

Subpart AA—Confined Spaces in Construction

Don Bryant Presenter

Became effective in Indiana February 4th, 2016

Confined Spaces in Construction

Objectives of this session:

- An overview of the rules
- The differences between the rule for
General Industry and Construction
- The definitions
- The hazards
- & The challenges

1926.1201 Scope

- ...employees engaged in **construction** activities at a worksite with one or more confined spaces
- The standard does not cover
 - Subpart P: Excavations
 - Subpart Y: diving
 - Subpart S: Underground construction, Caisson,
 - Cofferdams and compressed air, &

3/23/2016

Hrsafetyetc.com

Citizens Energy Group

3

What is a Confined Space?

Confined space means a space that:

- Is large enough and so configured that a person can bodily enter it
- Has limited or restricted means for entry and exit
- Is not designed for continuous occupancy

3/23/2016

Hrsafetyetc.com

Citizens Energy Group

4



More Confined Spaces



3/23/2016

Hrsafetyetc.com

Citizens Energy Group

7

Confined Space



3/23/2016

Hrsafetyetc.com

Citizens Energy Group

8

General Industry vs. Construction

- More detailed provisions requiring coordinated activities when there are multiple employers at the worksite.
 - Evaluate the work site (Competent Person)
 - Atmospheric monitoring (Continuous)
 - Monitoring of engulfment hazards
 - Suspension of a permit
 - Host employers & Controlling Contractors

3/23/2016

Hrsafetyetc.com

Citizens Energy Group

9

Permit Required Confined Space

At least one of the following hazards

LEL above 10%

Radiation

Engulfment

Sloped floors – entrapment hazard

Mechanical, electrical, hydraulic or pneumatic energy

Falls

Temp extremes

Noise

Any Serious health or safety hazard

3/23/2016

Hrsafetyetc.com

Citizens Energy Group

10

Alternate Entry Procedures

- All physical hazards are isolated or eliminated
- Only hazard is atmospheric
- Forced ventilation will make the space safe
- Monitoring

- Must Document:
 - Date, Location, Signature

3/23/2016

Hrsafetyetc.com

Citizens Energy Group

11

§1926.1202 Definitions

- Acceptable entry conditions
- Attendant
- Authorized entrant
- Competent person
- Controlling Contractor
- Engulfment
- Entry Employer
- Entry Permit

3/23/2016

Hrsafetyetc.com

Citizens Energy Group

12

\$1926.1206 Entry permit

Citizens Thermal
CONFINED SPACE ENTRY PERMIT
WORK ORDER # 33601

SECTION A: GENERAL INFORMATION

1. LOCATION/SPACE DESCRIPTION: _____

2. WORK TO BE PERFORMED IN SPACE: _____

3. ENTRY SUPERVISOR (ATTENDANT) PRINT NAME: _____

4. a. Evaluate the space conditions/characteristics and work activities performed in the space you are entering and in other spaces/areas that are connected to your confined space.
 b. Identify space conditions and work activities that present a hazard to your entrants. Determine severity of hazards and control exposure when necessary.
 c. Coordinate entry operation with other Citizens Thermal and contractor personnel who are working in either your confined space or spaces/work areas that are connected to your confined space.

5. DATE PERMIT ISSUED: _____ 6. PERMIT EXPIRATION DATE / TIME: _____

SECTION B: IDENTIFIED HAZARD CONDITIONS AND/OR ACTIVITIES (Serious physical and/or potential atmospheric health)

7. PLACE A CHECK IN THE SPACE AFTER ANY ITEM(S) IDENTIFIED AS PRESENT

a. Heat stress condition: _____	h. Fall from an elevation or through an opening in wall or floor: _____
b. Electrical and/or mechanical energy: _____	i. Airborne combustible dust: _____
c. Smoldering or burning material: _____	j. Use of chemicals: _____
d. Falling overhead objects: _____	k. Abrasive blasting: _____
e. Engulfment: _____	l. Barricade set up and in place: _____
f. Hot Work: _____	m. None: _____
g. Configuration hazard: _____	

8. Do any of the conditions or activities identified present the potential for the development of an atmospheric health hazard? Yes _____ No _____

THIS FORM MUST BE COMPLETED PRIOR TO HWS ENTRY AND UPDATED AS NEEDED.
 CONTINUED ON BACK

14. SIGNATURE OF ATTENDANT: _____

15. SIGNATURE OF ENTRANT(S): _____

16. EMERGENCY CONTACT OF ENTRANT: _____

17. COMMUNICATION PROCEDURES: VISUAL VOICED OTHER (SPECIFY): _____

18. AIR MONITORING EQUIPMENT USED: _____

19. AIR MONITOR TO BE SET UP AND READ: _____

20. ADDITIONAL AIR TESTING (SERIOUSLY IDENTIFIED ATMOSPHERIC HEALTH HAZARDS)

CONCENTRATION	ATMOSPHERIC RISK	TEST METHOD	TEST RESULT	TEST DATE	TEST TIME	TESTER	TESTER SIGNATURE
a. H ₂ S	< 10 ppm / 2.5%	_____	_____	_____	_____	_____	_____
b. CO	< 35 ppm	_____	_____	_____	_____	_____	_____
c. O ₂	19.5 - 23.5%	_____	_____	_____	_____	_____	_____
d. Other	_____	_____	_____	_____	_____	_____	_____

