



CONFINED SPACE RESCUE TECHNICIAN (2008)

Course Plan

Course: Confined Space Rescue Technician (2008)

Hours: 40

Designed For: All emergency personnel with confined spaces within their jurisdiction

Description: This course is an intensive hands-on training program that will prepare you to respond to confined space emergencies. This course of instruction prepare the student in identifying confined spaces and permit-required confined spaces, the hazards associated with permit required confined spaces, target industries and hazards, state and federal regulations, components of a rescue operation, and the roles and responsibilities of the rescue team.

Prerequisites: Confined Space Rescue Awareness

Certification: None

Max. Class Size: 36

Student/Instr. Ratio 12:1:

36 student maximum: Three-squad site with 3 Primary Instructors and 1 Senior Instructor

24 student maximum: Two-squad site with 2 Primary Instructors and 1 Senior Instructor*

12 student maximum: One-squad site with 1 Primary Instructors and 1 Senior Instructor*

*For 1- or 2-squad sites, the Senior Instructor may also function as a Primary Instructor

Restrictions: This course can only be delivered at an accredited SFT Rescue Training site.

REQUIRED STUDENT MATERIALS		EDITION	VENDORS
▪ Student Manual		2007	CMC
▪ Student Task Book		Current	SFT
REQUIRED INSTRUCTOR MATERIALS			
▪ Instructor Materials on disk (PowerPoint Slides included)		2008	SFT
▪ Student Manual		2007	CMC
VENDORS			
CMC	CMC Rescue (800-235-5741)	http://www.cmcrescue.com	
SFT	State Fire Training	http://osfm.fire.ca.gov/training/SFTCurriculum.php	

CONFINED SPACE RESCUE TECHNICIAN COURSE PLAN

Course Objectives: To provide the student with...

- Information on regulations and standards for entry into confined spaces
- Information to identify confined spaces and permit-required confined spaces
- Information to identify the hazards associated with confined spaces
- Techniques to perform confined space rescue on incidents involving terrorism or weapons of mass destruction
- Information and techniques to select and use atmospheric monitoring equipment and the equipment necessary to control hazards in confined spaces
- Information and techniques to identify, select, and use personal protective equipment
- Information and techniques to use various types of victim removal and packaging systems
- Information and techniques to construct rope rescue systems for confined space rescue
- The information necessary to plan, organize, operate, and command at confined space rescue incidents
- The opportunity to apply the principles of confined space rescue through directed rescue scenarios

Orientation Module

Course Introduction	0:15
Confined Space Identification	1:30
CAL-OSHA Regulations.....	1:00
Federal Regulation-CFR 1910. 146	0:00
Confined Space Hazards	1:30
Atmospheric Monitoring	1:00
Hazard Control.....	1:00
Personal Protective Equipment	0:45
Phases of Confined Space Rescue	0:30



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Rescue Rope and Related Equipment.....	1:00
High Point Anchor Systems	0:30
Communications	0:30
Permitting Confined Spaces	0:30
Skills Module	
Knots	1:30
Anchor Systems	0:50
RPM.....	1:15
Belay Systems.....	0:30
Raising Systems.....	1:15
Rescuer and Victim Packaging.....	2:00
Respiratory Protection	1:00
Communication Systems	1:00
Hazard Control.....	1:10
Atmospheric Monitoring	1:00
High Point Anchor Systems	2:30
Scenarios.....	16:00
Course Content.....	40:00



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CONFINED SPACE RESCUE TECHNICIAN ACCREDITED TRAINING SITE REQUIREMENTS

An accredited Confined Space Rescue Technician (CSRT) Training Site has facilities, structures, work areas, materials, props, tools, and equipment of adequate size, type, and quantity to fully and safely support the cognitive and psychomotor training required to deliver the CSRT curriculum.

SITE CAPACITY

A CSRT Training Site is evaluated on its ability to deliver the required training to a maximum of 36 students. Each capacity level represents the maximum number of students or squads that may be taught on the site at any given time. This maximum number will be determined based on the suitability of the site to safely train between 12 and 36 students.

