Confined Spaces

Confined Spaces

Definition:

- Are large enough that an employee can bodily enter them
- Are not designed for continuous occupancy.
- Have limited or restricted means for entry and exit

Potential Confined Spaces in Construction

- Sewer Drains
- Storm Drains
- Water Mains
- Tanks & Pits
- Transformer Vaults
- HVAC ducts
- Precast Concrete
- Drilled Shafts
- Enclosed Beams
- Bag Houses
- Crawl Spaces
- Attics
- Basements (before steps)

Confined Space Situations

- Use of a ladder or movable stairs
  - stairs that are narrow or twisted
- A doorway that is too small to exit while walking upright
- Obstructions like pipes, conduits, ducts, or materials that a worker would need to crawl over or under or squeeze around
- Excessive travel distance to a point of safety

Standard Clarification

- Trenching and Excavating are still covered by Subpart P

-UNLESS-

- The excavating company must engage in activities that require confined space compliance.
  - Example: Excavator entering a sewer line.

Employer Responsibilities

Entry Employer

- Makes the final decision on permit space entry. For multiple employers in one space each entry employer is responsible for compliance in the standard.
- Exception: Those specifically imposed on the controlling contractor and host employer.

Controlling Contractor

- Employer with overall responsibility at the worksite. The controlling contractor is responsible for coordinating entry operations for multiple trades and activities on site if a hazardous permit space is present.
- They must also provide any information they have about any permit space hazards and precautions previously used in the space.

Host Employer

- Employer that owns or manages the property where work is taking place. Holds information about permit space hazards on the site and must share it with the controlling contractor.

Employer Duties

Employer Category	Employer Responsibilities
All Employers	• Identify all confined spaces and determine if they are permit spaces. If its workers must enter the permit spaces, the employer is an “entry employer.” • Employers who are not “entry employers” must keep their workers out of the permit space unless the workers are unauthorized for entry.
Entry Employers	• Protect workers against permit space hazards by complying with the standard. • Inform controlling contractor of the program followed and hazards encountered in permit spaces.
Controlling Contractors	• Share information about permit space hazards with entry employers and other employers whose activities may create hazards in the permit space. • Coordinate entry operations when there is more than one entry employer. • Coordinate operations when permit space entry occurs during other activities at the site that might create a hazard in the space.
Host Employers	• Share information it has about permit space hazards with the controlling contractor.

Competent Person

- Definition: One who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to eliminate them.
- Competent Person must identify all confined spaces on the site.
- One person on site can be designated site competent person, doesn't have to be an employee of a particular contractor.

General Requirements

- Competent person designated by employer determines if the workplace is a permit required confined space.
- If it is a confined space the employer shall inform employees and post danger signs.
- If the employer denies entry to employees he must provide means to block entry.

General Requirements

- If the employer decides employees will enter the permit space, the employer shall develop and implement a written permit space program.

Confined Space Entry Requirements

- Any conditions making it unsafe to remove an entrance cover shall be eliminated before the cover is removed.
- If an entrance covers is removed the opening shall be guarded by:
  - Railing
  - Temporary cover
  - Other temporary barrier that will prevent an accidental fall.

Confined Space Entry Requirements

- Before an employee enters the space, the internal atmosphere shall be tested for the following:
  - Oxygen content
  - Flammable gases and vapors
  - Potential toxic air contaminants.

Confined Space Entry Requirements

- Continuous forced air ventilation shall be used as follows:
  - Employees may not enter until the forced air ventilation has eliminated any hazardous atmosphere.
  - Forced air shall be directed to the immediate areas where employees are and will be present in the space.
  - The air supply for the ventilation shall be from a clean source and not pollute the space.

Confined Space Entry Requirements

- The atmosphere within the space shall be periodically tested as necessary to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere.
- If a hazardous atmosphere is detected during entry:
  - Each employee shall leave the space immediately.
  - The space shall be evaluated to determine how the hazardous atmosphere developed.

Permit-Required Confined Space Program

"Permit Spaces"

- Contains or could contain a hazardous atmosphere
- Contains material that could engulf an entrant
- Has a configuration that tapers and could trap or choke the entrant

Permit-Required Confined Space Program

Under the permit-required confined space program the employer shall:

- Implement measures to prevent unauthorized entry.
- Identify and evaluate the hazards of permit spaces before employee entry.
- Develop and implement the means, procedures, and practices necessary for safe permit space entry operations.

