

Oil Sands Safety Association (OSSA)

CONFINED SPACE

Regional Code of Practice (RCOP)

RCOP 2010 – Rev01



TM

TABLE OF CONTENTS

1.0 PURPOSE	3
1.1 DISCLAIMER	3
1.2 INTRODUCTION	3
1.3 SCOPE.....	4
1.4 ACCOUNTABILITY	4
1.5 EMPLOYER AND EMPLOYEE RESPONSIBILITIES	5
2.0 CONFINED SPACE AND RESTRICTED SPACE - RCOP BASICS	5
3.0 SECTION 1 - CONFINED SPACE	9
3.1.1 CONFINED SPACE LEVEL 1	10
3.1.2 CONFINED SPACE LEVEL 2	10
3.1.3 CONFINED SPACE LEVEL 3	11
4.0 ENTRY PERMIT SYSTEM.....	13
5.0 CONFINED SPACE TAGS & SIGNAGE	14
6.0 CONFINED SPACE MONITOR.....	15
7.0 APPENDIX “I” SIGNAGE AND TAGGING.....	17
8.0 SECTION 2 - RESTRICTED SPACE.....	25
9.0 APPENDIX “IP” - DEFINITIONS.....	27
APPENDIX III - COMPETENCY GUIDE LINE FOR EMPLOYER USE.....	30
APPENDIX IV - COMPETENCY GUIDE LINE SIGN-OFF SHEET FOR EMPLOYERS	32

1.0 PURPOSE

To define a Regional Code of Practice which will ensure the safety of workers who enter a Confined or Restricted Space and meet requirements of Alberta's Occupational Health and Safety, Act, Regulation and Code. At anytime should Legislation requirements change they shall take precedence over this Code.

Exceptions to this Standard or Regional Code of Practice must be endorsed by the Board of Directors of the OSSA.

1.1 DISCLAIMER

The information in this publication is solely for general illustration and instructional purposes and does not, in any way, create a business or professional services relationship. The Standards set out herein will not apply to every circumstance. The Standards are not a definitive guide to the OH&S Act (Occupational Health & Safety Act) or the accompanying Regulations and regardless of the Standards set out herein; each reader and user is solely responsible for their own compliance with all applicable Legislation, including the OH&S Act. The OSSA assumes no obligation to update the Standards set out herein or to advise on further developments concerning the topics mentioned herein.

The Occupational Health, Safety and training of employees in the workplace remain the responsibility of each employer and employee.

The OSSA and its employees, agents and contractors and the Members of the OSSA (collectively the "OSSA Members and Employees") are not responsible for the contents of this Standard, for any errors or omissions herein or for the results obtained from the use of the information contained in this Standard or for any training programs that may be developed from the use of the information in this Standard. Each Training Provider is completely responsible for its own training programs. All information set out in this Standard is provided "as is", with no guarantee of completeness, accuracy, timeliness or of the results obtained from the use of this Standard. There is no warranty of any kind, express or implied, including, without limitation, warranties of performance, merchantability and fitness for a particular purpose. In no event will the OSSA Members and Employees be liable to the reader, user or anyone else for any decision made or action taken in reliance on the information in this Standard or for any consequential, special, or similar damages (including, without limitation, personal injury), even if advised of the possibility of such damages, arising or resulting from the information contained in this Standard or for any violation by such user, reader or other person of any Legislation.

Certain words, phrases, names, designs or logos used in this Standard may constitute trademarks, service marks or trade names of the OSSA and its Member Organizations. The display of any such marks or names in this Standard does not imply that a license has been granted by the OSSA or any of its Members to use such marks or names.

1.2 INTRODUCTION

The entry of Confined and Restricted Spaces is a necessary part of the operation and maintenance of the Oil Sands Facilities. Entries are required for inspections; maintenance; repairs and cleaning; construction activities, or any other similar operations which are done as a part of the daily operation of the plant sites and are essential for the continued ongoing operation of the facilities. Unplanned or uncontrolled Confined or Restricted Space entries can potentially be extremely hazardous to the health of those attempting to execute them.

The practice outlined herein is viewed as a means of protecting the health of the individual by significantly reducing the risk of accidental injury associated with entering Confined or Restricted Spaces, and to make the employee aware of the hazards associated with the work and the safe practices necessary to deal with these hazards.

Understanding and applying the Health and Safety principles are fundamental to the proper implementation of this Code of Practice. This Code of Practice supports the fundamental principles developed by each operating area or facility under each organization's Management Systems. It also identifies the maintenance required of ongoing programs to ensure the safety and health of all workers and reduce the probability and magnitude of incidents in and around Confined or Restricted Spaces at the Oil Sands plant sites.

Each facility shall develop and regularly audit its own specific standards to ensure that such standards meet the needs of their specific work place and comply with the Code and all applicable Legislative safety requirements.

1.3 SCOPE

This Code of Practice applies to all employees of Shell Albian Sands Energy, Canadian Natural Resources Ltd., Suncor Energy Inc., and Syncrude Canada Ltd., and their contractors, subcontractors and vendors.

This Code of Practice has been developed by representatives from the aforementioned organizations in conjunction with the Oil Sands Safety Association (OSSA).

1.4 ACCOUNTABILITY

In accordance with the Alberta Occupational Health & Safety (OH & S) Act, Chapter 1, Section 2 (1) – Obligations of employers, workers, etc.

- 1) Every employer shall ensure, as far as it is reasonably practicable for the employer to do so,
 - a. The health and safety of:
 - i. Workers engaged in the work of that employer, and
 - ii. Those workers not engaged in the work of that employer but present at the work site at which that work is being carried out, and
 - b. That the workers engaged in the work of that employer are aware of their responsibilities and duties under this Act, the regulations and the adopted code.

- 2) Every worker shall, while engaged in an occupation:
 - a. Take reasonable care to protect the health and safety of the worker and of other workers present while the worker is working, and
 - b. Co-operate with the worker's employer for the purposes of protecting the health and safety of:
 - i. The worker,
 - ii. Other workers engaged in the work of the employer, and
 - iii. Other workers not engaged in the work of that employer but present at the work site at which that work is being carried out.

1.5 EMPLOYER AND EMPLOYEE RESPONSIBILITIES

EMPLOYER RESPONSIBILITIES:

In addition to Section 1.4 of this RCOP where a Confined Space is to be entered by workers the employer or designate (e.g. Supervisor) is responsible to ensure that:

- a. Adequate steps have been taken to eliminate/control all hazards present,
- b. All applicable Legislative requirements, this Code of Practice and any other facilities specific standards, rules, procedures, and practices are followed,
- c. Ensure all workers are “competent” (see Definition Appendix II) to perform duties assigned. This can be achieved by completing and signing the Competency Guide Line (see Appendix III) or by developing your own competency assurance guide. Frequency of the competency assurance is left to the discretion of the Employer. When utilized this Competency Assurance must be documented and retained (See Appendix IV).

EMPLOYEE RESPONSIBILITIES:

In addition to Section 1.4 of this RCOP where a Confined Space is to be entered by workers the employee is responsible to ensure that:

- a. They have received training to perform task or duties assigned,
- b. They utilize the training received to perform task or duties assigned,
- c. They follow all applicable Legislative requirements, this Code of Practice and any other facilities specific standards, rules, procedures, and practices,
- d. They identify to their supervisor when they feel they are not competent to perform the tasks or duties assigned.

2.0 CONFINED SPACE AND RESTRICTED SPACE - RCOP BASICS

2.1 HAZARD ASSESSMENTS

In generality, the purpose of a hazard assessment is to identify and evaluate those conditions that could lead to workers getting hurt or becoming ill. Assessing hazards involves taking a look at what could harm workers at a workplace – the typical question to ask is “What could go wrong?”

Doing a hazard assessment allows the employer and employees to identify whether appropriate precautions have already been taken to prevent accidents and injuries, or whether more needs to be done. A hazard assessment takes into account the hazards specific to the work task being done.

It also takes into account the potential for hazards present in the surroundings to affect the worker performing the task e.g. movement of vehicles, upset of stored materials, collapse of unsecured structures, collapse of earthen piles, surrounding processes, adjacent activities, when processes or conditions change, etc.

2.2 CONFINED SPACE AND RESTRICTED SPACE HAZARD ASSESSMENTS

As per Part 5, Section 45 of the Alberta Occupational Health & Safety Code:

If a worker will enter a Confined Space or a Restricted Space to work, an employer must appoint a competent person to:

- a. Identify and assess the hazards the worker is likely to be exposed to while in the Confined Space or Restricted Space,

- b. Specify the type and frequency of inspections and tests necessary to determine the likelihood of worker exposure to any of the identified hazards,
- c. Perform the inspections and tests specified,
- d. Specify the safety and personal equipment required to perform the work, and
- e. Identify the personal protective equipment and emergency equipment to be used by a worker who undertakes rescue operations in the event of an accident or other emergency.

This assessment will also include and identify emergency evacuation and communication requirements.

This assessment will be written, dated and approved by appropriate level of supervision.

Note: Affected workers will be involved in the hazard assessment and in the control or elimination of the hazards identified (i.e. through the Field Level Hazard Assessment, Job Hazard Analysis, or Permit System processes)

2.3 HIERARCHY OF HAZARD ASSESSMENT FOR CONFINED SPACES AND RESTRICTED SPACES

Hazard assessments related to Confined Space or Restricted Space Entries are conducted by various levels of employers and employees involved in the preparation of and entry of the Confined or Restricted Space.

Multiple levels of hazard assessment are required to determine if a space is a Confined Space - Level 1, 2 or 3 or a Restricted Space. Identification of the type of space will be determined by the specific tasks conducted within the space.

- a. Initial Hazard Assessment for Entry
 - i. Normally performed by the equipment owner,
 - ii. Considers current and past service of the equipment,
 - iii. Considers the design, access and egress limitations,
 - iv. Considers all preparation and controls required if applicable, to permit safe entry.
- b. Work Scope Hazard Assessment (e.g. Job Safety Analysis)
 - i. Normally performed by the supervision of the crew undertaking the task with worker involvement,
 - ii. Considers the detailed scope of work to be performed and the impact that the work may have on the atmosphere within the space or the personnel entering or working in the space,
 - iii. Identifies the hazards associated with the detailed scope of work to be performed and details the required controls to address the hazards identified,
 - iv. Any changes in work scope at any time must be relayed back to the equipment owner so that the classification of entry can be re examined to ensure the correct classification of the space.
- c. Field Level Hazard Assessment
 - i. Normally performed by all workers involved in the task,
 - ii. Considers immediate ambient conditions in the task area prior to commencement of work,
 - iii. Identifies hazards related to the specific task(s) being performed and details the required controls to address the hazards identified,

- iv. Shall be updated to reflect any changes in the task identifying any new related hazards and controls.

NOTE: Hierarchy of Controls for Hazards are as follows: Elimination, Engineering (Substitution), Administrative, and PPE. (As per Part 2 of Alberta OH&S Code)

Is this a Confined Or Restricted Space?

