Confined Space Rescue
A Complicated Topic with Simple Solutions
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Confined Space Entry Team
Pre-Accident
Confined Space Entry Team
Post-Accident
World’s Best
Confined Space Safety Program
PRESENTATION OBJECTIVES

• Learn why we hesitate to discuss the term ‘rescue’
• Learn why rescuers become victims and challenges of being ready to rescue
• Understand OSHA requirements for confined space rescue (CSR)
• Understand the role and qualifications of the CSR Team
• Review the options for CSR
  • Municipal CSR support
  • In-house CSR Team
  • Contract CSR Team
• Simple solutions to CS safety
“Rescue” the Taboo word at work...

- Employers are hesitant to consider ‘their’ spaces will require rescue provisions because:
  - Think it will inhibit their production schedule
  - Think it will disqualify their employees from performing work on those spaces
  - Think it will invite extra scrutiny from a regulatory agency
  - Think the cost of training and equipping a team will be profit prohibitive
Question: Are We Ready to Rescue?

Answer: No, given the following statistic:

60% of confined space fatalities occur among would be rescuers, according to:

- NIOSH, Publication 86-110, “Preventing Fatalities in Confined Spaces”
Why Do Rescuers Become Victims?

- Unaware or underestimate hazards and risks of entry and rescue
- Will to rescue exceeds sense of fear
- Unwilling to wait for qualified CSR Team to arrive
- Lack of pre-planning and preparation for rescue
  - Lack of adequate confined space rescue plans
Challenges to Being Prepared to Rescue

• **Resources to start/maintain in-house CSR Team**
  – Sufficient CSR Team personnel (4-6/shift)
  – Available time for CSR drills and training
  – Cost of rescue equipment and training

• **Decreasing availability of municipal CSR support**
  – Reduced funds for training and CSR equipment
  – Reduced manpower with budget cuts
  – Slower response time with consolidation of stations/resources

• **Increasing strain on internal resources & OH costs**
  – Focus on shorter shutdowns/outages and reducing OH costs
“Confined Space” means:

• Large enough, and so configured, so that a person can bodily enter and perform work; and

• Has limited or restricted means of entry or exit; and

• Is not designed for continuous human occupancy.

What part of this definition impacts rescue considerations?
Permit Required Confined Spaces

- Hazardous atmosphere
  - Oxygen deficient or enriched
  - Flammable/explosive
  - Toxic
- Engulfment
- Entrapment
- Other serious safety or health hazards

Which parts of this definition impact rescue considerations?
What About Long Term Health Hazards?

• Organic Dust
  – Organic Dust Toxic Syndrome
  – Farmer’s Lung
  – Grain Fever
  – Chronic Bronchitis
  – Asthma
  – Silo-fillers Disease
OSHA Requirements
1910.146(d)(9) and (k)

• *Prior* to performing entry into a PRCS, rescue personnel must be informed of the time of entry, location of the confined space, and nature of the hazards present.
OSHA Requirements - 29 CFR 1910.146(k)

• The employer shall **establish an emergency rescue team** or **utilize outside services** and assure that rescue team members:
  – Be capable of reaching the victim within an appropriate time frame
  – Be trained in use of PPE and rescue equipment
  – Practice confined space rescue at least yearly
  – Be trained in First Aid and CPR

• The employer shall evaluate a prospective rescuer's ability to respond to a rescue summons in a timely manner, considering the hazard(s) identified.
CSRT Qualification

• Willing to volunteer time to serve on CSRT
• Physically capable of serving on CSRT:
  – No phobia of heights;
  – Not claustrophobic;
  – No existing medical/physical condition that would put you or other CSRT member at risk;
  – No medical pushing/pulling/lifting restrictions;
  – Capable of donning/doffing harness and SCBA;
• FA/CPR qualified;
• Flexible job to allow time to serve on CSRT.
Confined Space Rescue Team

• IDLH Entries:
  – 2 CSRT personnel on standby during CS entry
  – ~2-4 additional CSRT personnel on plant site

• Non-IDLH Entries:
  – Minimum 4 CSRT personnel on plant site

• Utilize “Buddy System” and trained support personnel during response activities
CSR Team Options

1. Municipal fire department with qualified CSRT
   - 5-7 minute response time?...what about if on another call?...have you performed an evaluation?

2. In-house CSRT
   - Coverage for all shifts?...current training and FA/CPR qualification?...proper CSR equipment?...drills?

3. Contract CSRT
   - Onsite during PRCS entry?...proper training and medical qualification?...have you performed evaluation?
Simple Solutions

• Locking out and tagging out all means of filling and emptying the silo
• Use a body harness and lifeline
• Check the bin atmosphere (O2, LEL, Toxicity)
• Have good lighting
• Use only qualified and trained personnel
• Have your rescue team there (in the ready) to observe and assist in an emergency
Manned Entry Rescue
Mechanical Rescue
So, where do you go from here?

The most important point of this mental check-up of your confined space rescue readiness is that you can’t afford to wait until a confined space emergency occurs to verify if you are ready to rescue.
So it is time to decide...

- On-Site or Off-Site
- If it is an On-Site team:
  - Only good and ‘qualified’ team members
  - Train your team for YOUR expected entries
  - Equip your team for YOUR expected entries
  - Drill your team on YOUR expected entries
- If it is an Off-Site team:
  - Research for qualified teams
  - Interview those teams
  - Evaluate those teams capabilities vs. your needs
Steps to being prepared for CSR


2. Evaluate the hazards and rescue requirements presented by each confined space, regardless of whether it is a PRCS or NPRCS.

3. Select a CSR service option (offsite, onsite, contract) that is best suited for the nature and complexity of your confined space hazards and required CSR protocols.

4. Check to ensure the CSR service selected can meet the Rescue Service Evaluation Criteria.

5. Unite operations, maintenance, and rescue objectives to ensure that all confined spaces are not entered until provisions for rescue have been identified and implemented.

6. Examine your confined space entry activities on an annual basis for changes that may impact your ability to be Ready to Rescue!
The Hard Facts

- (2005 – 2009) 481 fatalities
- 96.2 per year
- 1 fatality every 4 days
- Physical hazards account for 61% of fatalities
- Atmospheric hazards account for 33% of fatalities
- 60% of fatalities occur to would be rescuers
Why We Work...
Questions

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