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Rescue 3 International

Confined Space Training Standard

1. Rescue 3 Philosophy
   1.1 Recall the steps required in order to develop judgment.
   1.2 Explain the order of priorities at a confined space rescue scene

2. Training Standards
   2.1 Recognize the different training courses within the Rescue 3 scheme
   2.2 Recall the remit and role of an individual trained to this level
   2.3 State how the Rescue 3 scheme fits within national and international standards
   2.4 State how the Rescue 3 scheme fits within agency policy and agency standard operating guidelines

3. Confined Space definitions and hazards
   3.1 Recall the definition of a confined space
   3.2 Identify hazards and control measures associated with confined spaces
   3.3 Identify differences between horizontal, diagonal and vertical entries to confined spaces, their hazards and control measures
   3.4 Identify hazards and control measures associated with confined spaces within confined spaces

4. Air monitoring and confined space ventilation
   4.1 Recall when a confined space would be ventilated
   4.2 Recall ventilation methods
   4.3 Use appropriate ventilation equipment to ventilate a confined space
   4.4 Recall how a 4-gas meter is used to monitor the air in a confined space, and procedures in the event of an alarm
   4.5 Use a 4-gas meter to monitor the air in a confined space
   4.6 Use a PID meter to monitor the air in a confined space

5. Lock-out, tag-out, try-out
   5.1 Recall appropriate use of lock-out, tag-out, try-out procedures
   5.2 Check the placement of lock-out, tag-out, try-out for a given confined space
   5.3 Place lock-out, tag-out, try-out for a given confined space, if used by agency

6. Medical considerations
   6.1 Identify signs/symptoms and treatment for common medical issues found in confined spaces
   6.2 Identify individuals at risk for common medical issues found in confined spaces and control measures to minimize these

7. Personal Equipment
   7.1 Identify personal protective equipment (PPE) for working in confined spaces
   7.2 Recall national and international standards for PPE
   7.3 Select appropriate PPE for working in confined spaces, perform pre-use checks, donning and buddy checks
   7.4 Recall post-use care and inspection procedures for personal equipment

8. Technical Equipment
   8.1 Identify technical equipment used for working in confined spaces
   8.2 Identify technical equipment used for performing rescues in confined spaces
   8.3 Recall national and international standards for technical and team equipment
   8.4 Recall post-use care and inspection procedures for technical and team equipment
9. Breathing Apparatus
   9.1 Identify when personal escape sets are used, their hazards and control measures
   9.2 Use a personal escape set in a confined space, if used by agency
   9.3 Identify when self-contained breathing apparatus is used, its hazards and control measures
   9.4 Use self-contained breathing apparatus in a confined space
   9.5 Identify when supplied air systems/airline systems are used, their hazards and control measures
   9.6 Use supplied air systems/airline systems in a confined space

10. Pre-planning
   10.1 List the four components of a generic pre-plan
   10.2 Identify sources of information useful for generic and task-/location-specific pre-planning
   10.3 Describe key information that should be included within a pre-plan

11. Risk Assessments
   11.1 Identify the elements of an effective generic and site-specific risk assessment
   11.2 Perform a generic or site-specific risk assessment
   11.3 Identify the elements of an effective dynamic risk assessment
   11.4 Perform a dynamic risk assessment of a confined space rescue scenario
   11.5 Perform a dynamic risk assessment of a working area in a confined space

12. Work permits and work procedures
   12.1 Recall correct use of a safe system of work
   12.2 Recall correct use of permits-to-work

13. Incident size-up
   13.1 Demonstrate use of size-up models
   13.2 Explain the phases of a successful rescue
   13.3 Perform an on-site safety brief based on risk assessments
   13.4 Identify basic rescue options and their limitations
   13.5 List rescue options
   13.6 Select and brief an appropriate plan of action for a given incident

14. Incident management and site control
   14.1 Based on hazard recognition, apply appropriate control measures to protect personnel and bystanders
   14.2 Install and mark site zones
   14.3 Identify issues and hazards of bystanders in the cold zone
   14.4 Identify how and when to contact the emergency services in the event of an incident
   14.5 Identify the role and responsibilities of an incident commander (IC)
   14.6 Operate as a safety officer
   14.7 Provide information for use in an incident management system
   14.8 Operate as a technical rescue team leader in a small 2-3 person team
   14.9 Operate as a technical rescue team leader in a team of 4 or more people
   14.10 Operate as a technical rescue team leader in a team of 6 or more people
   14.11 For a given task, appoint different roles (including safety officer) for the personnel and casualty present
   14.12 For a given task, place appropriate markings for rigging the main line, safety line, artificial high directional, change of direction
15. Loads and forces
15.1 Apply the worst case event and maximum arrest force to minimum breaking strength of equipment and system design
15.2 Differentiate between mass and force
15.3 Identify SI base units and derived units used in confined space rescue
15.4 Describe the differences between static and dynamic forces
15.5 Recall the permissible maximum arrest force (MAF)
15.6 Recall the parameters of a worst case event (WCE)
15.7 Apply the worst case event and maximum arrest force to minimum breaking strength of equipment and system design
15.8 Calculate the effect of a change of direction on system force
15.9 Recall appropriate system safety factors
15.10 Recall the use of leverage in confined space rescue systems, its merits and limitations
15.11 Recall the difference between ideal, theoretical and actual mechanical advantage
15.12 Calculate the ideal mechanical advantage of a system
15.13 Calculate the theoretical mechanical advantage of a system

