

## The Mid Atlantic Construction Safety Conference



# Confined Spaces

The Unique Hazards of Confined  
Space Rescue and Entry  
Presented by Bruce Donato  
of K&A First Aid and Safety



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## Ground Rules

- ▶ Bruce is not the expert – as a group we are the expert
- ▶ Please interrupt with comments and questions
- ▶ Questions will be posed to the group. Please do not be afraid to raise your hand with your answer – this is not meant to be judgmental but to increase awareness of common misunderstandings
- ▶ Bruce will choose the first person and that person choose the next (cannot be Bruce or the person who chose them)



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# Agenda

- ▶ Basics of Confined Spaces
  - What it is?
  - What is entry?
  - What makes something permit required?
- ▶ Unique hazards (confined spaces and rescue)
- ▶ What do you really know (urban legends)  
*Time Permitting*

## WHAT IS CONFINED SPACE

A confined space is an area large enough and so configured that an employee can enter bodily and perform their work

**AND**

A confined space has a limited or restricted means of entry or exit

**AND**

A confined space is not designed for continuous human occupancy.

\*\*\*To be considered a confined space, all three conditions must exist\*\*\*

## Bodily Enter vs. Breaking the Plane of Entry

### Bodily entry

- ▶ Whole body
- ▶ Can perform work



### Breaking the plane

- ▶ Intentional act
- ▶ Any part of the body
- ▶ May have an exemption for inspection if accidental entry cannot occur.



## Two Options for Entering Confined Spaces:

- ▶ **Permit-required confined space entry**
  - For hazardous or potentially hazardous confined space work
- ▶ **Non-permit confined space entry**
  - For non-hazardous confined space work

# Unique Confined Space Hazards

- ▶ The following slides are examples of hazards that may not be obvious.
- ▶ This is not intended to be a comprehensive list.
- ▶ Feel free to add in personal experiences, comments or ask questions about each situation.

## Excavations

- ▶ Utilities
- ▶ Oxygen
- ▶ Cave-in
- ▶ Equipment
- ▶ Asphyxiation
- ▶ Explosion
- ▶ **Rescue**
- ▶ **Retrieval**



## Fixed and Entry Ladders

- ▶ Stability
- ▶ Restriction
- ▶ **Retrieval**
- ▶ **Rescue**



## Portable Ladder Entries

- ▶ Stability
- ▶ Restriction
- ▶ **Retrieval**
- ▶ **Rescue**



# Sewers

- ▶ Storm water vs. sanitary
- ▶ Oxygen
- ▶ Biologicals
- ▶ Isolation
- ▶ Hazardous atmosphere
- ▶ Explosion
- ▶ Engulfment
- ▶ Horizontal Movement
- ▶ **Rescue**
- ▶ **Retrieval**



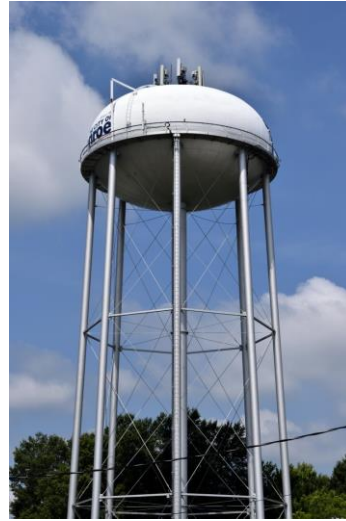
# Secure Facilities

- ▶ Depth of dual cover
- ▶ Weight of cover
- ▶ **Emergency response**



# Elevated Structures

- ▶ Fall protection
- ▶ **Retrieval system**
- ▶ **Rescue team position**
- ▶ Lowering of victim
- ▶ Training



# Horizontal Entry (short)

- ▶ Physical hazards – heat, sharp edges
- ▶ **Retrieval**
  - Harness?
  - Winch?
  - Anklets/Wristlets





# Rescue vs. Retrieval

- ▶ Rescue can be either
  - Entry
  - Non-entry
- ▶ Retrieval can only be
  - Non-entry
- ▶ Rescue Training (10,000' view)
  - Annual
  - Hands-on
  - Specific to type of rescue
  - Additional trainings (respiratory protection, CPR, etc.)

# What is involved in an entry rescue?

- ▶ Arrival on scene vs. already present
- ▶ Set-up time
- ▶ Donning PPE (before or after emergency starts)
- ▶ Entry
- ▶ Arrival at person
- ▶ Care/Packaging of person
- ▶ Removal of person from space
- ▶ Transport of person

## What is involved in an entry rescue?

- ▶ Arrival on scene (already present)
- ▶ Set-up time
- ▶ Donning PPE (if emergency starts)
- ▶ Entry
- ▶ Arrival
- ▶ Care of person
- ▶ Removal of person from space
- ▶ Transport of person

**What is the probability of needing an entry rescue?**

**How long does this take?**

## Retrieval

- ▶ One person?
- ▶ Stability of tripod
- ▶ Limited space
- ▶ Unconscious person
- ▶ Disconnection from tripod
- ▶ Multiple retrievals
- ▶ Fall protection



## Urban Legends (Time Permitting)

- ▶ The following slides will be interactive.
- ▶ Let's see how smart we are as a collective

## A permit is required to enter all confined spaces

- ▶ True
- ▶ False

A designated rescue team is NOT always required when entering a permit required confined space (construction)

- ▶ True
- ▶ False

A designated rescue team is NOT always required when entering a permit required confined space (general industry)

- ▶ True
- ▶ False

A permit required confined space can be reclassified as non-permit required but a non-permit required space can not be reclassified as permit required.

- ▶ True
- ▶ False

Permits are never permitted to be extended or suspended.

- ▶ True
- ▶ False

## The supervisor cannot be the attendant

- ▶ True
- ▶ False

## All permit required confined spaces must be labeled.

- ▶ True
- ▶ False

You are not permitted more than 4 entrants in a PRCS.

- ▶ True
- ▶ False

An underground storage vault is a confined space

- ▶ True
- ▶ False

The atmosphere in a confined space can never change in less than 10 seconds

- ▶ True
- ▶ False

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