

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



Copyright K & A First Aid, Inc., 2022

1

Contact Information

Bruce A. Donato, CSP, CHMM, QEP, CECD
K & A First Aid & Safety, Inc.
337 Little Quarry Road
Gaithersburg, MD 20878-5705
301-208-0000
bdonato@kafirstaid.com
www.kafirstaid.com



Copyright K & A First Aid, Inc., 2022

2

TRAINING DISCLAIMER

These materials were developed by K & A First Aid, Inc. and are intended to assist employers, workers, and others as they strive to improve workplace health and safety. While we attempt to thoroughly address specific topics, it is not possible to include discussion of everything necessary to ensure a healthy and safe working environment in a presentation of this nature. Thus, this information must be understood as a tool for addressing workplace hazards, rather than an exhaustive statement of an employer's legal obligations, which are defined by statute, regulations, and standards. Likewise, to the extent that this information references practices or procedures that may enhance health or safety, but which are not required by a statute, regulation, or standard, it cannot, and does not, create additional legal obligations. Finally, over time, regulators may modify rules and interpretations in light of new technology, information, or circumstances; to keep apprised of such developments, or to review information on a wide range of occupational safety and health topics, you can visit regulatory web sites such as the Department of Transportation at www.dot.gov or OSHA's website at www.osha.gov.



Copyright K & A First Aid, Inc., 2022

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)



Copyright K & A First Aid, Inc., 2022

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**



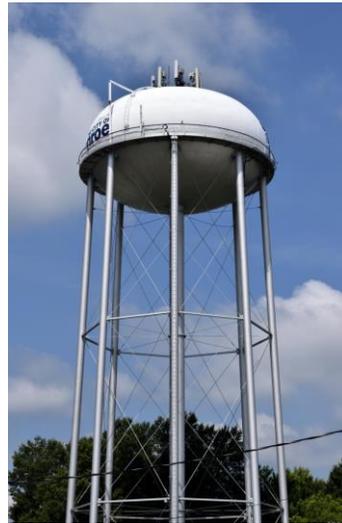
Secure Facilities

- ▶ 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

Contact Information

Bruce A. Donato, CSP, CHMM, QEP, CECD
K & A First Aid & Safety, Inc.
337 Little Quarry Road
Gaithersburg, MD 20878-5705
301-208-0000
bdonato@kafirstaid.com
www.kafirstaid.com