COMMENTS: _____

1926.1206 (a) (1) (i) (ii) (iii) (iv) (v) (vi) (vii) (viii) (ix) (x) (xi) (xii) (xiii) (xiv) (xv) (xvi) (xvii) (xviii) (xix) (xx) (xxi) (xxii) (xxiii) (xxiv) (xxv) (xxvi) (xxvii) (xxviii) (xxix) (xxx)

3/23/2016

Hrsafetyetc.com

Citizens Energy Group

13

SECTION A: GENERAL INFORMATION **WORK ORDER #: 33601**

1. LOCATION/SPACE DESCRIPTION: _____

2. WORK TO BE PERFORMED IN SPACE: _____

3. ENTRY SUPERVISOR (ATTENDANT) PRINT NAME: _____

4. a. Evaluate the space conditions/characteristics and work activities performed in the space you are entering and in other spaces/areas that are connected to your confined space.
 b. Identify space conditions and work activities that present a hazard to your entrants. Determine severity of hazards and control exposure when necessary.
 c. Coordinate entry operation with other Citizens Thermal and contractor personnel who are working in either your confined space or spaces/work areas that are connected to your confined space.

5. DATE PERMIT ISSUED: _____ 6. PERMIT EXPIRATION DATE / TIME: _____

SECTION B: IDENTIFIED HAZARD CONDITIONS AND/OR ACTIVITIES (Serious physical and/or potential atmospheric health)

7. PLACE A CHECK IN THE SPACE AFTER ANY ITEM(S) IDENTIFIED AS PRESENT

a. Heat stress condition: _____	h. Fall from an elevation or through an opening in wall or floor: _____
b. Electrical and/or mechanical energy: _____	i. Airborne combustible dust: _____
c. Smoldering or burning material: _____	j. Use of chemicals: _____
d. Falling overhead objects: _____	k. Abrasive blasting: _____
e. Engulfment: _____	l. Barricade set up and in place: _____
f. Hot Work: _____	m. None: _____
g. Configuration hazard: _____	

8. Do any of the conditions or activities identified present the potential for the development of an atmospheric health hazard? Yes _____ No _____

3/23/2016

Hrsafetyetc.com

Citizens Energy Group

14

SECTION C: AIR TESTING RECORD/IDENTIFIED ATMOSPHERIC HEALTH HAZARDS											
9. CONTAMINANT	10. UNSAFE RANGE	AIR TEST READING	DATE TIME	INITIALS OF TESTER	AIR TEST READING	DATE TIME	INITIALS OF TESTER	AIR TEST READING	DATE TIME	INITIALS OF TESTER	INITIALS OF TESTER
a. % O ₂	< 19.5% or > 23.5%										
b. % LEL	> 10%										
c. CO (Plant)	> 50 ppm										
CO (Distribution)	> 100 ppm										
d. H ₂ S	> 10 ppm										
e. Other:											
DO NOT ENTER SPACE IF ATMOSPHERIC HAZARDS ARE ABOVE THE SAFE RANGE (Contact the Safety Representative)											
SECTION D: EQUIPMENT/ELEMENTS NECESSARY TO PERFORM AUTHORIZED ENTRY											
11. PERSONAL PROTECTIVE EQUIPMENT				12. OTHER EQUIPMENT/ELEMENTS				REQUIRED		PRESENT	
								NO	YES	NO	YES
a. Protective Clothing				d. Barrier/Sign/Posting							
b. Head Protection				e. Fire Extinguisher							
c. Hand Protection				f. Retrieval Equipment							
d. Foot Protection				g. Communication Equipment							
e. Hearing Protection				h. Fall Protection							
f. Respiratory Protection				i. Material Lines Blocked, Blanked, Capped							
g. Eye Protection				j. Space Drained, Emptied (contents removed)							
12. OTHER EQUIPMENT/ELEMENTS				REQUIRED				PRESENT			
				NO				NO			
				YES				YES			
a. Lighting				k. Space Purged, Inert							
b. Spark-proof Tools				l. GFCI (Ground Fault Interrupter)							
c. Portable Ventilation				m. Hot Work Permit							
				n. Hold-Card/De-Energized							
13. ENTRY SUPERVISOR (ATTENDANT) PRINT NAME: _____											

