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Confined Space Program

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Company name here

Confined Space Sample Program

Confined space regulatory requirements are located in Title 8, California Code of Regulations, Article 108, sections 5156 through 5158. Because confined space work may involve many different hazards, other regulatory requirements may also apply. Confined Space is a complicated subject matter and this sample program is meant to be a general reference guide to developing a formalized program. This program is not inclusive of every possible confined space hazard.

Our Confined Space Program Administrator is: (**REQUIRED - INSERT SUPERVISOR NAME**)

This is the person responsible for implementing, training and supervising our confined space policies and permit required confined space program.

Confined spaces are hazardous and can be deadly if not properly evaluated and controlled. Each confined space entry situation must be independently evaluated to determine the safe entry procedures before any employee is authorized to enter the space. Only authorized employees are allowed inside confined spaces. If you have not been authorized by your supervisor to enter a confined space then you are not allowed to enter any confined spaces. A confined space condition can rapidly change from having no present hazards to a life-threatening situation, so the process must be continuously monitored and evaluated. Some confined spaces are so hazardous that a written permit system is required for entry.

It is our company policy to eliminate potential confined space exposures before they become a hazard by:

* Establishing a written program and policies
* Conducting training
* Communicating that only authorized entrants are allowed into any identified confined space
* Preventing employee entry when possible
* Placing warning signs at the entrance of the confined space
* Evaluating, removing or reducing hazards before an employee enters
* Utilizing a written permit system to safely enter confined space, if determined that the hazard cannot be eliminated or controlled
* Utilizing barriers or locks to limit access when necessary

Confined space entry has very specific protocols that must be followed to ensure the safety of all employees. In all confined space entry circumstances where a written permit system is required, a three person team consisting of the authorized entrant, attendant and supervisor is required.

Evaluation of our company equipment has been conducted and determined that the following equipment requires or does not require a written confined space permit:

**REQUIRED - LIST TYPES of EQUIPMENT and PROVIDE DETAILED PROCESS TO THEIR ENTRY OPERATIONS)** *Confined space guidelines, program requirements and examples have been provided for reference and use to cut/paste/customize at the end of this document into this section*

|  |  |
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| **Equipment** | **Entry Process** |
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**General Entrant Duties (REQUIRED – Leave or customize to your operations)**

* Knows the hazards they may face during entry, including information on the mode, signs or symptoms, and consequences of the exposure
* Properly uses equipment
* Communicates with the attendant as necessary to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space
* Notifies the attendant when an unexpected hazard is detected
* Leaves the space when a warning sign of exposure is detected, if an alarm sounds, or when asked by the attendant or entry supervisor
* Follows permit requirements
* Obtains and uses appropriate personal protective equipment (PPE), monitoring instruments, protective hand retrieval equipment
* Notes problems on entry permits and relays them to the supervisor at the end of the shift or when work is completed
* The entrant will alert the attendant whenever:
	+ - The entrant recognizes any warning sign or symptom of exposure to a dangerous situation or
		- The entrant detects a prohibited condition
* Exits from the permit space as quickly as possible whenever:
	+ - The entrant recognizes any warning sign or symptom of exposure to a dangerous situation
		- The entrant detects a prohibited condition - An evacuation alarm is activated

**General Attendant Duties (REQUIRED - Leave or customize to your operations)**

* Knows the hazards that the entrant may face during entry
* Is aware of possible behavioral effects of hazard exposure in entrants
* Continuously maintains an accurate count of authorized entrants in the permit space
* Remains outside the permit space during entry operations
* Communicates with entrants as necessary to monitor entrant status
* Monitors activities inside and outside the space to determine if it is safe for entrants to remain in the space
	+ A prohibited condition
	+ A situation outside the space that could endanger the entrants
	+ The attendant cannot effectively and safely perform all the duties
* Summons rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape
* Takes the following actions when unauthorized persons approach or enter a permit space while entry is underway:
	+ Warn the unauthorized persons that they must stay away from the permit space
	+ Advise the unauthorized persons that they must exit immediately if they entered the permit space
	+ Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space
* Perform non-entry rescue as specified by rescue procedures
* Does not perform duties that might interfere with the attendant’s primary duty to monitor and protect the authorized entrants

**General Supervisor Duties (REQUIRED- Leave or customize to your operations)**

Entry Supervisors are responsible for assuring employees follow proper entry procedures; training employees in confined space safety and entry procedures; and ensuring necessary equipment for entry is maintained in proper working order. In addition the entry supervisor must:

