

Confined Space Entry

Overview

Introduction

This procedure provides the requirements and instructions needed to perform a confined space entry safely.

Definition

A *confined space* is a space that is:

- Large enough to be entered
- Difficult to enter or exit
- Not designed for continuous occupancy

CSE policy

The confined space entry (CSE) policy follows:

- Entry into a confined space is allowed only if there is no alternate (safer) method.
- No one, including Manufacturing employees, may enter a confined space without a Confined Space Permit and appropriate training.
No exemptions: Work in shops, work by operators, or work in permitted open areas is not exempt from Confined Space Permit requirements.
- An Entry Permit is required and the ENTRY section of the permit must be completed as well as the lockout/tagout requirements as specified in SOP-0210 whenever an employee must enter a confined space.

Examples

Some examples of confined space entry are:

- Excavations or pits deeper than 4 feet
- Tanks or vessels with restricted openings, such as a typical manway
- Some portions of cooling towers

In this document

This document covers these topics:

- [Responsibilities](#)
- [The Permit](#)
- [Entry Conditions](#)
- [Training](#)
- [Atmospheric Testing Requirements](#)
- [Monitoring Atmospheric Testing](#)
- [Rescue Planning](#)

Responsibilities

Introduction

This topic provides the responsibilities for a confined space entry:

- [For the attendant](#)
- ...
- [How safety concerns are handled](#)
- [Special permits](#)

For the attendant

This table lists the responsibilities for the attendant:

| Type | Responsibilities |
|---------------------|---|
| Before entry begins | <ul style="list-style-type: none">• Reviews and understands the Entry Permit• Knows potential hazards of entry, including modes, signs, or symptoms and consequences of exposure• Places his/her personal lock on the lockout board before starting work and removes the lock when work is complete |
| General | <ul style="list-style-type: none">• Performs no duties that might interfere with the primary duty of protecting and monitoring entrants• Does not enter (break the plane of the opening) under any circumstances |
| Monitoring | <ul style="list-style-type: none">• Stays at the entrance of the space as long as entrants are inside or until relieved by another attendant• Keeps an accurate count and identification of each entrant• Monitors entrants, watching for behavioral effects and increasing communication if visual contact cannot be maintained• Does not allow anyone to enter unless s/he is named by the entry team leader (permit recipient) and s/he has signed the permit• Observes and warns entrants to ensure their safety• Watches out for hazards imposed by different work groups |

Table continued on next page

Responsibilities, Continued

For the attendant (continued)

| Type | Responsibilities |
|-------------|---|
| Evacuation | Evacuates entrants if: <ul style="list-style-type: none">• A prohibited or hazardous condition is detected (including outside activity)• Entrants demonstrate or complain of behavioral effects• A plant emergency alarm is sounded<ul style="list-style-type: none">– Proceeds with all entrants to the instruction point– Takes the permit with him/her (otherwise the permit should remain at the opening)• The attendant is unable to perform his/her duties• The continuous monitor alarm sounds or it malfunctions Informs the entry supervisor why the space was exited Important: Entry supervisor permission is required to resume. |
| Documenting | <ul style="list-style-type: none">• Writes and encourages entrants to write any suggestions to improve the safety of the entry operation in the feedback section• Records entries and exits on the permit• Documents air monitoring results from meter on continuous monitor• If there is no feedback, initials the No Comment box |

Continued on next page

Responsibilities, Continued

How safety concerns are handled

This table describes the requirements for handling safety concerns for confined spaces:

| When ... | Then ... |
|---|--|
| <i>Documentation of concerns</i> | |
| A worker has safety concerns about an immediate hazard that could affect the safety of those entering confined spaces or a particular confined space | S/he must stop the job and bring these concerns to the immediate attention of the entry supervisor (operations supervisor) and HSE. |
| <ul style="list-style-type: none"> • A deficiency in the procedure is detected, based on feedback from employees • A confined space hazard is discovered that has not been considered by the existing procedure | It must be brought to the attention of HSE who will ensure that the STEPS Procedures Review Team will evaluate the procedure. |
| <i>Captured feedback</i> | |
| Concerns are documented in the feedback section of the permit | The entry supervisor (operations supervisor) must <ul style="list-style-type: none"> • Read the post-entry feedback upon receipt of the permit • Review the feedback with the operations manager • Interview the employee who brought up the concern to ensure the concern is properly understood • Sign the permit cancellation to verify that feedback has been reviewed |

Special Permits

At times, a confined space entry requires a Special Permit.

Reference: See SOP-0195 Special Permits for more information.

The Permit

Introduction

This topic introduces the Entry Permit:

- [Policy](#)
- [Decontamination](#)
- [Entries not requiring a permit](#)
- ...

Policy

An Entry Permit is required and the ENTRY section of the permit must be completed whenever an employee must enter a confined space.

Decontamination

All chemical and/or atmospheric hazards in a confined space must be minimized by use of a decontamination procedure that is

- Established in the department
- Authorized by the operations foreman for the particular confined space

Entries not requiring a permit

Entry into these areas does not normally require a permit:

- The salt-water pump house pump pits
- Freeze protection enclosures
- Dike walled areas (in tank farms)

...

Entry Conditions

Introduction

Not available

Training

Introduction

Not available

Atmospheric Testing Requirements

Introduction

Not available

Monitoring Atmospheric Testing

Introduction

This topic provides the information needed for monitoring the atmosphere of a confined space entry via atmospheric testing:

- [Diagram: Entrants Section detail](#)
- [Recipient signatures](#)
- [Recording atmospheric tests](#)
- [Types of monitoring](#)
- [How a space is monitored](#)
- ...

Diagram: Entrants section detail

This diagram shows the section used for monitoring on which the entrants are listed and where they sign and the space the attendant uses to monitor who is currently in the confined space:



Recipient signatures

The permit recipient names and signatures are handled as follows:

- The permit requestor prints permit recipient names in the space provided on the back of the bottom copy of the permit (indicating which employees are permitted to do the work).
- The permit recipients sign in the space provided beside their printed name.
- Permit recipients are named by the permit requestor on permit work records that are attached to the Entry Permit.
- The permit requestor does not enter or sign his/her own name except when the job involves entry and the permit requestor is an entrant or an attendant.

Continued on next page

Monitoring Atmospheric Testing, Continued

Recording atmospheric tests

On the back of the permit is the Atmospheric Monitoring section used for recording the results of continuous or periodic monitoring:

| |
|--|
| |
|--|

Types of monitoring

This table describes the types of monitoring and responsibilities for each involved for a confined space entry:

| Types | Responsibilities |
|-----------------------|--|
| Periodic checks | <ul style="list-style-type: none">• The operator completes the scheduled periodic check• The attendant informs the entry supervisor if the operator has not shown up to complete the periodic check |
| Continuous monitoring | The attendant does the following; <ul style="list-style-type: none">• Tends to and observe the continuous monitor• Records (on the permit) oxygen, LEL, or toxicity readings from the continuous monitor as required by the entry supervisor• After a break, checks and records readings before allowing workers to go back inside |

Continued on next page

Monitoring Atmospheric Testing, Continued

How a space is monitored

This table describes how a confined space is monitored during the work:

| When ... | Then ... |
|--|--|
| A confined space entry begins | <ul style="list-style-type: none">• Initial % oxygen is tested, allowing 20-22%.• Initial flammability is tested, allowing up to 1%.• Any indication of flammable gas requires an investigation to identify the source and to ensure that it is stable and can be controlled below 1% LEL.• Initial toxicity is tested, allowing < ½ PEL for an 8-hour, time-weighted average• Periodic or continuous monitoring is required. |
| When test limits exceed the safety limits: <ul style="list-style-type: none">• LEL > 1%• Oxygen < 20% or > 22%• Toxic levels > ½ PEL | <ul style="list-style-type: none">• Attendant must stop the job and order all entrants out of the confined space.• Notify the entry supervisor of the alarms• Entry supervisor will initiate investigation. |
| Entrants leave a confined space unoccupied and unattended | Either: <ul style="list-style-type: none">• Periodic testing must be completed and documented on the permit before they are allowed to re-enter.• A continuous monitor (left in place and in operation) satisfies the requirement for a periodic check, provided that the attendant reads the meter to ensure safe conditions and records the reading before re-entry. |

Rescue Planning

Introduction

Not available