One-squad Site

- Supports the instruction for teaching the maximum of one (1) squad or twelve (12) students
- One (1) CSRT Primary Instructor is required for a student instructor ratio of 12:1
- One (1) CSRT Senior Instructor is required
 - For one-squad sites, the Senior Instructor may also function as the Primary

Instructor Two-squad Site

- Supports the instruction for teaching the maximum of two (2) squads or twenty-four (24) students.
- One (1) CSRT Primary Instructor
- One (1) CSRT Senior Instructor are required for a student instructor ratio of 12:1
 - For two-squad sites, the Senior Instructor may also function as a Primary

Instructor Three-squad Site

- Supports the instruction for teaching the maximum of three (3) squads or thirty-six (36) students.
- Three (3) CSRT Primary Instructors are required for a student instructor ratio of 12:1.
- One (1) CSRT Senior Instructor is required.

MINIMUM SITE REQUIREMENTS

The accredited CSRT Training Site assumes all responsibility, liability, and maintenance for the engineering design, strength, stability, and adequacy of all props, including anchor points and tie offs. The requesting agency further assumes all responsibility, liability, and maintenance for all tools, equipment, and supplies used at the site for the delivery of a CSRT class. This includes, but is not limited to, ladders, ropes, rescue hardware and software.

Facilities

- Classroom of adequate size and capability (including audiovisual equipment) to support classroom cognitive training.
- Wash areas.
- Bathrooms.
- Rehabilitation area.
- Safe and adequate parking.

Training Props

Aboveground Tank

- Aboveground tank (minimum 8 feet high) with a vertical (top) entry through a portal of 18" to 30" and a horizontal (side) entry through a portal of 18" to 30".

Underground Vault

- While belowground vaults are preferred, it will be acceptable to place vaults at ground level and provide platforms to simulate ground level for placing tripods or other equipment on.
- Vertical drop from the entry point must be greater than 5 feet. Tapered Cross Section
- An internal configuration of inwardly converging walls or a floor that slopes downward and tapers to a smaller cross section.
- Entry may be vertical or horizontal, but must be above the section that tapers downward. Horizontal Pipe
- Below grade or aboveground pipes between 18" and 36" in diameter.
- A minimum of 25 feet of continuous pipe shall be provided with at least one 45-degree or 90-degree bend. Lock-out/Tag-out



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- One or more of the above listed spaces shall include a lock-out/tag-out prop as part of the evolution
- Permit-required Confined Spaces
- Minimum training prop requirements can be fulfilled by using actual permit-required confined spaces or representative spaces.

Opening Size

- One portal of entry on any of the above props shall be less than 24".
- Opening size is determined by measuring the shorter side of the opening.

EQUIPMENT STANDARDS

The following is the minimum equipment required to deliver a CSRT course. As the class size increases, the amount of equipment must increase. Refer to ENDNOTES for additional information.

Confined Space Rescue Technician Equipment Standards	Up to 12 Students One scenario at a time	Each additional scenario run
Generator with fuel can	1	See Endnote A
Extension cord	1	See Endnote B
Atmospheric monitor	1 - See Endnote C	1 - See Endnote C
Ventilation fan with duct	1	1
Saddle vent with 90 degree elbow	1	N/A
SCBA	2	See Endnote D
Supplied air manifold	1	See Endnote E
Airline	200' - See Endnote F	See Endnote F
Supplied air respirator with escape cylinder	2	See Endnote G
Victim respirator	1 - See Endnote H	N/A
Breathing air	See Endnote I	See Endnote I
Hardline communication system	1 - See Endnote J	N/A
Portable radio	2	N/A
Commercially available tripod	1 - See Endnote K	See Endnote L
Commercially available cable winch	1	See Endnote M
Commercially available 4:1 pre-rig	1	N/A
SKED stretcher or equivalent	1	N/A
Backboard	1	N/A
LSP half-back or equivalent	1	N/A
Spreader bar	1	N/A
Basket stretcher	1	N/A
Wristlets	1 set	N/A
Class III harness	2	2
Entrant light source	2	2
Personal alert device	2	N/A
Edge protection	1 - See Endnote N	See Endnote N
Pulley (one or more must be prusik-minding)	6	2
Double sheave pulley	2	N/A
Friction device (i.e., brake bar rack, figure eight descender)	1	N/A
½" static kernmantle rope with rope bag, 150 feet (min.)	3 - See Endnote O	3 - See Endnote O
8mm prusik loop, short, 57"	5	5
8mm prusik loop, long, 70"	5	5
1" tubular webbing, 5' – green	10	10
1" tubular webbing, 12' – blue	10	10
1" tubular webbing, 15' – yellow	10	10
1" tubular webbing, 20' – orange	10	10
Carabiners, large steel locking	20	20
Fire service ground ladder	2	N/A
Mask cleaning materials	See Endnote P	N/A
Clipboard	1	1
Sample entry permit forms for each scenario	1	1
Lock-out/Tag-out kit	1	N/A