* Complete a “Confined Space Permit Form” with the assistance of the Program Administrator
* Post signs near permit-required confined spaces reading, “Danger—Permit-Required Confined Space—Do Not Enter” or notification by an equally effective means
* Plan the entry by determining the potential hazards within each confined space
* Complete the pre-entry/entry checklist before each entry
* Perform atmospheric testing of the confined space
* Maintain and calibrate monitoring instruments to assure good working order
* Post a copy of the completed pre-entry checklist and entry permit for workers at the confined space entrance
* Verify, by checking that the appropriate entries were made on the permit, that all tests specified by the permit were conducted and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin
* Establish emergency procedures specific to each confined space. Assure that entering workers and standby persons are trained on these procedures and on work done in the space
* Verify that rescue services are available and that the means for summoning them are operable
* Terminate the entry

**(REQUIRED – Insert Confined Space Rescue Plan Here)**

EMPLOYER to choose and include a Rescue Plan specific to their operations in this section. See Examples and details provided in the Confined Space Addendum below.

Confined Space Addendum

**What is a confined space?**

A confined space is an enclosed space that:

* Has limited or restricted entrance and/or exit
* Is large enough to get your whole body inside
* Is not meant or designed for continuous human occupation

**What is entry?**

* The act by which an employee intentionally passes through the opening of a permit required confined space.
* Any part of the body passing through the opening is considered entry.

**When is a confined space so dangerous that a written entry permit system is required?**

* When there is an actual or potential “hazardous atmosphere” or
* When the space contains loose material that can engulf a person, or
* When the space contains physical hazards, or
* When there is any other recognized serious safety and health hazard

**A** **“hazardous atmosphere” in a confined space has one or more of the following:**

* Flammable gas, mist or vapor
* Flammable dusts
* Oxygen deficiency (19.5% or less)
* Oxygen enrichment (23.5% or higher)
* Air contaminant concentrations that would cause death, incapacitation, or permanent health problems
* At very high levels, most chemicals in the air can be immediately life-threatening or cause permanent bodily harm
* At lower levels, chemicals in the air can still cause harm
	+ Most chemicals have “permissible exposure limits” (PELs) which will cause harm if exceeded
	+ Even non-toxic or low-toxic chemicals can reduce oxygen amounts if levels are high enough
* The most common toxic chemicals in confined spaces fatalities are hydrogen sulfide and carbon monoxide.
* Other toxic chemicals can include welding fumes, vapors from liquid residues in storage tanks, or chemical products used in the confined space
* Chemicals can quickly reach toxic levels in the air of a confined space especially gases, solvent vapors or sprayed product
* Carbon monoxide that comes from operating internal combustion engines in or near confined space

**Air Monitoring**

* Air monitoring is required whenever there is a possibility of hazardous atmospheres
* A portable gas monitor with an alarm should be used by the person entering the confined space and checked frequently

**Atmospheric Testing**

Atmospheric conditions can change quickly in a confined space. Assume all confined space requires an entry permit until testing is done. Test types include:

1. Evaluative
2. Verification
3. Duration
4. Stratified
5. Periodic and continuous

Before entering a confined space, it is necessary to test the atmosphere.

**Testing for hazards must occur in the following order:**

* Oxygen content
* Combustibility/flammability
* Toxic atmospheres such as hydrogen sulfide and carbon monoxide
* Entrants must be given the opportunity to view the atmospheric testing

**Engulfment Examples and Hazards:**

* Engulfing materials include liquids or loose solids such as grain, sand or other granular material
* People cannot escape when caught in moving loose solids and usually suffocate
* Workers often get engulfed when in-feed or out-feed lines are inadvertently opened or activated

**Other Confined Space Hazards examples:**

* Electrical lines
* Guarding moving parts of equipment and/or mechanical hazards
* Hazards caused by the work itself such as welding and painting inside confined space
* Slip and fall, death and electrical shock caused by wet surfaces
* Noise levels can affect communication and cause hearing damage
* Extreme temperatures

**What is required in a written permit system?**

* A written permit process for each entry
* Employee specific training
* Employee assigned duties

**The permit states what is done and who does it:**

* Describes the role of each individual and their responsibilities
* Specifies the required safety equipment/PPE and respiratory protection
* Tells how long the job will take
* States the known hazards found in the space
* Provides methods used to control the hazards
* Describes acceptable entry conditions
* Notes air monitoring testing results
* Describes communication procedures
* Provides name and telephone of the rescue service

**Designated Jobs**

* Any permit required confined space entry has designated jobs for employees
* Entrant is the person who actually goes into the confined space
* Attendant is the person watching the entrant
* Entry Supervisor actively supervises the operation in place

