CONFINED SPACE/RESPIRATORY PROTECTION
Confined Space - Definition

1. Large enough and so configured that an employee can bodily enter and perform work; and
2. Limited or restricted means for entry or exit; and
3. Not designed for continuous human occupancy.
1. Contains or has a potential to contain a hazardous atmosphere;
2. Contains a material that has the potential for engulfing an entrant;
3. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or
4. Contains any other recognized serious safety or health hazard (such as unguarded machinery, exposed live wires, or heat stress).
Examples

Confined spaces include, but are not limited to:

<table>
<thead>
<tr>
<th>Tanks</th>
<th>Vessels</th>
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<tbody>
<tr>
<td>Silos</td>
<td>Storage Bins</td>
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<tr>
<td>Hoppers</td>
<td>Vaults</td>
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<td>Pits</td>
<td>Manholes</td>
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<td>Tunnels</td>
<td>Equipment Housings</td>
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<td>Ductwork</td>
<td>Pipelines</td>
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[Images of confined spaces and safety signs]
Confined Space Entry

"Entry" means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.
Confined Space – Mangan Employees

- The **Non-Permit-Required Confined Space** is the only type of confined space our employees are authorized to work in through the authorization of their Project Manager.

- Prior to ANY work in a **Permit Required Confined Space**, the Project Manager must obtain written authorization from the Mangan Safety Director.

- All aspects of the confined space work are to be documented, mitigated, and discussed through the Project JSA.

- Further, this type of work falls under our Lone Work guideline and necessitates a ‘Buddy’ to monitor the employee who is working in the confined space to ensure their safety.

- The client’s Confined Space program needs to be reviewed and compared to Mangan’s policy to ensure the most stringent guidelines apply.
Confined Space Attendant

- A qualified employee stationed outside the permit space who monitors authorized entrants
- Knows hazards that may be faced before and after entry
- Has an awareness of possible behavioral effects of hazard exposure in authorized entrants
- Remains outside permit space during entry operations until relieved by another attendant
Confined Space Authorized Entrant

- A qualified employee authorized to enter a confined space
- Knows hazards that may be faced during entry, including signs, symptoms & consequences of exposure
- Communicates with attendant to monitor status
Confined Space Entry Permit

- A written authorization is required to enter a Permit-Required Confined Space.
- It defines the conditions under which the permit space may be entered.
- It states the reasons for entering, identifies all hazards and identifies the Entry Supervisor.

![Confined Space Entry Permit](image)
Confined Space Rescue

• Means of emergency rescue must be readily available to the permit-required confined space entry attendant for emergency extrication of entrants.
• A rescue plan needs to be established prior to entry into the confined space.
• Keep in mind before dialing 911 that local authorities (i.e., fire department) may not be equipped to enter the confined space - another reason to have the rescue plan established beforehand…
All of this just to crawl into a small space? Don’t let looks deceive you. It is the least we could do to ensure you’re not subject to the dangers that lurk in these ‘innocuous’ environments.
Respiratory Protection

• As a rule, Mangan does not accept work that requires respirator use.
• Regardless of the remote possibility that one of our employees will need to wear a respirator, we need to stay up-to-date on what it takes to do so. This training is a part of that effort.

• When a respirator is needed, it should be designed to protect against the specific type and degree of airborne hazard present, such as hazardous dusts, particles, fumes, gases, vapors, etc.
Respiratory Protection

• Types of respirators:
  – Quarter Mask
  – Half Mask
  – Mouthpiece/Nose Clamp
  – Full Facepiece
Respiratory Protection Supplied Air

- Other work situations are hazardous because the atmosphere is oxygen-deficient.
- Supplied Air Respirator: an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user. Also called airline respirator.
Respiratory Protection Self-Contained Breathing Apparatus

An atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.
Escape-Only Respirator

• A respirator intended to be used only for emergency exit...an “escape pack”
• Provides immediate access to clean air while you escape from low oxygen and unsafe areas
Client Facial Hair Policy

- Be sure you are familiar and in compliance with the client’s facial hair policy for respirators.

Example
Particulate Respirators

- Particulate respirators are the simplest, least expensive, and least protective of the respirator types available.
- These respirators only protect against particles (e.g., dust). They do not protect against chemicals, gases, or vapors, and are intended only for low hazard levels. The commonly known “N-95” filtering facepiece respirator or “dust mask” is one type of particulate respirator:
Respirator Use – Mangan Employees

• If it is determined that respirators will be issued for project work, these steps must be followed to complete the respirator protection requirements:
  – Project Management will need to obtain the client’s Respiratory Protection Policy to compare it to Mangan’s policy and make sure the most stringent guidelines are followed.
  – Project Management will need to document the record of air monitoring for the hazardous environment.
Employees designated to wear a respirator must:

1. Complete the OSHA online training for Respiratory use through Mangan’s E-Learning site (the difference between this and the awareness training you are completing now is significant!)

2. Go to your office’s or remote-location assigned medical clinic for a medical evaluation for respiratory use concerning the chemical of potential exposure.

3. Receive a Fit test to guarantee the respirator has a good seal.
Voluntary Respirator Use – Mangan Employees

• If a Mangan employee chooses to voluntarily wear a particulate respirator, it must be determined that such respirator use will not in itself create a hazard (i.e., by ensuring that masks are not used if dirty or contaminated, and that their use does not interfere with the employee's ability to work safely).

• In addition, the employee must complete Mangan form mi-2015, Respirator Voluntary Use Form
Resources

Policies are located on the Google SAFETY – RESOURCE CENTER site.

- MSP-213, Respirator Policy
- MSP-214, Confined Space Policy
- mi-2105 Respirator Voluntary Use Form
- mi-2106 Respirator Issuance Form
- mi-2110 Confined Space Entry Permit