Permit-Required Confined Space Program

- Employers must provide the following equipment at no cost to employees, maintain that equipment properly, and ensure proper use:
  - Testing and monitoring equipment
  - Ventilating equipment
  - Communications equipment
  - Personal Protective Equipment
  - Lighting equipment
  - Barriers and shields
  - Equipment, such as ladders, needed for safe entry
  - Rescue and emergency equipment needed

Confined Space Entry Permit

SAMPLE FORM HS200
CONFINED SPACE ENTRY PERMIT
(page 1 of 2)

Project Name/No. _____

Location of Confined Space:

Purpose of Entry and Description of Work:

Possible Hazards:

Names of Authorized Entrants:

Names of Eligible Attendants:

Individuals to be In Charge:

Rescue Service Information:

Responding Team:

Address: _____

Phone No.: _____

Hazard Control Measures (e.g. Ventilation) Complied? _____ (SSO must initial prior to entry)

List of Rescue Equipment Required on Site Complied? _____ (SSO must initial prior to entry)

Communication Procedures and Equipment Complied? _____ (SSO must initial prior to entry)

Personal Protective Equipment Required Complied? _____ (SSO must initial prior to entry)

Lockout/Tagout Procedures Required

Complied? _____ (SSO must initial prior to entry)

Comments/Additional Information

SAMPLE FORM HS200
CONFINED SPACE ENTRY PERMIT
(page 2 of 2)

Test	Location	Reading	Acceptable Range
Oxygen	_____	_____ %	19.5-22 %
Flammability	_____	_____ %LEL	Less than 10%
Toxics (Specify)			

For continuous or periodic monitoring, record results in [INSERT CONTRACTOR] Health and Safety report.

Entry Date _____

Duration: _____ Start Time _____ End Time _____

Is hot work to be performed? Yes _____ No _____

Individual on charge of entry approval:

Name _____ Signature _____ Date/Time _____

The individual responsible for entry verifies that all actions and conditions have been met for safe entry into the described space.

Permit Cancellation

All work is completed and all entrants are exited from the permit space.

Signature of Individual in Charge _____ Date/Time _____

Emergency and Rescue

- Authorized attendants, space supervisors, and any other persons other than the rescue team must not enter a confined space to facilitate a rescue.
- The attendant is to provide to Rescue Services with the information to facilitate a rescue.
- If a rescue is necessary then the attendant must not leave the site until the rescue has been facilitated or replaced by another trained attendant.

Emergency and Rescue

- The following procedures must be followed should an emergency arise in a confined space
  - Immediately notify Rescue Services by calling 911.
  - Immediately begin non-entry rescue procedures.
  - Rescue Services must meet proper requirements and have the opportunity to practice rescues.

Retrieval and Rescue Equipment

- Retrieval equipment must be used for all entries into confined spaces, unless the retrieval equipment increases the overall risk of entry or would not contribute to a rescue effort.