**Potential engineering controls for eliminating confined space hazards:**

* Ventilation by fresh air lower or exhaust fan to remove harmful gases and vapors
* Exhaust ventilation must be used when welding or using chemicals in a confined space
* Implement LOTO protocols for moving parts, electrical sources and bleed pneumatic and hydraulic lines

**Respiratory requirements pertaining to confined space:**

Respirators may be required to enter a confined space safely

* Respirators must be worn to enter a space with an oxygen deficiency or toxic chemical levels above the PEL
* A supplied air respirator is required for oxygen deficiency or toxic chemical levels that are immediately dangerous to life or health
* A respirator that does not supply fresh air is not recommended for use in confined space
* Employees who use respirators must be medically evaluated and trained annually per the company’s Respiratory Protection Program

**What if hazards cannot be eliminated?**

* A complete written permit system or alternative procedures are required
* Both require formal training
* Alternate Entry Procedures are only allowed when determined that atmospheric conditions are controlled
* If you are unsure about the hazards, you must assume a high hazard and use a written permit system for entry
* No Permit – Allowed only when all hazards have been eliminated
* Only if you can assure that there are no hazardous atmospheres or other hazards, can you avoid the required permit procedures for entry

**Examples of Alternative Entry Procedures:**

* If the only hazard is atmospheric (toxic gas or oxygen deficiency) and it is controlled by ventilation, then you may use less restrictive alternate entry procedures
* These procedures have fewer requirements – no written permit system is required
* Don’t assume that the only hazard is atmospheric without investigation and reliable information

**Alternative Entry Requirements**

* Employees must be trained on confined space hazards
* The atmosphere in the confined space must be tested before and during entry
* Continuous ventilation must be used
* If a hazardous atmosphere is detected, or ventilation stops, the space must be promptly exited

**Confined Space Rescue Plans**

***Self Rescue***

This is the preferred rescue method and the method describes the rescue situation. In a self rescue, the authorized entrant recognizes symptoms and/or critical conditions of the environment and exits promptly before becoming incapacitated.

***Non-entry Rescue***

A non-entry rescue involves attempting to remove an incapacitated person without having anyone else enter the confined space. This can be done utilizing a safety line attached to the person within the confined space and/or combination of grabbing the person by a secondary device such as a pole, strap or rope.

***Entry Rescue***

Entry rescue should be the plan of last resort as it involves having more people enter an area that has already incapacitated one or more person and places the rescuer at considerable risk. The urgent need to rescue someone from a confined space often leads to deadly rescue attempts. 2/3 confined space deaths are attributed to persons attempting to rescue someone else. Entry rescues must be carefully planned and executed to avoid creating a scenario where more victims need be rescued.

Rescuers need to be aware of their surroundings and must reevaluate their plans immediately if there are any changes in the conditions or environment of the confined space.

In the event of an entry rescue, standby rescuers are recommended during entire course of the entry event should the initial entry rescuer encounter any trouble.

Rescuing people in a confined space has certain challenges and must be addressed and figured out so that the rescue operation can take place. Maintaining control during a rescue operation means being able to rescue the trapped or injured persons without risking the lives of others and causing more damage. It is important to make sure that the rescue operation works as well as possible.

Requirements of in-house rescue service plan

* Air-supplying respirators are usually needed
* Rescue team must be trained on confined space rescues
* Rescue team must also know first aid & CPR
	+ Rescue team must practice rescues yearly

Other equipment and consideration for evaluation

* Ventilation to prepare the air for entry
* Wristlet or cloth strap looped around the incapacitated person’s foot or hand and rope utilized to pull rescuer and victim to safety.
* Protective clothing, head gear
* full body harness
* Mechanical winch/tripod at source of entry to lift person out

**Rescue Plans**

When selecting off-site services, you have to evaluate them carefully. OSHA says your evaluation must consist of two components—an initial evaluation and a performance evaluation. During the initial evaluation, you should meet with the off-site service personnel and ask questions like:

* How quickly can the team get to the confined space in an emergency?
* Is the team available 24/7? Are there any hours the team is not available?
* Are team members properly trained in rescue duties?
* Does the team have all the required PPE and rescue equipment?
* Do team members have the required medical skills, such as CPR and first-aid certification?

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Sample Confined Space Entry Permit

Machine/Equipment:

Written permit process for each entry:

Employee specific training:

Employee role and assigned duties:

* Authorized Entrant:
* Authorized Attendant:
* Authorized Supervisor:

What is work is being done and who is doing it?

Required safety equipment/PPE and respiratory protection for this entry:

Approximate amount of time the job should take:

Known hazards found within the space:

Methods used to control the hazards:

Acceptable entry conditions:

Air monitoring testing results:

Communication procedures:

Name and telephone of the rescue service: