International Telecommunications Safety Conference

Health & Safety Considerations When Responding to a Hazmat Incident

- Introduction
- Training Requirements for Responding
- Equipment Requirements
- Support Requirements
- Case Studies
- Conclusion

Who is CTEH?

CTEH® specializes in the specific scientific expertise of toxicology, risk assessment, industrial hygiene, occupational health, litigation support, and response to emergencies or other events involving release or threat of release of chemicals.

Introduction

- Who is CTEH?
  - Toxicologists
  - Industrial Hygienists
  - Chemical Engineers
  - Medical Doctor
  - Nurses
  - Environmental Scientists

Who Does CTEH Represent?

- Railroads
- Chemical Manufacturers
- Pipelines
- Insurance Companies
- Hazmat Contractors

What do we need to respond to a hazmat incident?

- Personnel
- Training
- Equipment
- Support

Personnel Requirements

- Technically trained for telecommunications work
- Hazmat trained
- Medically approved by physician

Training Requirements

- 24 hour Awareness (minimum)
- Current 8 hour refresher (annual)
- Current hazmat physical (annual)
- Current respirator fit test (annual)
- Current confined space training (annual)
- Substance specific standards (depending on standard)
- Good understanding of the structure/flow of incident command

Who is Covered by this Standard?

- Those covered by OSHA's general Industry Stds (1910) and by Construction Stds (1926) that have confined spaces must comply with the standard.
- These include:
  - Manufacturing, Chemical Plants, Refineries
  - Agricultural services, Transportation, Utilities
  - Wholesale & Retail trade
  - Hazmat sites

Confined Space - What is Required?

- Because your company has confined spaces, it is required to:
  - Identify the confined spaces and inform employees of their existence,
  - Develop a written permit space program,
  - Set up an entry permit system, and
  - Train individuals with active roles in confined space work.

Confined Space

- A space large enough and so configured that an employee can bodily enter and perform assigned work. In addition a confined space has limited or restricted means for entry or exit, and is not designed for continuous employee occupancy.

Hazards Associated With Permit-Required Confined Spaces

Atmospheric,

Engulfment, or

Physical

- Air inside a permit space must be tested to ensure that:
  - There is enough oxygen to support life, and
  - If there is a toxic, flammable, or combustible atmosphere, that entrants are wearing the proper respirator and using intrinsically safe tools.

General Requirements of the Standard

1. All permit-required confined spaces in the workplace must be identified.
2. Unauthorized entry into permit spaces must be prevented
3. Permit space hazards must be identified and evaluated before employees are permitted to enter.

General Requirements of the Standard

4. Procedures and practices needed for safe permit space entry must be developed and implemented. These include, but are not limited to:
   - Specifying acceptable entry conditions.
   - Isolating the permit space.
   - Purging, flushing, and/or ventilating the space to eliminate or control hazards.
   - Using barriers to protect unauthorized entrants from external hazards.
   - Verifying that conditions are acceptable for entry.

General Requirements of the Standard

5. All workers with active roles in and around permit spaces must be provided with the proper training and equipment.
   - Testing and monitoring devices
   - Ventilating equipment
   - Communication devices
   - Personal protective equipment
   - Proper lighting
   - Barriers and shields
   - Ladders, and
   - Rescue equipment (unless supplied by an outside rescue service)

General Requirements of the Standard

6. Test and monitor permit space conditions. Atmosphere must be tested in this order:
   - Oxygen
   - Combustible gases
     - Propane, Natural Gas
   - Toxic gases
     - H_2S
     - CO

General Requirements of the Standard

7. An attendant must be stationed outside the permit space as long as an entrant remains inside. Attendants control and monitor all entry operations, and maintain on-going contact with entrants.
8. If one attendant monitors multiple spaces, a procedure must be in place to allow that attendant to respond to an emergency while another trained employee takes over the attendant's duties for the other spaces.

General Requirements of the Standard

9. Persons with active permit space roles must be identified, their duties clearly spelled out, receive appropriate data about the space, and provided with proper training.
10. Since rescue attempts account for more than half of all confined space fatalities, a procedure must be in place for an emergency service (on-site or off-site) to rescue entrants from permit spaces and provide care to those who are rescued.

General Requirements of the Standard

11. A process for the use of entry permits must be developed.
12. Contractors must be informed by the host employer about the permit spaces and related hazards, as well as the entry procedures and precautions that are used at that facility.

General Requirements of the Standard

13. A procedure must be in place for concluding entry operations.
14. All elements of the permit space program must be reviewed at least annually and revised as needed.

Substance Specific Standards

- Asbestos
- Vinyl chloride
- Arsenic
- Lead
- Benzene
- Bloodborne pathogens
- Acrylonitrile
- Ethylene oxide
- Formaldehyde
- 1,3 butadiene
- Methylene chloride
- Others

Equipment Requirements

- PPE
  - Respirator
    - SCBA
    - APR
      - Full face/Half Face
  - Skin Protection

Equipment Requirements

- Air Monitoring Equipment
  - O2
  - LEL
  - CO
  - H2S
  - VOC

Equipment Requirements

- Intrinsically safe
- (Texarkana Propolyne Explosion)

Support Requirements

- Rescue Crew
- Decon Crew

Case Studies

- Graniteville, SC
  - Chlorine release

Case Studies

- Texarkana, Arkansas
  - Propylene explosion

Case Studies

- Magnolia, Texas
  - Ethyl acrylate release on fiber optics

Case Studies

- Calipatria, California
  - Hydrogen Chloride

Conclusion

Questions?