

CONFINED SPACE INDUSTRIAL ROPE RESCUE

8 HOUR REFRESHER — COURSE OUTLINE

1: Introduction and Overview

- a. Registration
- b. Orientation
- c. Course Objectives
- d. Safety Directives

2: Permit Required Confined Space 29cfr1910.146

- a. OSHA Regulation Overview
- b. Definitions
- c. Employer responsibilities
- d. Employee responsibilities
 - i. Attendant duties
 - ii. Entrant duties
 - iii. Supervisor duties
- e. Atmospheric Hazards
- f. Atmospheric Monitoring
 - i. LEL
 - ii. Oxygen
 - iii. Toxicity
- g. Physical Hazards
- h. Work Activity Hazards
- i. Permits

3: Equipment Review

- a. Software
 - i. Rope/cord
 - ii. Webbing
 - iii. Anchor straps
 - iv. pick-off straps
- b. Hardware
 - i. Tri-links
 - ii. Carabineers
 - iii. Ascenders
 - iv. Descenders

3: Equipment Review (continued)

- b. Hardware
 - v. Pulleys
 - vi. Friction devices
 - vii. Baskets
 - viii. Tripods
- c. Harnesses

4: Rope Rescue Knots & Hitches Review

- i. Family of eight's
 - 1. Simple
 - 2. On a bight
 - 3. Follow-through
 - 4. Splice or bend
 - 5. Double figure
- ii. Hitches
 - 1. Clove
 - 2. Munter
 - 3. Prussik
- iii. Knots
 - 1. Square
 - 2. Bowline
 - 3. Safety
 - 4. Butterfly
 - 5. Water knot (webbing)
 - 6. Double fisherman
- iv. Harnesses
 - 1. Bowtie harness

5: Mechanical Advantage Systems Review

- a. 2:1
- b. 3:1 Block and Tackle
- c. 4:1 Block and Tackle
- d. 3:1 Z-rig
- e. Piggy back

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6: Rigging Techniques Review

- a. Anchors
- b. High point
- c. Same level
- d. Back up system
- e. Load control
- f. Safety Checks

7: Patient Packaging Review

- a. Long board
- b. Short spine devices
- c. Stokes basket
- d. SKED

8: Tri-Pod Operations Review

- a. Safety rules
- b. Techniques

9: Rescue Scenarios (Confined Space Prop)

- a. Complete at least 4 of the scenarios and a team evaluation scenario
 1. **Rescue #1**
Setup system to lower rescuer from high-angle location with cantilever project
 2. **Rescue #2**
Lower Patient vertically in stokes basket from high-angle point down without using a high point anchor
 3. **Rescue #3**
Lower Patient horizontally over railing in stokes basket or SKED from high-angle location without using a high point anchor
 4. **Rescue #4**
Lower Patient horizontally over railing in stokes basket or SKED from high-angle point using a high point anchor
 5. **Rescue #5**
Stairwell rescue (helicopter) using stokes basket or SKED

9: Rescue Scenarios (Continued)

6. Rescue #6

Horizontal rescue using basket or spinal immobilization equipment

7. Rescue #7

Rescue entrant down in confined space with no harness using a tripod

8. Team Evaluation Scenario

Setup system and rescue fall victim hanging on-line by performing a victim pick-off with either a lower or retrieval

10: Post Class questions & discussion

11: Dismissal (Reference Material:)

- a. OSHA regulation 29cfr1910.146
- b. NFPA 1006 & 1670
- c. Technical Rescue Field Guide 3rd edition
- d. CMC Rope Rescue Manual 3rd edition
- e. Confined Space Entry and Rescue Manual By: CMC Rescue Inc. ISBN 0-9618337-42

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