**THIS FORM MUST BE COMPLETED PRIOR TO FIRST ENTRY AND UPDATED AS NEEDED.
CONTINUED ON BACK**

Form 231
Rev 12.2013

3/23/2016

Hrsafetyetc.com

Citizens Energy Group

15

14. SIGNATURE OF ATTENDANT(S)				15. SIGNATURE OF ENTRANT(S)			
a. _____	b. _____	c. _____	d. _____	a. _____	b. _____	c. _____	d. _____
e. _____	f. _____	g. _____	h. _____	e. _____	f. _____	g. _____	h. _____
16. EMERGENCY CONTACT INFORMATION							
IF ENTRY RESCUE IS REQUIRED CONTACT 911. EXPLAIN THE NATURE OF THE RESCUE NEEDED, THEN CONTACT THE PERRY K CONTROL ROOM (261-8804) OR WEST STREET CHILLED WATER CONTROL ROOM (236-6700).							
17. COMMUNICATION PROCEDURES							
<input type="checkbox"/> VERBAL <input type="checkbox"/> VISUAL <input type="checkbox"/> OTHER (EXPLAIN): _____							
18. IF SPACE IS EVACUATED EXPLAIN: _____							
SECTION E: AIR MONITORING EQUIPMENT USED							
19. PERFORM FRESH AIR SET UP AND BUMP TEST OR CALIBRATE BEFORE EACH DAYS USE.				20. AIR MONITOR ID(s)		21. DATE USED	
SECTION F: ADDITIONAL AIR TESTING RECORD/IDENTIFIED ATMOSPHERIC HEALTH HAZARDS							
22. CONTAMINANT	23. UNSAFE RANGE	AIR TEST READING	DATE TIME	INITIALS OF TESTER	AIR TEST READING	DATE TIME	INITIALS OF TESTER
a. % O ₂	< 19.5% or > 23.5%						
b. % LEL	> 10%						
c. CO (Plant)	> 50 ppm						
CO (Distribution)	> 100 ppm						
d. H ₂ S	> 10 ppm						
e. Other:							
COMMENTS: _____							

PERMIT CLOSED BY (ATTENDANT) SIGNATURE REQUIRED: _____							
DATE: _____ TIME: _____							

3/23/2016

Hrsafetyetc.com

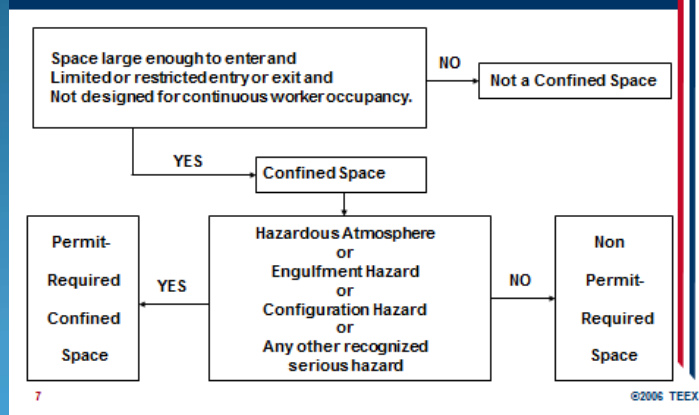
Citizens Energy Group

16

§1926.1202 Definitions

- Entry
- Entry supervisor
- Hazard - Physical
- Hazardous Atmosphere
- Host employer
- IDLH
- Rescue
- Retrieval systems

OS Categorizing Work Space



§1926.1203 General requirements

If the workplace contains one or more permit spaces, the Host, Entry or Controlling contractor must:

Inform by: Posting signs

Inform by: Non Posting

Keep unauthorized persons from entering

§1926.1204 Written Program

Each entry employer must:

- Plan to prevent unauthorized entry
- Identify and evaluate the hazards
- Develop and implement procedures, and practices for safe permit space entry
- Provide & test ventilation
- Protect from outside hazards
- Annual review of permits

§1926.1204 Written Program

Requirements

- Specify acceptable entry conditions
- Isolate the permit space and the physical hazards
- Eliminate or control atmospheric hazards
- Provide barriers to protect entrants from external hazards
- Provide test and monitoring equipment

3/23/2016

Hrsafetyetc.com

Citizens Energy Group

21

§1926.1204 Written Program

- Procedure to provide at least one trained attendant
- Develop and implement rescue procedures
- Have system for creating permits
- Provide early warning for engulfment
- Designate & train employees
- Annual review of Permits and upgrade as required
- Provide required communication equipment

3/23/2016

Hrsafetyetc.com

Citizens Energy Group

22

§1926.1207 Training

- The employer must provide training to each employee whose work is regulated by this standard
- At no cost to the employee
- Ensure that the employee possesses the understanding knowledge and skills necessary for the safe performance of their assigned duties

3/23/2016

Hrsafetyetc.com

Citizens Energy Group

23

§1926.1211 Rescue and emergency services

- Timely Rescue
- Available
- Capable
- Knowledgeable
- Trained
- Equipped

3/23/2016

Hrsafetyetc.com

Citizens Energy Group

24

Training

- 1st aid & CPR
- At least one real or simulated rescue per year (similar space)
- Non entry vs. entry rescue
- Must understand hazards and means to isolate or eliminate
- Retrain when hazards or other changes
- Knowledge of equipment
- When evidence of deviation

3/23/2016

Hrsafetyetc.com

Citizens Energy Group

25

- Questions?
- Comments?
- Gratuities

- Contact me at:
 - safetydonb@gmail.com
 - dbryant@citizensenergygroup.com
 - hrsafetyetc.com

3/23/2016

Hrsafetyetc.com

Citizens Energy Group

26