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ENDNOTES

- A. One (1) generator is required for each scenario. If there is a readily available power supply, an additional generator would not be needed.
- B. As needed to supply power to necessary equipment.
- C. A minimum of one (1) atmospheric monitor is required for each scenario. Four (4) gas monitors are recommended, but separate monitors that detect O₂ levels, flammable gases, and toxic gases that would be expected in the spaces to be entered would suffice. One (1) monitor should have a pump and extension hose for pre-entry assessment. A second monitor can be a diffusion type for the entry team.
- D. Students can be required to supply their own.
- E. Two scenario course - One (1) supplied air manifold and two (2) SCBAs.
Three scenario course – Two (2) supplied air manifolds and two (2) SCBAs.
- F. 200 feet is the minimum. Additional airlines of sufficient length for the entry team and back-up team may be required for additional scenarios.
- G. None needed if SCBAs are used for the second or third scenario.
- H. This can be a supplied air system, emergency escape breathing apparatus (EEBA) or an SCBA.
- I. Enough Grade "D" Breathing Air must be available to run the required scenarios. This can be supplied by a compressor with back-up cylinders or by having enough air cylinders and/or a refill capability.
- J. The hardline communication system should accommodate the attendant and entrants.
- K. The tripod shall have a minimum breaking strength of 5,000 pounds to meet OSHA requirements. To better prepare the students for what they may encounter in the field, as many different high point anchors as possible should be available.
- L. If the second scenario is a vertical entry, a second high point anchor is required. A ladder system, a second tripod or davit, or other anchor point will work. If the second scenario is a horizontal entry, nothing is required.
- M. A rope retrieval system can be used for a second vertical entry.
- N. More may be required as situations warrant.
- O. Other lengths may be required by the scenarios. Low stretch kernmantle is also acceptable in place of static kernmantle.
- P. Mask cleaning materials must comply with Cal-OSHA GISO Section 5144.

SITE ACCREDITATION PROCESS

CSRT Training Sites will be inspected for compliance with the CSRT Training Site Minimum Site Requirements and Equipment Standards. A CSRT Training Site representative submits to the Chief of State Fire Training a written request for accreditation as a Conditional or Permanent CSRT Training Site. This request shall include:

- A detailed description of the site that lists the facilities, structures, work areas, materials, props, tools, and equipment available and ready for delivering a CSRT course.
- A CSRT Site Evaluation Form completed by a registered CSRT Senior Instructor.

State Fire Training staff, authorized representative, and/or a registered CSRT Senior Instructor who is not affiliated with the site will conduct an inspection of the CSRT Training Site while operating under the direction of the Chief of State Fire Training.

Any discrepancies or deficiencies will be documented and discussed with the site representative at the time of the inspection. Once all discrepancies and deficiencies (if any) have been completed, validated, and verified by State Fire Training staff or authorized representative, the Chief of State Fire Training will notify the CSRT representative of their status as either an approved conditional or permanent site.