16. System safety checks
16.1 Identify the components of a system safety check
16.2 Perform a system safety check

17. Communications
17.1 Use whistle signals in confined space operations
17.2 Use verbal commands in confined space operations
17.3 Identify correct use of mobile radios in confined space operations
17.4 Use hand signals in confined space operations
17.5 Use rope pulling signals in confined space operations
17.6 Compare merits and limitations of communication methods in confined space operations
17.7 Use hardwire communication in confined space operations

18. Knots
18.1 Identify, tie and check appropriate knots for performing rescues in confined spaces, relative to the remit of someone trained to this level
18.2 Recall factors affecting knot choice for performing rescues in confined spaces

19. Anchor Systems
19.1 Identify use of anchor systems when performing rescues in confined spaces, relative to the remit of someone trained to this level
19.2 Identify, install and check appropriate anchor attachments for performing rescues in confined spaces, relative to the remit of someone trained to this level
19.3 Select an appropriate single anchor point
19.4 Identify, install and check load-sharing anchor systems, relative to the remit of someone trained to this level
19.5 Identify agency use or non-use of artificial anchor points
19.6 Identify, install and check temporary artificial anchor points, if used by agency
19.7 Identify, install and check load-distributing anchor systems, relative to the remit of someone trained to this level
19.8 Identify, install and check passive and active camming devices
19.9 Install and check mechanical bolts by drilling

20. Rope protection
20.1 Select, install and check appropriate rope protection

21. Work restraint
21.1 Identify when work restraint equipment is used, its merits and limitations
21.2 Select, install and check appropriate horizontal work restraint equipment
22. Fall arrest
   22.1 Identify when fall arrest equipment is used, its merits and limitations
   22.2 Use a fall arrest device using horizontal attachments
   22.3 Use a fall arrest device using vertical attachments
   22.4 Identify when combined work positioning and fall arrest equipment is used, its merits and limitations
   22.5 Demonstrate resting during an ascent with a combined work positioning and fall arrest configuration

23. Connecting a casualty to a line using a telescopic pole
   23.1 Identify when a casualty would be connected to a line using a telescopic pole, its merits and limitations
   23.2 Connect a casualty to a line, using a telescopic pole

24. Lifting and lowering a casualty using a pre-installed device
   24.1 Identify when a casualty would be lifted or lowered using a pre-installed device
   24.2 Lift a casualty using a pre-installed device Use of brake system if not automatic.
   24.3 Install, check and use an auto-locking lowering device with a single person load
   24.4 Install, check and use an auto-locking lowering device with a rescue-sized load

25. Mechanical advantage
   25.1 Identify the need for mechanical advantage systems within confined space rescue
   25.2 Identify the hazards and control measures associated with mechanical advantage systems
   25.3 Identify the different categories of mechanical advantage systems their merits and limitations
   25.4 Build and check a variety of mechanical advantage systems relative to the remit of someone trained to this level

26. Casualty care
   26.1 Identify personnel at risk to suspension-induced syncope, and control measures to minimise this
   26.2 Demonstrate appropriate casualty care for suspected suspension-induced syncope
   26.3 Identify patient needs, hazards and control measures associated with casualty care and packaging
   26.4 Pack a casualty for horizontal transport
   26.5 Pack a casualty for vertical transport

27. Emergency descending
   27.1 Identify hazards and control measures associated with pre-installed escape devices
   27.2 Perform an emergency descent using a pre-installed escape device if used by agency

28. Lead climbing with lanyards
   28.1 Identify when lanyards are used, their hazards and control measures
   28.2 Control measures: correct use of PPE, awareness of hazards, minimizing fall distance.
   28.3 Demonstrate lead climbing with a lanyard
   28.4 Demonstrate down-climbing with a lanyard