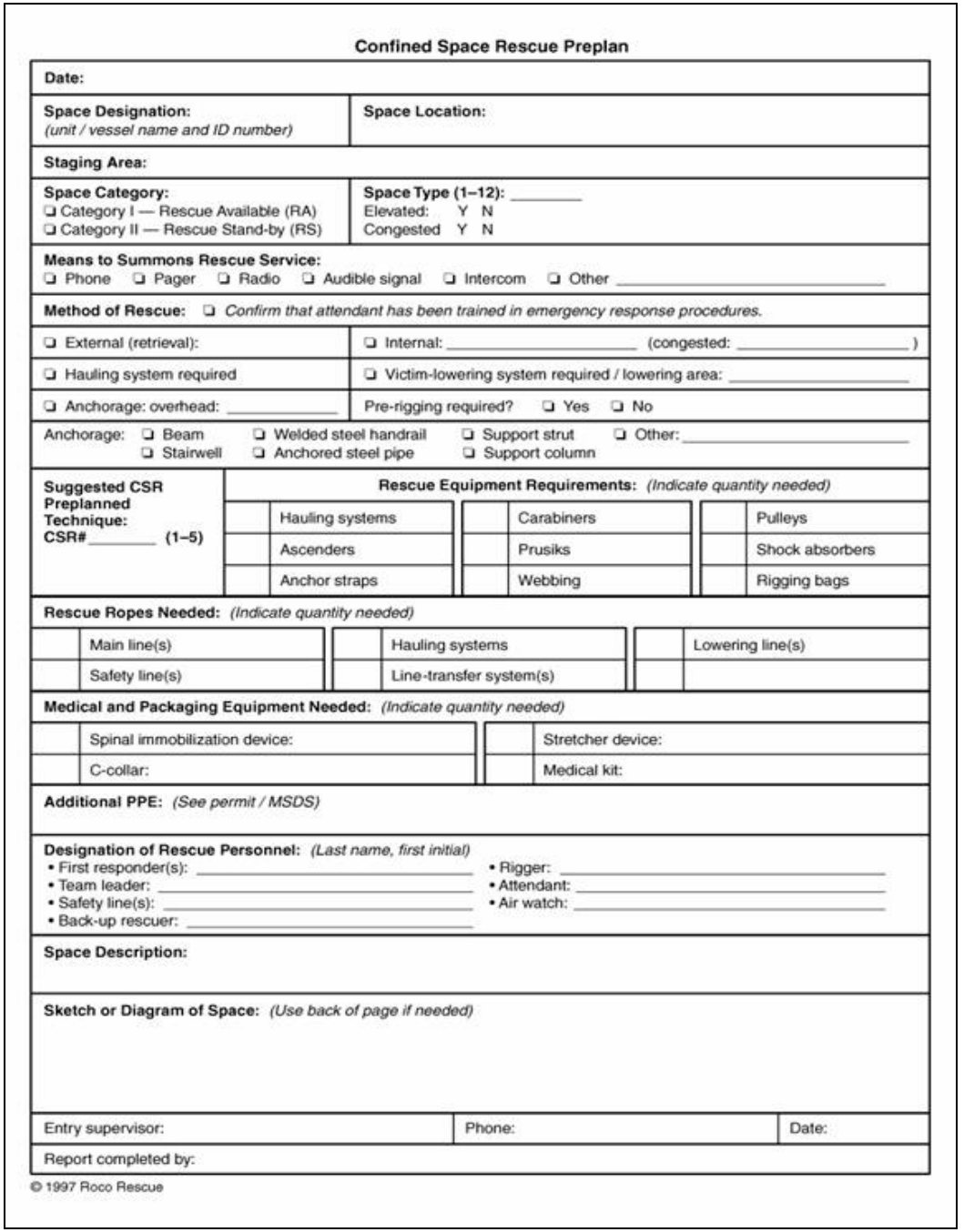
Retrieval and Rescue Equipment

- Workers entering a confined space must wear a full body harness.
- When a retrieval system is required a retrieval line must be attached to the harness at all times.

- Safety equipment and retrieval systems must meet inspection according to manufacturers recommendations prior to use.

Confined Space Rescue Plan

- Identifies the following:
  - Confined Space Type
  - Means of Rescue Help
  - Method of Rescue
  - Necessary Rescue Equipment
  - Medical Equipment
  - Space Description (can include diagram)



Confined Space Rescue Preplan

Date:

Space Designation: *(unit / vessel name and ID number)* | **Space Location:**

Staging Area:

Space Category:
❑ Category I — Rescue Available (RA)
❑ Category II — Rescue Stand-by (RS)

Space Type (1–12): _____
Elevated: Y N
Congested Y N

Means to Summons Rescue Service:
❑ Phone ❑ Pager ❑ Radio ❑ Audible signal ❑ Intercom ❑ Other _____

Method of Rescue: ❑ *Confirm that attendant has been trained in emergency response procedures.*

❑ External (retrieval): | ❑ Internal: _____ (congested: _____)

❑ Hauling system required | ❑ Victim-lowering system required / lowering area: _____

❑ Anchorage: overhead: _____ | Pre-rigging required? ❑ Yes ❑ No

Anchorage: ❑ Beam ❑ Welded steel handrail ❑ Support strut ❑ Other: _____
❑ Stairwell ❑ Anchored steel pipe ❑ Support column

Suggested CSR Preplanned Technique: CSR#_____ (1–5)

Rescue Equipment Requirements: *(Indicate quantity needed)*

	Hauling systems		Carabiners		Pulleys
	Ascenders		Prusiks		Shock absorbers
	Anchor straps		Webbing		Rigging bags

Rescue Ropes Needed: *(Indicate quantity needed)*

	Main line(s)		Hauling systems		Lowering line(s)
	Safety line(s)		Line-transfer system(s)		

Medical and Packaging Equipment Needed: *(Indicate quantity needed)*

	Spinal immobilization device:		Stretcher device:
	C-collar:		Medical kit:

Additional PPE: *(See permit / MSDS)*

Designation of Rescue Personnel: *(Last name, first initial)*
- First responder(s): _____
- Team leader: _____
- Safety line(s): _____
- Back-up rescuer: _____
- Rigger: _____
- Attendant: _____
- Air watch: _____

Space Description:

Sketch or Diagram of Space: *(Use back of page if needed)*

Entry supervisor:	Phone:	Date:

Report completed by: