**Confined Space Entry**

**Purpose/Scope**

The purpose of this procedure is to prescribe and document the behaviour that will protect personnel, environment, equipment and processes from danger associated with Confined Space Entry (CSE).

**Compliance**

This document applies to work performed at Suncor Energy operating sites in the Wood Buffalo Region that includes Firebag.

**Roles and Responsibilities**

The following individuals and groups have the following roles and responsibilities:

- **Document Owner**
  - Ensures this document is reviewed according to the required revision cycle.
  - Ensures the document is updated to accommodate changes to Suncor, provincial, and federal regulation.
  - Ensures the document is updated to mitigate risks found as the result of an incident.

- **Document Approver**
  - Ensures this procedure is necessary and that it aligns with management and company direction.

- **Authorized Entrant**
  - Follows the steps outlined in this procedure.
  - Be approved by the Maintenance Field Coordinator (MFC) before entering a confined space.
  - Reviews the Confined Space Entry (CSE) Package and signs the sign-off sheet.
  - Ensures CSE training is valid.
  - Ensures Respiratory Protective Equipment (RPE) training and Fit Testing (if RPE is required for Entry) is valid.
  - Always wears a harness during CSE unless determined not to be required during the CSE risk assessment.
Roles and Responsibilities

Confined Space Monitor (CSM)

- Follows the steps outlined in this procedure.
- Reviews the CSE Package and signs the sign-off sheet.
- Has a radio, air horn and blue vest.
- Has the appropriate fire extinguisher (if performing Fire Watch duties).

Note: Under some circumstances the CSM can assume multiple duties as long as these are specified in the CSE package.

- Acts as the CSE entry point of contact.
- Remains in constant communication or visual contact with Authorized Entrant inside the confined space at all times.
- Controls the number of Authorized Entrants allowed in the confined space.

Note: Number of Authorized Entrants allowed is identified in the CSE risk assessment(s).

- Maintains the Confined Space Atmosphere and Entry Log Sheet.
- Ensures entry and exit points are kept clear and clean.
- Initiates evacuation.
- Initiates emergency response.
- Does not leave the confined space with people inside unless properly relieved by another certified CSM.
- Does not enter the confined space for any reason.
- Never becomes directly involved in any activity that distracts them from their primary duty of CSM.
- Ensures they have valid CSM training.

Control Room Operator (CRO)

- Follows the steps outlined in this procedure.

Day Shift Supervisor (DSS)

- Follows the steps outlined in this procedure.
- Performs periodic review of approved CSE Packages to ensure validity.
Roles and Responsibilities

Emergency Services Department (ESD)
- Follows the steps outlined in this procedure.
- Attends CSE risk assessment.
- Attends CSE pre-job meeting (when requested).
- Performs CSE pre-job inspection (when requested).
- Becomes Familiar with:
  - Confined space location
  - Access route
  - Level of entry
  - Time required to respond
  - Equipment and personnel required for rescue
- **SHUT DOWN** or postpone CSE work based on risks or availability of resources.

Maintenance Field Coordinator (MFC)
- Follows the steps outlined in this procedure.
- Attends confined space walk down (when required).
- Completes and signs Pre-Entry Checklist at the beginning of each shift.
- Ensures appropriate confined space signs and barriers are available.
- Ensures workers carry out work in accordance with the CSE Package and Safe Work Permit (SWP).

Operations and Maintenance Management
- Follows the steps outlined in this procedure.
- Ensures direct reports with a role in the Confined Space Entry Procedure are properly trained, competent and adhere to the requirements of this procedure.
- Approves CSE Packages for CSE’s in their area of responsibility.

Operations Shift Supervisor
- Follows the steps outlined in this procedure.

Continued on next page
Roles and Responsibilities

Permit Issuer/ Area Authority
- Follows the steps outlined in this procedure.
- Reviews the CSE Package and sign the sign off sheet.

Permit Receiver
- Follows the steps outlined in this procedure.

References

- Confined Space Standard LMS0037A
- OH&S Code Part 5
- Ground Disturbance Standard RGS09004
- Ground Disturbance Procedure RGP09012
- Basic Gas Testing
- Safe Use, Handling and Storage of Compressed Gas Cylinders LMS0005A
- Safe Work Permit (SWP) RGP0004A
- Control of Hazardous Energy RGP0005A
- Perform Final Closure and Acceptance of Equipment FBOP10269
- Lightning Detection Procedure RHP00006
- Temperature Extremes LMS0043A
- Entry into Confined Spaces Fitted with Nuclear Gauges LMP0043A
- Erecting Hoarding and Wind Breaks in Firebag Operational Areas FB0009A
- Erecting Hoarding and Wind Breaks in Operational Areas FBS0009A
### Procedure 1. Confined Space Entry Package – Development

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSS</td>
<td>1.1</td>
<td><strong>Review</strong> the six week look-ahead two to three weeks out for upcoming CSE work and use the following table to determine next action.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>If Confined Space work is …</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>in the look-ahead</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NOT in the look-ahead</td>
</tr>
<tr>
<td>DSS</td>
<td>1.2</td>
<td><strong>Coordinate</strong> the CSE risk assessment(s).</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> Refer to Appendix 1 for CSE risk assessment instructions.</td>
</tr>
<tr>
<td>DSS</td>
<td>1.3</td>
<td><strong>Coordinate</strong> the development of Rescue/ Response Plan with ESD (that is, field walk down, or taking photos).</td>
</tr>
<tr>
<td>ESD</td>
<td>1.4</td>
<td><strong>Determine</strong> if a CSE Rescue / Response Plan exists for this entry and use the following table to determine next action.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>If a CSE Rescue / Response Plan ...</strong></td>
</tr>
</tbody>
</table>
|                |      | exists | 1. **review** CSE Rescue/ Response plan and ensure it is still valid.  
|                |      |        | 2. If no longer valid, **update** and **provide** new version to the DSS for CSE Package development.  
|                |      |        | 3. **Go to step 1.7.** |
|                |      | does NOT exist | **Go to Step 1.6.** |

*Continued on next page*
### 1. Confined Space Entry

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Step</th>
<th>Action</th>
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</thead>
</table>
| ESD            | 1.5  | Develop Rescue/Response Plan and send it to the DSS.  
Note: Rescue/Response Plan template and guidelines for development can be found in Appendix 2. |
| DSS            | 1.6  | Determine specific CSE ventilation requirements for CSE package development.  
Note: Guidance on ventilation requirements can be found in the Ventilation Guidance Document. |
| DSS            | 1.7  | Develop CSE Package.  
Note: Guidelines for developing the CSE Package can be found in Appendix 3. |

### 2. Confined Space Entry Package Approval

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSS</td>
<td>2.1</td>
<td>Take draft CSE Package to Operation and Maintenance Managers responsible for the area.</td>
</tr>
</tbody>
</table>
| Operations & Maintenance        | 2.2  | Assess the draft CSE Package and determine if it is approved for use using the following table to determine next action.  
| Management                      |      | Is CSE package approved? | Then … |
|                                 |      | Yes                       | Go to step 2.3. |
|                                 |      | No (more information is required) | Advise DSS what information is missing. |
| Operations & Maintenance        | 2.3  | Sign off on CSE Package. |
| Management                      |      |                           |        |
| DSS                             | 2.4  | Upload CSE Package into ECMS and print copy for field use. |
3. Confined Space Hand Over – Operations to Maintenance

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>MFC</td>
<td>3.1</td>
<td>Sign out CSE Package from permit office.</td>
</tr>
<tr>
<td>MFC</td>
<td>3.2</td>
<td>Verify accuracy of CSE package including, rescue/ response plan, equipment description, or risk assessment.</td>
</tr>
<tr>
<td>MFC</td>
<td>3.3</td>
<td>Verify Operations and Maintenance Management has approved the CSE Package.</td>
</tr>
<tr>
<td>MFC</td>
<td>3.4</td>
<td>Generate a SWP as per RGP0004A.</td>
</tr>
<tr>
<td>MFC</td>
<td>3.5</td>
<td>Conduct CSE pre-job meeting.</td>
</tr>
<tr>
<td>Note:</td>
<td></td>
<td>Guidance on CSE pre-job review meeting can be found in Appendix IV.</td>
</tr>
<tr>
<td>Permit Receiver</td>
<td>3.6</td>
<td>Take SWP to Permit Issuer/ Area Authority.</td>
</tr>
<tr>
<td>Permit Issuer/</td>
<td>3.7</td>
<td>Review SWP.</td>
</tr>
<tr>
<td>Area Authority &amp; Permit Receiver</td>
<td></td>
<td>Note: Guidance on SWP review can be found in RGP0004A.</td>
</tr>
<tr>
<td>Permit Issuer/</td>
<td>3.8</td>
<td>Conduct initial/ first entry gas test and internal inspection and use the following table to determine next action.</td>
</tr>
<tr>
<td>Area Authority</td>
<td></td>
<td>Note 1: Guidance on performing gas testing can be found here: Basic Gas Testing.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Note 2: Operations issues themselves a SWP for the initial/first entry gas test and internal inspection.</td>
</tr>
<tr>
<td>Shift Supervisor/ MFC</td>
<td>3.9</td>
<td>Complete and sign the CSE Turnover Sheet.</td>
</tr>
<tr>
<td>Note:</td>
<td></td>
<td>CSE Turnover Sheet template and guidelines can be found in Appendix V.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>If it is ...</th>
<th>then ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>safe to authorize entry</td>
<td>go to step 3.9.</td>
</tr>
<tr>
<td>NOT safe to authorize entry</td>
<td>contact Operations Shift Supervisor for instruction.</td>
</tr>
</tbody>
</table>

Continued on next page
### 3. Confined Space Entry

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permit Issuer/</td>
<td>3.10</td>
<td>Select the appropriate CSE Tag(s) and document:</td>
</tr>
<tr>
<td>Area Authority</td>
<td></td>
<td>• Personal Protective Equipment requirements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Initial gas testing results</td>
</tr>
<tr>
<td>Permit Issuer/</td>
<td>3.11</td>
<td>Sign CSE tag(s) and hang at each entrance.</td>
</tr>
<tr>
<td>Area Authority</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permit Receiver &amp;</td>
<td>3.12</td>
<td>Sign the SWP.</td>
</tr>
<tr>
<td>Permit Issuer/</td>
<td></td>
<td>Note: Guidance on SWP can be found in RGP0004A.</td>
</tr>
<tr>
<td>Area Authority</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permit Issuer/</td>
<td>3.13</td>
<td>Change confined space signs form “Danger Do Not Enter” to “Confined</td>
</tr>
<tr>
<td>Area Authority</td>
<td></td>
<td>Space Monitor and Permit Required for Entry.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Note: Guidance on confined space sign requirements can be found in</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LMS0037A</td>
</tr>
</tbody>
</table>

### 4. Confined Space Entry

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>MFC</td>
<td>4.1</td>
<td>Ensure CSE Package, SWP and CSE tag(s) is readily available at the</td>
</tr>
<tr>
<td></td>
<td></td>
<td>confined space during entry.</td>
</tr>
<tr>
<td>MFC</td>
<td>4.2</td>
<td>Sign the CSE Rescue/ Response Plan.</td>
</tr>
<tr>
<td>MFC</td>
<td>4.3</td>
<td>Validate all risk assessments controls are in place.</td>
</tr>
<tr>
<td>MFC</td>
<td>4.4</td>
<td>Initial or sign risk assessment.</td>
</tr>
<tr>
<td>MFC</td>
<td>4.5</td>
<td>Complete the CSE Pre-Entry Checklist.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Note: The pre-entry checklist is to be completed at the beginning of</td>
</tr>
<tr>
<td>Authorized Entrant(s)</td>
<td>4.6</td>
<td>Add personal lock onto lock box for the equipment being entered.</td>
</tr>
</tbody>
</table>
Continued

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSM</td>
<td>4.7</td>
<td>Verify the following documentation is at the Confined Space and filled out correctly:</td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="Image" alt="Safe Work Permit (SWP)" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="Image" alt="CSE Package" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="Image" alt="CSE Tag(s)" /></td>
</tr>
</tbody>
</table>

Use the following table to determine next action.

<table>
<thead>
<tr>
<th>Are all documents at the confined space and filled out correctly?</th>
<th>Then …</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Go to step 4.8.</td>
</tr>
<tr>
<td>No</td>
<td>Contact MFC for instruction.</td>
</tr>
</tbody>
</table>

**Note:** These documents cannot leave the confined space when there is an active CSE.

CSM 4.8 Become familiar with CSE rescue/ response plan and **be capable** of initiating:

- Confined space evacuation
- Emergency response

**Note:** Entry and exit points must be kept clear and clean for the duration of the CSE.

CSM 4.9 Validate that the entrants have:

- Reviewed the CSE Package and signed the sign on sheet
- The appropriate personal protective equipment (as per CSE Tag(s) and risk assessment)
- CSE training
- Respiratory Protective Equipment (RPE) training (if required)
- Fit Test for the RPE they are using (if required)
- Added personal lock onto lock box for the equipment being entered (verbal confirmation required only)
- Provided Suncor ID badge

Continued on next page
### Responsibility Step Action

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSM &amp; Authorized Entrant(s)</td>
<td>4.10</td>
<td><strong>Develop</strong> strategy to ensure the CSM can be in constant communication or visual contact with the Authorized Entrant(s) and <strong>use</strong> the following table to determine next action.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>If CSM can ...</th>
<th>then ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>be in constant communication with Authorized Entrant(s)</td>
<td>go to step 4.11.</td>
</tr>
<tr>
<td>be in visual contact with Authorized Entrant(s)</td>
<td>go to step 4.11.</td>
</tr>
<tr>
<td>NOT be in constant communication or visual contract with Authorized Entrant(s)</td>
<td>contact MFC for instruction.</td>
</tr>
</tbody>
</table>

**CSM 4.11** **Contact** the CRO and **provide** the following information:

- CSM name and company.
- Location of CSE (e.g. 91-5000).
- Number of Authorized Entrants, companies and craft they work for.
- Equipment number / vessel ID (e.g. 91F-5210).
- CSE level.
- The scope of work being performed in the confined space (e.g. cleaning).
- Emergency assembly area and meeting point.

**Note 1:** Only contact the CRO for level 1 & 2 CSEs.
**Note 2:** Only contact the CRO for CSEs in operating areas.
**Note 3:** Only contact the CRO at the start of the shift.

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**Continued on next page**
### Responsibility | Step | Action
--- | --- | ---
CRO | 4.12 | **Contact** Security and provide them with the following information:
- CSE time.
- Location of CSE (e.g. 91-5000)
- Number of Authorized Entrants.
- Equipment number / vessel ID (i.e. 91F-5210)
- CSE level
- Emergency assembly area and meeting point.

CSM | 4.13 | **Remove** the “Confined Space Monitor and Permit Required for Entry” sign

Note 1: The “Confined Space Monitor and Permit Required for Entry” sign is to be placed back over the confined space entry point when left unattended (on breaks or when job is completed).

Note 2: Guidance on sign requirements can be found in [LMS0037A](#).

Authorized Entrant | 4.14 | **Ensure** the CSM has entrant’s Suncor ID badge.

Note: If working under supplied breathing air, leave Suncor ID badge with the bottle watch.

Authorized Entrant | 4.15 | **Enter** the confined space and **work** in accordance with the CSE Package and SWP.

Note: Leave the confined space at the same point it was entered. If not possible, return to the point of entry after exiting.

CSM | 4.16 | **Document** Authorized Entrant(s) entry and exits on the [Confined Space Atmosphere and Entry Log Sheets](#) for the duration of the job.
Continued

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSM</td>
<td>4.17</td>
<td>Perform gas tests and record atmospheric readings on the Confined Space Atmosphere and Entry Log Sheets.</td>
</tr>
</tbody>
</table>

**Note:** Gas tests are documented:
- In 15 min intervals for continuous testing
- Periodic testing (if determined to be acceptable in the risk assessment) is documented at the agreed upon frequency.

**Note:** Guidance on conducting gas testing can be found here: Basic Gas Testing

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5. Confined Space Entry Closeout

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorized Entrant</td>
<td>5.1</td>
<td>Exit the confined space.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> Leave the confined space at the same point it was entered. If not possible, return to the point of entry after exiting.</td>
</tr>
</tbody>
</table>

CSM 5.2 Document Authorized Entrants exits on the Confined Space Atmosphere and Entry Log Sheets.

CSM 5.3 Verify all personnel have exited the confined space and have retrieved their Suncor ID badge.

CSM 5.4 Provide the CRO with the following information:
- Equipment number / vessel ID (i.e. 91F-5210).
- Confirmation that all Authorized Entrants are out of the confined space
- Confirmation that the CSE is complete for the shift

CSM 5.5 Place “Confined Space Monitor and Permit Required for Entry” sign over the entrance(s).

**Note:** Guidance on sign requirements can be found in LMS0037A.

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### Continued

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
</table>
| CRO            | 5.6  | **Contact** Security and provide the following information:  
                           • Equipment number / vessel ID (i.e. 91F-5210).  
                           • Confirmation that the CSE is complete for the shift. |

| Permit Receiver & Permit Issuer / Area Authority | 5.7  | **Close** the SWP.  
                                      **Note:** Guidance on Safe Work Permits can be found in RGP0004A |

| MFC            | 5.8  | **Ensure** the following documents are brought to the Permit Office for Filing:  
                             • Safe Work Permit  
                             • CSE Package (sign it back in)  
                             • CSE Tag(s)  
                                      **Note:** Only return documents if a SWP is not issued for the subsequent shift. |

| DSS            | 5.9  | **File** documents. |

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**End of Procedure**
### Feedback:

Please submit your feedback for this document to your Supervisor.

### Comments on this document (Is this document up to date?):

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### Suggested Improvements:

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### Summary of Changes

<table>
<thead>
<tr>
<th>Rev No.</th>
<th>Section Changed</th>
<th>Revisions Made</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>All</td>
<td>New document</td>
</tr>
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</tr>
</tbody>
</table>

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**WARNING!** Printed and digital copies are uncontrolled. The current revision of this document is kept in ECMS.

Approved By: Tom Gear, GM Operations, Firebag
Appendix I – Guideline for Conducting Confined Space Entry Risk Assessment

Risk assessments are required for:

- Initial entry, cleaning and inspections under level 1.
- Inspections and maintenance under level 1, 2 or 3.

Risk assessment review and updated will be required for:

- Previously used risk assessment(s) for a specific confined space entry.
- When conditions change during an active confined space entry (e.g. internal conditions of confined space are different than expected when first risk assessment was conducted).

Risk assessment Process Requirements are:

- When performing a confined space risk assessment, obtain representation from the following departments:
  - Operations
  - Maintenance
  - Emergency Services
  - Health, Safety

- The Day Shift Supervisor (DSS) will provide sufficient notice to the risk assessment participants to ensure attendance by all. Do not start a CSE risk assessment if any department listed above is not in attendance. The inclusion of other technical representation (such as Hygiene, Process Engineering, and Reliability) is at the discretion of the DSS.

- The team must have training and experience in recognizing, assessing, and controlling the hazards of confined spaces.
- The Day Shift Supervisors will maintain a list of all confined spaces at Firebag. The Day Shift Supervisor (DSS) will review the list to ensure all the confined spaces have been properly identified.
Hazard Considerations:

The team must consider the potential for:

- Restricted entry or exit
- Oxygen enrichment or deficiency
- Flammable gas, vapour, or mist
- Fire and explosion
- Combustible dust
- Engulfment (i.e. swallowed up in or be immersed by material, possibly resulting in asphyxiation)
- Uncontrolled introduction of substances (i.e. steam, water or other liquids, gases or solids that may result in drowning, being overcome by fumes or other harm depending on the nature of the substance)
- Biological Hazards (i.e. contact with micro-organisms, such as viruses, bacteria or fungi, that could result in infectious disease, dermatitis or long conditions)
- Mechanical Hazards (i.e. Exposure to mechanical hazards associated with plant that could result in entanglement, crushing, cutting, piercing or shearing of parts of a person’s body)
- Electrical Hazards (i.e. electrical hazards that could cause electrocution, shocks or burns)
- Skin contact with hazardous substances
- Noise (i.e. plant process or activity generated)
- Manual tasks (hazards arising from manual tasks may be exacerbated by physical constraints associated with working in a confined space. Additional hazards may arise from the use of personal protective equipment that restricts movement, grip and mobility)
- Radiation (i.e. Sources of radiation include: x-rays, lasers, welding flash, nuclear gauges)
- Hazards outside the confined space (i.e. Exhaust fumes from equipment outside the space, but near openings to it, can contaminate the atmosphere inside the space)
- Physiological and Psychological demands
  - Physical ability
  - Ability to work in a restrictive space (i.e. claustrophobia)
  - Ability to wear the personal protective equipment required to do the work (i.e. Working under supplied breathing air for extended periods of time)
- Environmental hazards
  - Heat or cold stress arising from the work, process or conditions
  - Slips, trips and falls arising from slippery surfaces or obstacles
  - Inadequate lighting
- Harmful airborne contaminants such as:
  - Substance stored in the confined space or its by-product(s) (i.e. H2S)
  - Work performed in the confined space (i.e. use of paints, adhesives, solvents cleaning solutions, welding, gouging, exhaust fumes)
  - Release of airborne contaminants (i.e. when sludge, slurry or other deposits are disturbed or when scale is removed)
  - Manufacturing process (i.e. residues left in tanks, vessels (i.e. internal coating after sandblasting)
Risk Considerations:

The following factors are to be considered when determining risk:

- The atmosphere in the confined space, including whether testing or monitoring is to be undertaken
- The risk of engulfment of a person
- All proposed work activities, particularly those that may cause a change to the conditions in the confined space.
- The number of persons occupying the space
- The soundness and security of the overall structure and the need for lighting and visibility
- The identity and nature of the substances last contained in the confined space
- Any risk control measures needed to bring the confined space to atmospheric pressure
- The number of persons required outside the space
  - To maintain equipment essentials for the tasks being undertaken with the confined space
  - To provide continuous visual contact or communication with the persons within the confined space, and
  - To properly initiate emergency response procedures
- Risks associated with other hazards, such as noise or electricity
- Arrangements for emergency response, for example first aid and resuscitation
- The physiological and psychological demands of the task and the competency of persons involved in the tasks or emergency response duties
- The adequate instruction of persons in any required procedure, particularly those that are unusual or non-typical, including the use and limitations of any personal protective equipment and other equipment to be used
- The availability and adequacy of appropriate personal protective equipment and emergency equipment for all persons likely to enter the confined space.
- The need for additional risk control measures, including:
  - Prohibiting hot work in adjacent areas
  - Prohibiting smoking and naked flames within the confined space and adjacent areas
  - Avoiding contamination of breathing air from operations or sources outside the confined space, for example, from the exhaust of an internal combustion engine
  - Prohibiting movement of equipment in adjacent areas (e.g. aerial work platforms and zoom booms)
  - Whether purging or cleaning in the confined space is necessary
  - Whether hot work is necessary
  - Conditions that could impede entry and exit, or the conduct of the tasks in the confined space (e.g. plant layout, dimensions, manual handling and ergonomic aspects of the task activity)

Click here for CSE risk assessment template and examples:

Confined space risk assessment template
Appendix II – Guideline for Developing Confined Space Rescue/ Response Plan

Written plan for rescue/ response must be in place before every confined space entry. The Rescue/ Response Plan will consider:

- All hazards and risks of the space as specified in the risk assessment
- Dimensions of the space, location of entry and exit points, and obstacles to removing an injured worker
- Rescue equipment required for each space
- Personal protective equipment for rescuers, including appropriate respirators for any contaminants or IDLH conditions
- Communication between workers, rescuers, the supervisor of the entry, and standby persons
- Procedures to follow immediately after an incident has occurred
- Possible hazards that may arise during rescue, the appropriate evaluation of these hazards, and control methods recommended during the risk assessment
- Rescue methods for a worker who is unconscious, unresponsive, or distressed

Rescue/ Response Plan Template:
Appendix III Guideline for Confined Space Entry Package Development

Confined Space Safe Work Plan:
The Day Shift Supervisor (DSS) will develop the safe work plan using the following information:

- Risk assessment
- Equipment description (including process)
- Process Description

The safe work plan will include:

- Contact numbers
- Purpose statement
- Prerequisites
- Equipment Description (including process)
- Control requirements for tank cleaning and preparation for maintenance under level 1 entry (when required)
- Control requirements for Level 2/3 Entry

If a safe work plan already exists, it will be reviewed, and if required, updated once the risk assessment is completed/updated.

Confined Space Entry Package Contents:
The Day Shift Supervisor (DSS) will ensure that the following documents are available as part of the Confined Space Entry work Package:

- Confined Space Package Equipment Cover Sheet
- Confined Space Package Index Sheet
- Approvals & Authorization Signatures
- Risk Assessment(s)
- Rescue/Response Plan
- Safe Work Plan
- Turnover Sheet
- Level 2/3 Entry Requirements
- Pre Entry Check Sheets
- CSE Package Review Sign off Sheets
- Confined Space Atmosphere and Entry Log Sheet
- Photos / videos of internals (optional)
- P&IDs, Drawings, SDSs
- Vessel Closure Form (optional)
Appendix IV – Guidance on Confined Space Entry Pre-Job Review Meeting

Review Meeting Attendance and Facilitation:

Maintenance Field Coordinator (or designate) assembles the following groups, as required:

- Area Operations
- Process Engineers
- Maintenance personnel
- Safety Services
- Pressure & Vacuum personnel
- Inspectors
- Emergency Services Department

This review will be led by the Maintenance Field Coordinator and attended by contractor supervisors, lead hands, crew members (including safety services), Pressure and Vacuum equipment operators, and other representatives who will be doing maintenance work.

ESD may be asked to attend if the Maintenance Field Coordinator feels their participation is required to communicate or interpret specific rescue related tasks or functions.

Several factors are used to decide if ESD required:
- Frequency of job execution
- Complexity of the CSE internals
- Access limitations such as working at high elevations

Purpose

The purpose of this review is to ensure that all personnel involved in the entry work are fully aware of:

- The hazards and risk and controls for the confined space entry
- Roles and responsibilities to ensure hazard/ risk controls are effective and remain in place throughout the job

Will accomplish by:

- Reviewing and discussing the Safe Work Plan
- Reviewing the Rescue/ Response Plan
- Reviewing and discussing the risk assessment
- Reviewing the CSE level turnover sheet
- Making time to answer people's questions regarding any aspect of the job
- Identifying all participants and discussing their roles & responsibilities
### Meeting Agenda

<table>
<thead>
<tr>
<th>Topic</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose of the review</td>
<td>Maintenance Field Coordinator</td>
</tr>
<tr>
<td>Introduction of each participant and their role</td>
<td>All</td>
</tr>
<tr>
<td>Review:</td>
<td></td>
</tr>
<tr>
<td>• Safe Work Plan</td>
<td>Maintenance Field Coordinator</td>
</tr>
<tr>
<td>• Rescue/Response Plan</td>
<td></td>
</tr>
<tr>
<td>• Risk Assessment</td>
<td></td>
</tr>
<tr>
<td>Open Floor for Questions/Concerns</td>
<td>Maintenance Field Coordinator</td>
</tr>
<tr>
<td>Sign the review meeting sign off sheet</td>
<td>All</td>
</tr>
<tr>
<td>Link: Sign off sheet template</td>
<td></td>
</tr>
<tr>
<td>Adjourn</td>
<td>Maintenance Field Coordinator</td>
</tr>
</tbody>
</table>

[Sign off sheet template]
Appendix V – Guidance on Confined Space Entry Level Turnover Sheet

Firebag Confined Space Entry Level Turnover Sheet

1. Confined Space Entry Criteria

<table>
<thead>
<tr>
<th>Level</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>O2 reading is less than 19.5% or greater than 23%</td>
</tr>
<tr>
<td>2 or 3</td>
<td>O2 reading is between 19.5% and 23%</td>
</tr>
<tr>
<td></td>
<td>LEL is greater than 20%</td>
</tr>
<tr>
<td></td>
<td>LEL is greater than 10% but less than 20%</td>
</tr>
<tr>
<td></td>
<td>LEL is equal to or greater than 0% but less than 10%</td>
</tr>
<tr>
<td>2</td>
<td>LEL is equal to 0%</td>
</tr>
<tr>
<td></td>
<td>H2S is greater than 50 ppm (Half of DLH)</td>
</tr>
<tr>
<td></td>
<td>H2S is greater than 5 ppm ([50% of OEL])</td>
</tr>
<tr>
<td></td>
<td>H2S is between 0 ppm to 5 ppm</td>
</tr>
<tr>
<td></td>
<td>CO is greater than 8 ppm (50% of 12 hour OEL)</td>
</tr>
<tr>
<td></td>
<td>CO is between 0 ppm and 5 ppm</td>
</tr>
<tr>
<td></td>
<td>SO2 is greater than 0 ppm (50% of 12 hour OEL)</td>
</tr>
<tr>
<td></td>
<td>SO2 is between 0 ppm to 5 ppm</td>
</tr>
<tr>
<td>1 or 2</td>
<td>CSE contains hazardous product and requires cleaning (Level based on RA)</td>
</tr>
<tr>
<td>1 or 2</td>
<td>CSE is in hazardous location</td>
</tr>
</tbody>
</table>

2. Initial / First Entry

<table>
<thead>
<tr>
<th>Level</th>
<th>O2</th>
<th>LEL</th>
<th>H2S</th>
<th>CO</th>
<th>SO2</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The C.S. is ready for cleaning work to commence and the entry level is designated as:

ENTRY LEVEL

OR

The C.S. is ready for Maintenance and the entry level is designated as:

ENTRY LEVEL

Ops. Supervisor (Print) Ops. Supervisor (Signature)
Maint. Supervisor (Print) Maint. Supervisor (Signature)

Date:  
Time:  

3. Cleaning Complete

<table>
<thead>
<tr>
<th>Level</th>
<th>O2</th>
<th>LEL</th>
<th>H2S</th>
<th>CO</th>
<th>SO2</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level 2</td>
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<td></td>
</tr>
<tr>
<td>Level 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The C.S. is ready for Maintenance work to commence and the entry level is designated as:

ENTRY LEVEL

Ops. Supervisor (Print) Ops. Supervisor (Signature)
Maint. Supervisor (Print) Maint. Supervisor (Signature)

Date:  
Time:  
1. **Confined Space Entry Level Gas Testing Criteria:**
   This section covers gas testing criteria for initial/first entry, continuous and periodic testing.

   **Notes:**
   - If the Confined Space does not meet the gas testing criteria, contact the Shift Supervisor for guidance.
   - Specialized testing (i.e.: btex, norms etc.) will be determined and conducted by the Industrial Hygiene Department. If specialized testing is unclear, contact the Day Shift Supervisor for guidance.

2. **Initial/First Entry**
   This section is completed after the initial entry gas testing and internal inspection. The Operations Shift Supervisor (or designate) and Maintenance Field Coordinator (or designate) fill out this section:

   - Further purging or chemical cleaning is required (Confined Space Entry not allowed)
   - Cleaning is required under Level 1 or Level 2 (Confined Space Entry allowed)
   - Maintenance activities can commence under 1, 2, or 3

   **Notes:**
   - If a Confined Space is left vacant and gas testing has been continuous or conducted within 1 hour and all applicable controls in the confined space package are in place (i.e.: air movers are running and have not been shut off), the space can remain at its current level.
   - Typically cleaning will be conducted under Level 1, even when initial gas testing indicates the space is a Level 2. The entry level for cleaning will be noted on the risk assessment.
   - Operations Shift Supervisor (or designate) and Maintenance Supervisor (or designate) signatures are required to proceed.

3. **Cleaning Complete**
   This section is completed after Confined Space cleaning under level 1 or 2. Gas testing is performed and internals are inspected to confirm Confined Space is ready for Maintenance Activities.

   **Notes:**
   - Operations Shift Supervisor (or designate) and Maintenance Field Coordinator (or designate) signatures are required to proceed.
   - If confined space cleaning was not required after initial/first entry, disregard this section.
The following individuals have approved and signed this document:

UserName: Tom Gear (tgear)
Title: GM Operations Firebag
Date: Tuesday, 24 July 2018, 06:24 AM Mountain Daylight Time
Meaning: I approve that this document is valid.

UserName: Jon MacDonald (jsmacdonald)
Title: GM M&R In Situ
Date: Tuesday, 24 July 2018, 07:35 AM Mountain Daylight Time
Meaning: I approve that this document is valid.