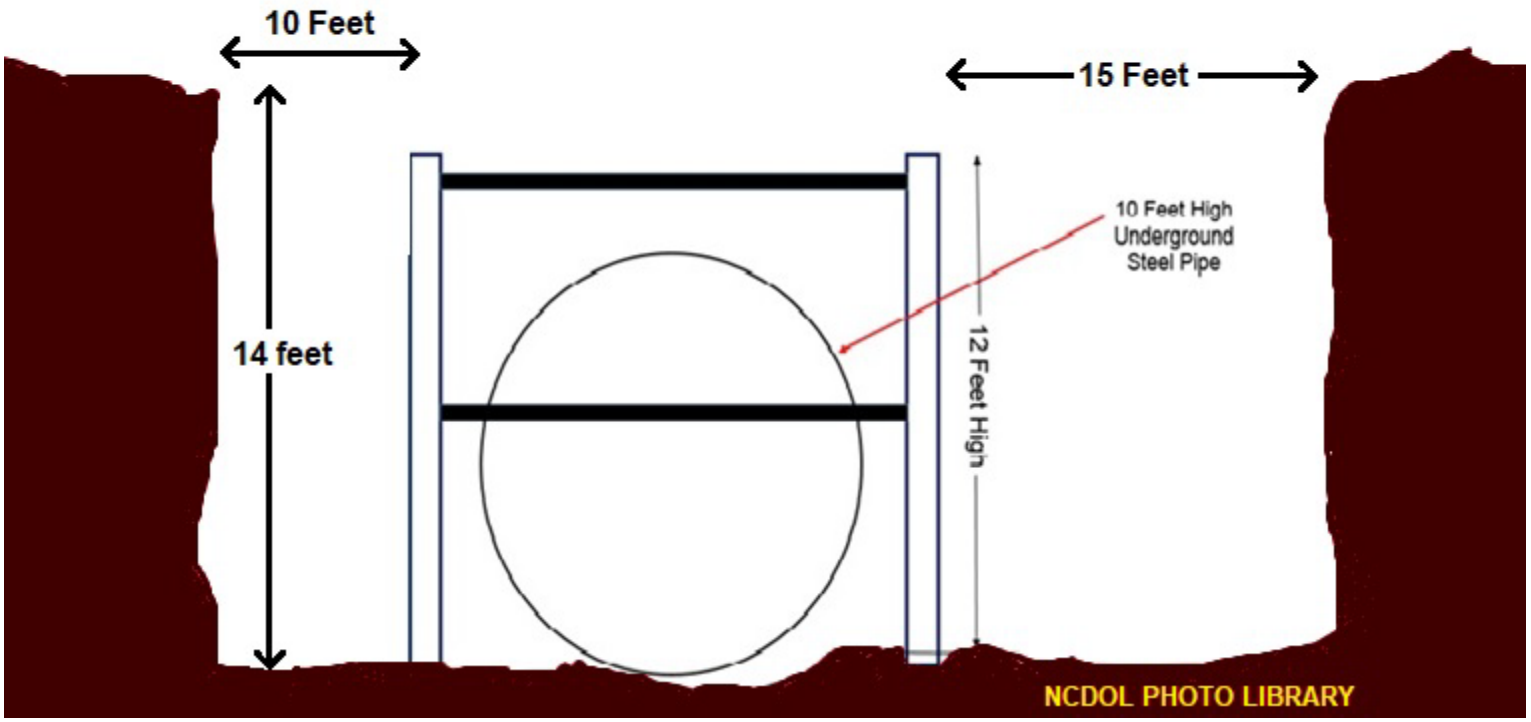
Discussion (Trench or Excavation)



Confined Spaces Examples

- Storage tanks
- Manholes and sewers
- Grain storage bins
- Boilers
- Ducts
- Tank cars

Confined Spaces Examples

- Sewers
- Utility vaults
- Pipelines
- Equipment and machinery
- Tunnels

Confined Space – PRCS Hazards

- An Oxygen level of 19.5% - 21% is ideal
- A deficient or enriched oxygen atmosphere can create additional hazards
  - > 23.5% results in an explosion
  - 17% results in accelerated heart rate
  - 14-16% results in rapid fatigue/respiration
  - 6% results in loss of consciousness/death
- Flammable atmospheres (>10% of LFL)
- Toxic atmospheres (> PEL and/or STEL or IDLH)