29. Personal ascending and descending
   29.1 Identify hazards and control measures associated with personal ascending and descending
   29.2 Demonstrate personal ascending in a variety of twin line systems
   29.3 Demonstrate personal descending in a variety of twin line systems
   29.4 Identify hazards and control measures associated with pre-installed escape devices
   29.5 Perform an emergency descent using a pre-installed escape device if used by agency

30. Climbing over a 90 degree edge
   30.1 Identify when a 90 degree edge would be encountered, its hazards and control measures
   30.2 Lowering over a 90 degree edge

31. Lead climbing with lanyards
   31.1 Identify when lanyards are used, their hazards and control measures
   31.2 Demonstrate lead climbing with a lanyard
   31.3 Demonstrate down-climbing with a lanyard
32. Team-based pick-offs
   32.1 Identify when a team-based pick-off would be performed, its merits and limitations
   32.2 Participate in a team-based pick-off, relative to the remit of someone trained to this level

33. Litter management - low angle
   33.1 Identify hazards and control measures associated with low angle litter management
   33.2 Participate in a variety of low angle litter management techniques

34. Litter management - high angle
   34.1 Identify hazards and control measures associated with high angle litter management
   34.2 Participate in a variety of high angle litter management techniques, relative to the remit of someone trained to this level

35. Team-based raising and lowering systems
   35.1 Explain the importance of working with twin lines
   35.2 Identify when team rope-based raising and lowering systems would be used, their merits and limitations
   35.3 Identify the importance of using an auto-locking lowering device with team rope-based raising and lowering systems
   35.4 Rig and check team rope-based raising and lowering systems
   35.5 Identify considerations for a change of direction mainline raising and lowering system
   35.6 Convert a lowering system to a raising system whilst unloaded

36. Mirrored team-based raising and lowering systems
   36.1 Explain the importance of working with twin lines
   36.2 Identify when team rope-based raising and lowering systems would be used, their merits and limitations
   36.3 Identify the importance of using an auto-locking lowering device with team rope-based raising and lowering systems
   36.4 Convert a lowering system to a raising system whilst loaded
   36.5 Identify when mirrored systems are used, their merits and limitations
   36.6 Rig, check and use a mirrored system
   36.7 Identify when vertically oriented stretcher abrupt edge transitions without a high directional would be performed, their merits and limitations
   36.8 Install and check systems for performing vertically oriented stretcher abrupt edge transitions without high directionals
   36.9 Perform a vertically oriented stretcher abrupt edge transition without a high directional

37. High directional
   37.1 Identify when fixed high directionals would be used, their merits and limitations
   37.2 Install and check a fixed high directional
   37.3 Install and check conventional and articulating artificial high directionals
   37.4 Install and check a lazy leg A-frame
   37.5 Install and check a sideways A-frame.
   37.6 Demonstrate an edge transition with the use of a high directional

38. Offsets - tagline
   38.1 Identify when tagline offsets would be used, their merits and limitations
   38.2 Install, check and use a tagline offset

39. Offsets - deflection
   39.1 Identify when deflected offsets would be used, their merits and limitations
   39.2 Install, check and use a deflected offset without an artificial high directional.

40. Passing knots through a system
   40.1 Identify when a knot would be passed through a system, its merits and limitations
   40.2 Pass knots through systems
41. **Vertically oriented stretcher abrupt edge transitions without a high directional**
   
   41.1 Identify when vertically oriented stretcher abrupt edge transitions without a high directional would be performed, their merits and limitations
   
   41.2 Install and check systems for performing vertically oriented stretcher abrupt edge transitions without high directionals
   
   41.3 Perform a vertically oriented stretcher abrupt edge transition without a high directional

42. **Offsets - track/guideline, skateblock, deflection, two-rope**
   
   42.1 Identify when deflected offsets would be used, their merits and limitations
   
   42.2 Install, check and use a deflected offset with an artificial high directional.
   
   42.3 Identify when guiding line offsets would be used, their merits and limitations
   
   42.4 Install, check and use guiding line offsets
   
   42.5 Identify when skateblock offsets would be used, their merits and limitations
   
   42.6 Install, check and use skateblock offsets
   
   42.7 Identify when tracking line offsets would be used, their merits and limitations
   
   42.8 Install, check and use tracking line offsets
   
   42.9 Identify when two rope offsets would be used, their merits and limitations
   
   42.10 Install, check and use a two rope offset

43. **Night/poor visibility operations**
   
   43.1 Identify hazards associated with night/poor visibility operations, and apply suitable control measures
   
   43.2 Perform a risk assessment and operate at night/in poor visibility

44. **Highline rope system - Kootenay highline**
   
   44.1 Identify when a Kootenay highline would be used, its merits and limitations
   
   44.2 Install, check and use a Kootenay highline

45. **Scenarios**
   
   45.1 Complete confined space rescue scenarios, relative to the remit of someone trained to this level