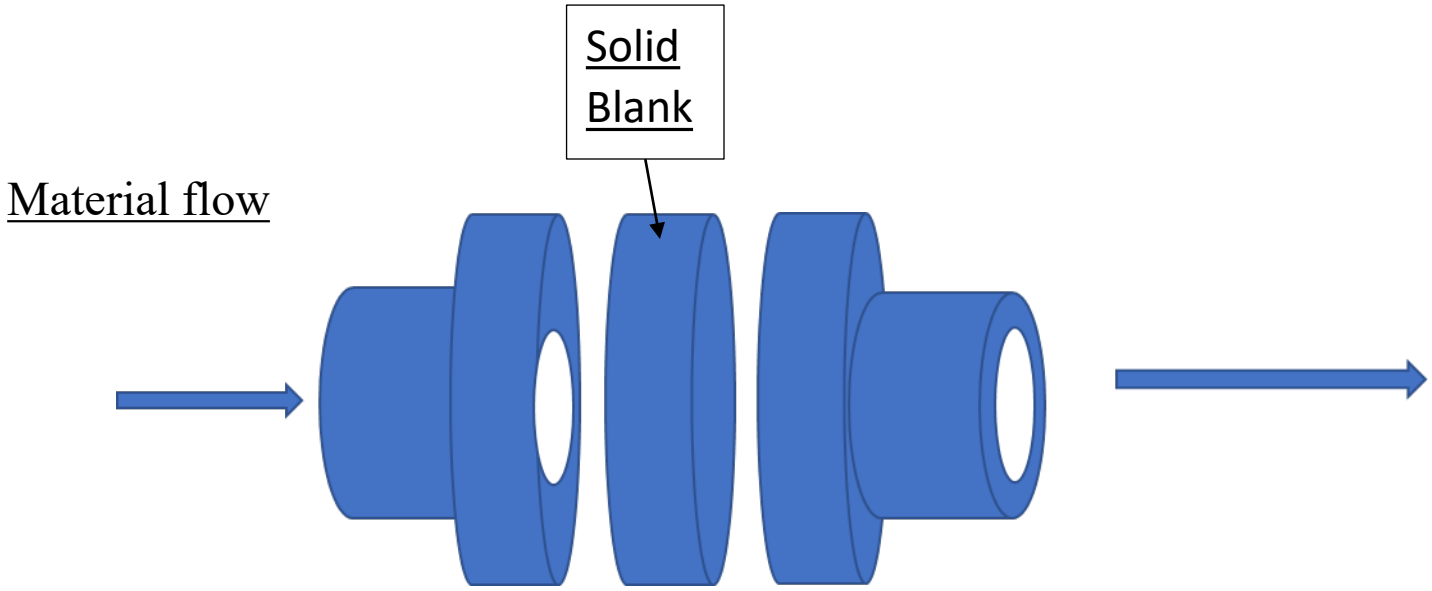
Confined Space – PRCS Hazards

- General/physical (noise, entrapment, engulfment, temperature)
- Mechanical (moving parts)
- Electrical

Controlling Confined Space Hazards

- Locking out moving parts
- De-energizing electrical parts or wiring
- Blocking (blanking) steam pipes and product
  - in-feeding pipes must meet ASME B31.3, paragraph 304.5.2b
- Draining or pumping out liquid contents
- Air monitoring and ventilating

Blind/Blanked Steam Pipe Dwg



Permit Space Signs 1910.146(c)(2) / 1926.1203(b)1

- In Gen. Ind. the employer shall inform exposed employees by posting signs or other equally effective means.
- In Construction the competent person identifies, evaluates, and tests and informs.

Permit Space Non-Entry 1910.146(c)(2)/1926.1203(b)1

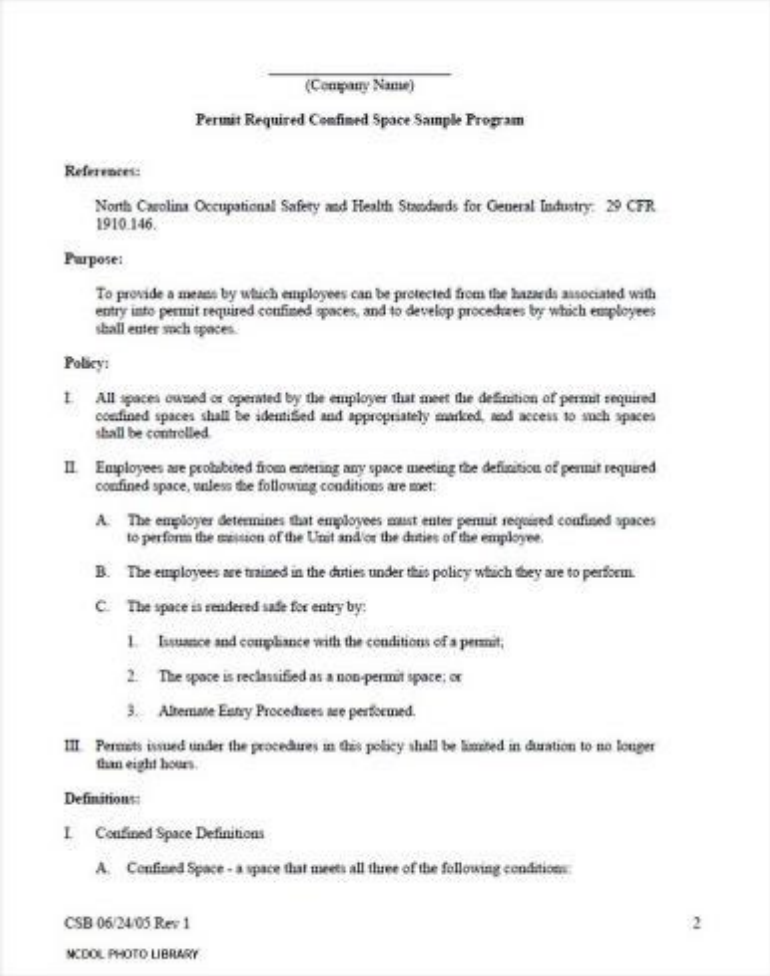
- If employer decides its employees will not enter permit spaces, employer shall take effective measures to prevent employees from entering permit spaces

- Both Const. / Gen Ind.

Written Permit Space Program

1910.146(c)(4)

- If employees enter permit spaces, the employer shall develop and implement a written permit space program



_____
(Company Name)

Permit Required Confined Space Sample Program

References:

North Carolina Occupational Safety and Health Standards for General Industry: 29 CFR 1910.146.

Purpose:

To provide a means by which employees can be protected from the hazards associated with entry into permit required confined spaces, and to develop procedures by which employees shall enter such spaces.

Policy:

I. All spaces owned or operated by the employer that meet the definition of permit required confined spaces shall be identified and appropriately marked, and access to such spaces shall be controlled.

II. Employees are prohibited from entering any space meeting the definition of permit required confined space, unless the following conditions are met:

A. The employer determines that employees must enter permit required confined spaces to perform the mission of the Unit and/or the duties of the employee.

B. The employees are trained in the duties under this policy which they are to perform.

C. The space is rendered safe for entry by:

1. Issuance and compliance with the conditions of a permit;

2. The space is reclassified as a non-permit space; or

3. Alternate Entry Procedures are performed.

III. Permits issued under the procedures in this policy shall be limited in duration to no longer than eight hours.

Definitions:

I. Confined Space Definitions

A. Confined Space - a space that meets all three of the following conditions:

CSB 06/24/05 Rev 1 2

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Written Permit Space Program 1926.1204/1910.146(d)

- Provide measures and procedures:
  - Prevent unauthorized entry
  - Identify permit space hazards
  - Ensure implementation for safe entry
  - Provide, maintain and ensure proper use of equipment
  - Evaluate permit space conditions
  - Provide for at least one attendant
  - Monitoring multiple spaces

Written Permit Space Program 1910.146(d)

- Designate active the roles:
  - Attendants
  - Entry supervisors
  - Entrants
- Summoning rescue and other emergency operations
- System for preparation, issuance, use and cancellation entry permit

Written Permit Space Program

1910.146(d)

- System for concluding entry after entry completion
- Coordination with multiple employers
- System to review entry operations and permit space program

ENTRY PERMIT

PERMIT VALID FOR 8 HOURS ONLY. ALL COPIES OF PERMIT WILL REMAIN AT JOB SITE UNTIL JOB IS COMPLETED

DATE: _____ SITE LOCATION and DESCRIPTION _____

PURPOSE OF ENTRY _____

SUPERVISOR(S) in charge of crews _____ Type of Crew Phone #

_____

_____

COMMUNICATION PROCEDURES _____

RESCUE PROCEDURES (PHONE NUMBERS AT BOTTOM) _____

_____

"BOLD DENOTES MINIMUM REQUIREMENTS TO BE COMPLETED AND REVIEWED PRIOR TO ENTRY"

REQUIREMENTS COMPLETED	DATE	TIME
Lock Out/De-energize/Try-out	____	____
Line(s) Broken-Capped-Blanked	____	____
Purge-Flush and Vent	____	____
Ventilation	____	____
Secure Area (Post and Flag)	____	____
Breathing Apparatus	____	____
Resuscitator—Inhalator	____	____
Standby Safety Personnel	____	____
Full Body Harness w/"D" ring	____	____
Emergency Escape Retrieval Equipment	____	____
Lifelines	____	____
Fire Extinguishers	____	____
Lighting (Explosive Proof)	____	____
Protective Clothing	____	____
Respirator(s) (Air Purifying)	____	____
Burning and Welding Permit	____	____

Note: Items that do not apply enter N/A in the blank.

**RECORD CONTINUOUS MONITORING RESULTS EVERY 2 HOURS

CONTINUOUS MONITORING**	Permissible _____
TEST(S) TO BE TAKEN	Entry Level
PERCENT OF OXYGEN	19.5% to 23.5%
LOWER FLAMMABLE LIMIT	Under 10%
CARBON MONOXIDE	*50 PPM
Aromatic Hydrocarbon	* 1 PPM * 5PPM
Hydrogen Cyanide (Skin)	*10 PPM
Hydrogen Sulfide	*20 PPM (Ceiling)
Sulfur Dioxide	* 5 PPM
Ammonia	*50 PPM

*Short-term exposure limit: Employee can work in the area up to 15 minutes.
*8 hr. Time Weighted Avg.: Employee can work in area 8 hrs (longer with appropriate respiratory protection).

REMARKS: _____

GAS TESTER NAME & CHECK #	INSTRUMENT(S) USED	MODEL &/OR TYPE	SERIAL &/O UNIT #
_____	_____	_____	_____
_____	_____	_____	_____

SAFETY STANDBY PERSON IS REQUIRED FOR ALL CONFINED SPACE WORK

SAFETY STANDBY PERSON(S)	CHECK #	CONFINED SPACE ENTRANT(S)	CHECK #	CONFINED SPACE ENTRANT(S)	CHECK #
_____	____	_____	____	_____	____
_____	____	_____	____	_____	____

SUPERVISOR AUTHORIZING—ALL CONDITIONS SATISFIED _____ DEPARTMENT/PHONE _____

AMBULANCE 2800 FIRE 2900 Safety 4901 Gas Coordinator 4529/5387

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Confined Space Entry Hierarchy

- No “permit” space
  - Entry permitted only if no hazards exist or *all* hazards are eliminated without entry
- Alternate entry procedures
  - Only in spaces with controlled atmospheric hazards
- Written **permit system**
  - Required for *any* high hazard space

Alternate Entry

1910.146(c)(5)/1926.1203(e)(2)

- Employers may use **alternate procedures** for entering a permit space when only hazard is actual or potential atmosphere
  - Must demonstrate that all physical hazards in the space are eliminated or isolated through engineering controls
  - Must verify that space is safe for entry with the following:
    - » Written certification that contains date
    - » Location of space *and*
    - » Signature of the person providing certification

Alternate Entry

1910.146(c)(5)/1926.1203(e)(2)

- Employees must be trained
- Atmosphere tested before and during entry
- Continuous forced air ventilation
- If a hazardous atmosphere is detected, or ventilation stops, the space must be promptly exited

General Requirements

1926.1203(e)(2)(v)(A)-(C)

- Continuous forced air ventilation
  - Employees must not enter the space until forced air ventilation has eliminated any hazardous atmosphere
  - Be so directed as to ventilate immediate areas where an employee is/will be present within the space and continue until all employees have left space
  - Air supply for forced air ventilation must be from a clean source and must not increase hazards in space

Permit System

1910.146(e), 1926.1206

- Written procedure for preparing and issuing permits for entry and returning permit space to service
- Requirements:
  - Document completion of required measures
  - Permit availability
  - Supervisor signature
  - Activity (job) duration
  - Permit termination/cancellation (1 year)

Entry Permit

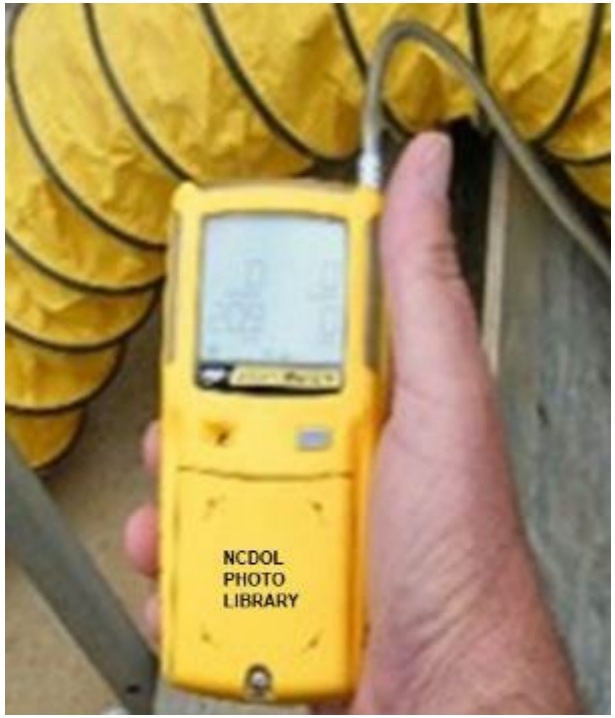
1910.146(f), 1926.1206

- Entry permit shall identify:
  - Space to be entered
  - Purpose of entry
  - Date and duration
  - Authorized entrants
  - Personnel (attendant and supervisor)
  - Hazards within the space
  - Isolation of space
  - Acceptable entry conditions

Entry Permit

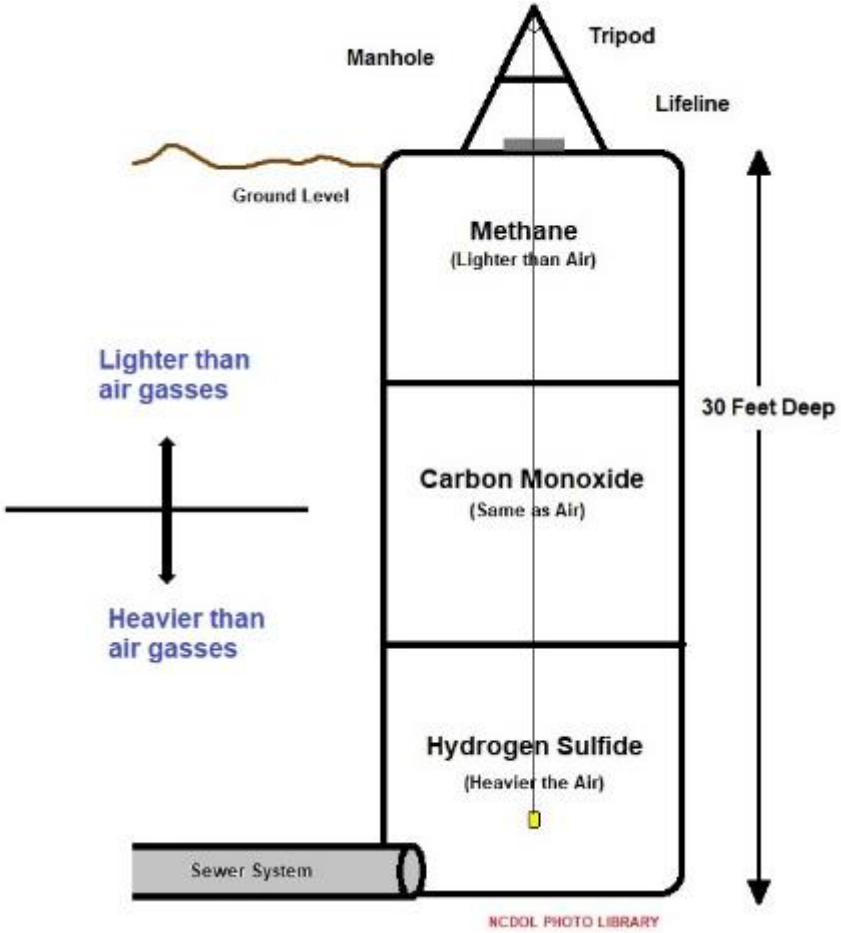
1910.146(f)/1926.1206

- Additional requirements
  - Air monitoring test results
  - Specifies safety equipment/PPE
  - Methods used to control the hazards
  - Communication procedures
  - Rescue and emergency services
    - » *Name and telephone number of the rescue service*



Air Monitoring and Ventilation

Methane	0.55
Ammonia	0.59
Carbon Monoxide	0.96
Nitrogen	0.97
AIR	1.0
Hydrogen Sulfide	1.2
Carbon Dioxide	1.5
Gasoline	3-4
Jet Fuel	4-7



Air Monitoring and Ventilation

Training

1910.146(g), 1926.1207

- Employees must acquire the understanding, knowledge and skills necessary for the safe performance of duties assigned
  - Before first assigned to duties
  - Before change in assigned duties
  - When change in operations
  - Employee proficiency
  - Certification of training

Assigned Duties

1910.146(h)-(j)/1926.1208

- **Authorized entrant:** Employee(s) who enter the permit space
- **Attendant:** Individual stationed outside space who monitors entrant(s)
- **Entry supervisor:** Person responsible for planning, authorizing, and terminating entry

Authorized Entrant

1910.146(h), 1926.1208

- Knowledge of hazards in permit space
- Proper use of equipment
- Communication methods
- When to alert attendant
- When to exit

Attendants

1910.146(i) vs. 1926.1209

- Knowledge of hazards in permit space
- Aware of behavioral effects of exposure
- Maintains an accurate count of entrants
- Remains outside permit space during operations
- Communicates with entrants
- Monitors activities inside and outside space
- Summons rescue and emergency services

Attendants

1910.146(i)/1926.1209

- Prevents unauthorized persons from approaching permit space
- Performs non-entry rescues
- Performs no other duties that might interfere with primary duty
  - To monitor and protect entrants

Attendants and Non-entry Rescue

Entry Supervisors

1910.146(j) & 1926.1210

- Knowledge of hazards in permit space
- Verifies completion of all tests; procedures and equipment in place as specified by permit
- Terminates and cancels permit as required
- Verifies rescue services availability and operable summons capability
- Removes unauthorized individuals
- Ensures entry operations remain intact

Rescue & Emergency Services

1910.146(k) & 1926.1211

- Entry rescue
  - Use rescue and emergency services
  - Use own employees
- Non-entry rescue
  - Entrants use retrieval systems or methods

Rescue & Emergency Services

1910.146(k) & 1926.1211

- Using rescue and emergency services(
  - Evaluate prospective services ability to perform the summons in a timely and proficient manner
  - Identify the hazards in the space
  - Practice mock rescues

Rescue & Emergency Services

1910.146(k) & 1926.1211

- Rescue using in-house employees
  - Trained to perform assigned rescue duties
  - Trained in basic first aid and CPR
  - Practice rescue at least annually
    - » ***Note:*** *If using air-supplying respirators, additional training is required per 29 CFR 1910.134 (Respiratory Protection)*

Rescue & Emergency Services

1910.146(k) & 1926.1211

- Non-entry rescue
  - Retrieving an entrant from a confined space without going into the space
  - Entrants must wear a chest or full body harness with retrieval line attached
  - If non-entry rescue is not successful then the rescue team must be given full rescue equipment to enter the site. 1926.1211(c)

Additional Information

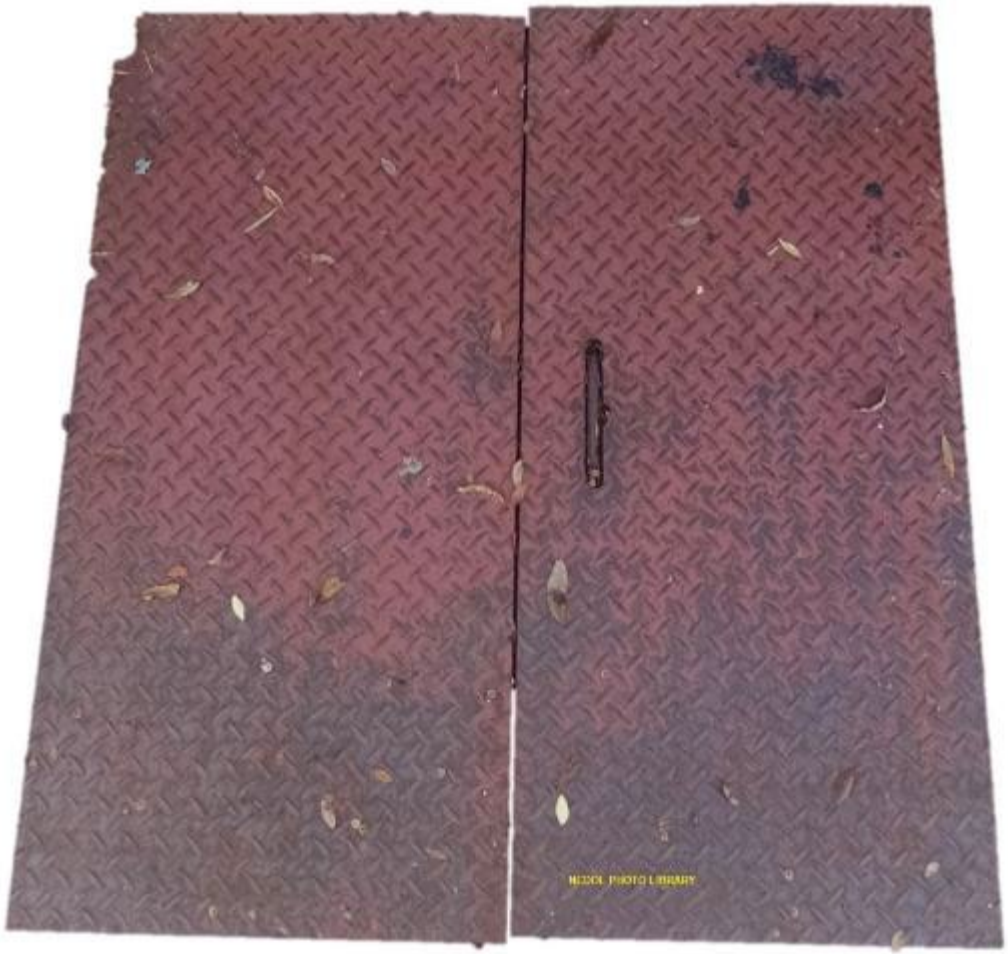
Appendices

- **A:** Permit-required Confined Space Decision Flow Chart
- **B:** Procedures for Atmospheric Testing
- **C:** Examples of Permit-required Confined Space Programs
- **D:** Sample Permits
- **E:** Sewer System Entry
- **F:** Non-Mandatory: Rescue Team or Rescue Service Evaluation Criteria

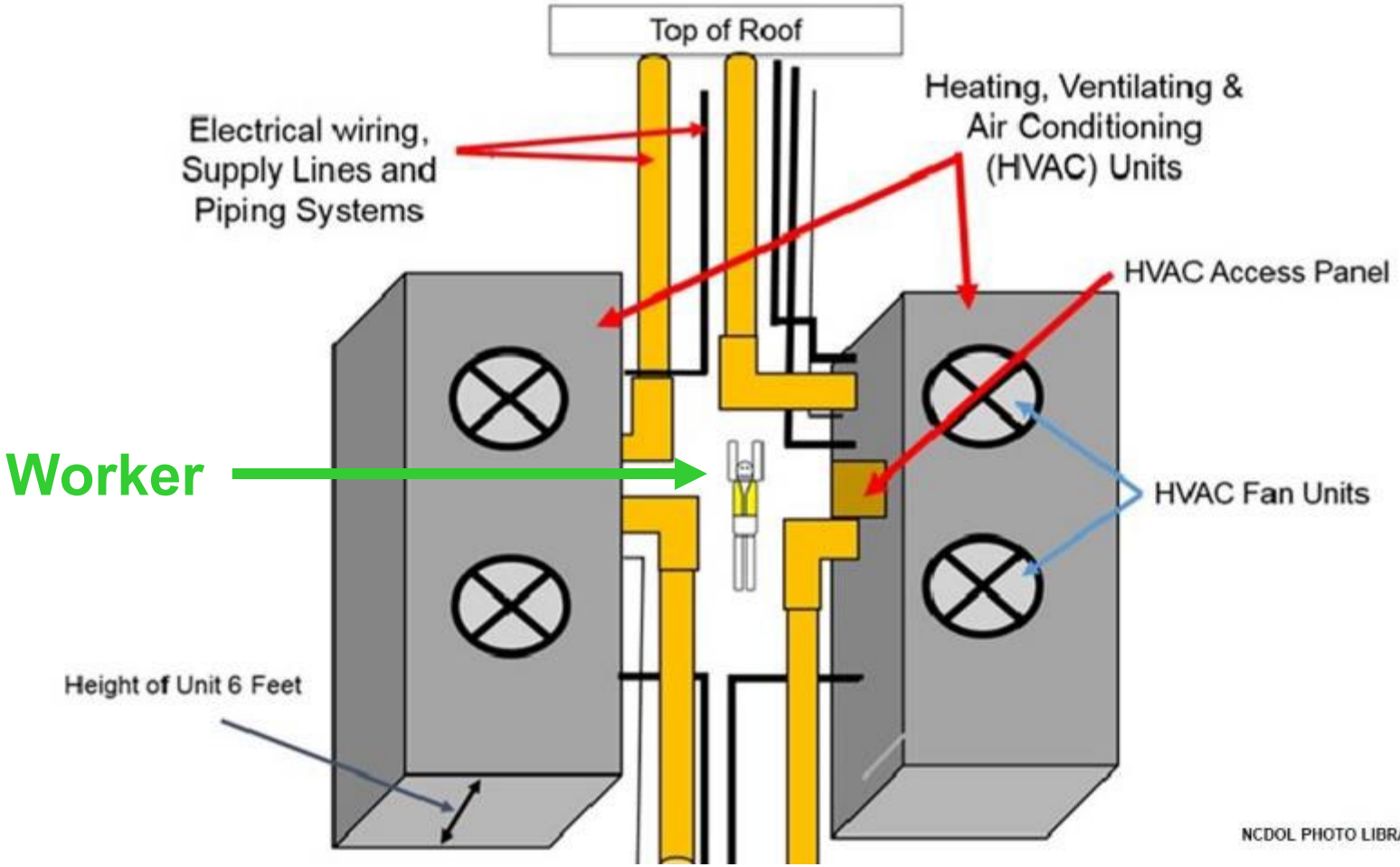
Is this a Confined Space?

Is this a Confined Space?

Is this a Confined Space?



Is this a Confined Space?



Is this a Confined Space?

Is this a Confined Space?

Is this a Confined Space?

NORTH CAROLINA OCCUPATIONAL HEALTH AND SAFETY
105 COURSE TOP 10 OSHA STANDARDS CITED
FFY 2017 to FFY 2019

	OSHA Standard Cited		Total Violations	Serious Violations
1	1910.176- 179 - Material Handling (Storage, Powered Industrial Trucks & Cranes)		444	328
2	1910.178 - Powered Industrial Trucks		439	312
3	1910.36- 37 - Exit Routes (Design, Construction & Maintenance)		313	59
4	1926.650- 652 - Excavations (Specific Requirements & Protectives Systems)		187	169
5	1926.300 - Tools: Hand and Powered		71	64
6	1910.146 - Permit-Required Confined Spaces		70	63
7	1910.106 - Sub Part H Flammable Liquids		66	51
8	1926.600- 604 - Motor Vehicle, Mechanized Equipment and Marine Operations (Equipment, Material Handling & Site Clearing)		58	58
9	1926.700- 706 - Concrete and Masonry Construction (General Requirements, for Masonry Construction & for Cast in Place Concrete)		35	35
10	1910.119 - Process Safety Management of Highly Hazardous Chemicals		17	17

Top Citations for 1910/1926:

PROGRAM related:
1910.146(c)(1) to evaluate the space for hazards
1910.146(c)(2) to inform employees of hazards
1910.146(g)(1) to provide training to the employees
1910.146(d)(5)(i) to test atmosphere conditions

PERMIT related:
1926.1205(a) to have a entry permit completed
1926.1205(b) to have a signed entry permit
1926.1206(h) to have hazards entered and identified
1926.1206(j) to have acceptable entry conditions
1926.1206(k) to have results of tests and monitoring

Summary

- In this course, we covered:
  - Confined spaces in general industry/construction
  - The difference between a confined space and a permit-required confined space
  - How to determine if a hazard exists within the confined space
  - Responsibilities for the entrant, attendant and entry supervisor, and host employer
  - Rescue options and timing

KNOWLEDGE CHECK

- What is the first thing to check before an employee enters a Confined Space?

  a) flammables(LFL)
  b) oxygen

KNOWLEDGE CHECK

b) oxygen

KNOWLEDGE CHECK

- What is the Ideal range for Oxygen in the space?

  a) 19.5% to 21%
  b) 10% to 15%
  c) 5% to 10%

KNOWLEDGE CHECK

a) 19.5% to 21% oxygen

KNOWLEDGE CHECK

- What is the response time required by Fed OSHA to respond to an incident?

KNOWLEDGE CHECK

4 minutes

- While the standard does not prescribe a number of minutes, OSHA has long interpreted the term "near proximity" to mean that emergency care must be available within no more than 3-4 minutes from the time workplace entry or rescue begins.

- https://www.osha.gov/laws-regs/standardinterpretations/2007-02-05

KNOWLEDGE CHECK

- What should be some of the things a CSHO asks for when speaking to the competent person/entry supervisor about a Confined Space entry?
  - a) atmosphere testing, permit, training records
  - b) competent person in charge, supervisor(host)
  - c) bump test / test gas results, equipment calibration
  - d) ALL the above

KNOWLEDGE CHECK

– d) ALL the above.

Thank You For Attending!

Final Questions?