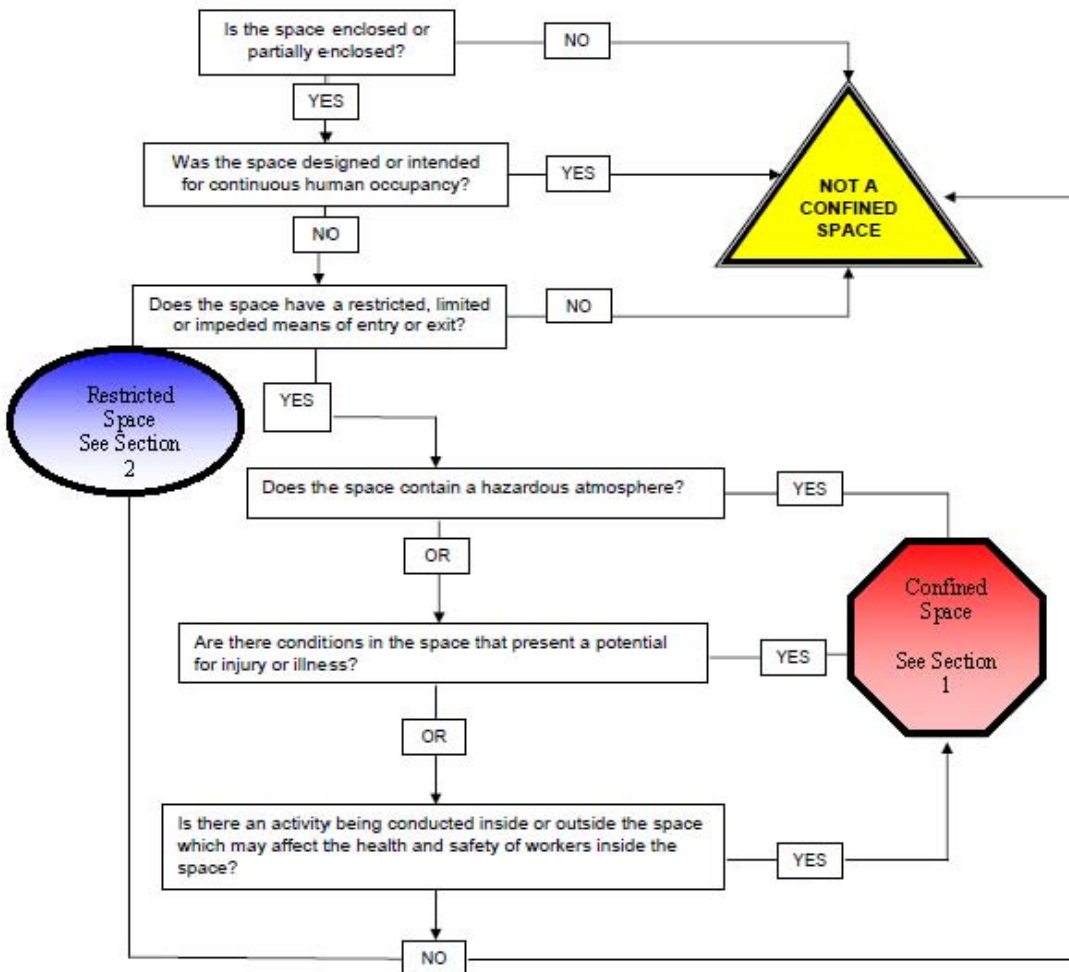


Figure 1

Flow Chart Source: OH & S Explanation Guide 2009

Section 1 – Refer to pages 11 – 18

Section 2 – Refer to pages 27 - 28

2.4 TRAINING

Role of Employer:

- 1) An employer must ensure that a worker assigned duties related to **Confined Space** or a **Restricted Space** Entry is trained by a competent person in:
 - a. Recognizing hazards associated with working in Confined Spaces or Restricted Spaces, and
 - b. Performing the worker's duties in a safe and healthy manner.
- 2) An employer must keep records of the training given under subsection (1)
- 3) An employer must ensure that competence in the following is represented in the workers responding to a Confined Space or Restricted Space emergency:
 - a. First aid,
 - b. The use of appropriate emergency response equipment,
 - c. Procedures appropriate to the Confined Space or Restricted Space.

2.5 SAFETY AND PROTECTION

Employers Responsibility:

- 1) An employer must ensure that:
 - a. If a Lifeline is required in a Confined Space or a Restricted Space, it is used in a manner that does not create an additional hazard.
 - b. The safety and personal protective equipment required is available to workers entering a Confined Space or Restricted Space,
 - c. A worker, who enters, occupies or leaves a Confined Space or Restricted Space uses the safety and personal protective equipment,
 - d. The personal protective, emergency and rescue equipment required is available to workers undertaking rescue operations in a Confined Space or Restricted Space,
 - e. Equipment appropriate to Confined Space or Restricted Space, including Personal Protective Equipment, is available to perform a timely rescue, and;
 - f. A communication system is established that is readily available to workers in a Confined Space or Restricted Space and is appropriate to the hazards. (See Definition in Appendix II),
 - g. Workers in a Confined Space or Restricted Space are protected from hazards created by traffic in the vicinity of the Confined Space or Restricted Space,
 - h. Workers affected by the hazards identified in the hazard assessment report will be informed of the hazards and the methods used to control or eliminate the hazards.
- 2) An employer must ensure that all personal protective equipment, and emergency equipment required for use in a Confined Space or Restricted Space is inspected by a competent person before workers enter the Confined Space or Restricted Space to ensure the equipment is in good working order.
 - a. Each employee is responsible for inspection of his or her basic Personal Protective Equipment (PPE); documentation of inspection will be recorded on the workers Field Level Risk Assessment (FLRA),
 - b. Employer shall ensure specialized PPE and emergency equipment will be inspected and maintained as per manufacturer's specifications.

- 3) An employer must ensure that written records of the inspections required by legislation are retained. (e.g. FLRA, Job Safety Analysis (JSA) sign off, Respiratory Protective Equipment (RPE) as per Legislation, etc.).

2.6 EMERGENCY RESPONSE

As per Part 5, Section 55 of the Alberta Occupational Health & Safety Code:

- 1) An employer must ensure that a worker does not enter or remain in a Confined Space or Restricted Space unless an effective rescue can be carried out.
- 2) A worker must not enter or stay in a Confined Space or Restricted Space unless an effective rescue can be carried out.
- 3) An employer must ensure that the emergency response plan includes the emergency procedures in place to evacuate the Confined Space or Restricted Space immediately.
 - a. When an alarm is activated,
 - b. If the concentration of oxygen inside the confined space drops below 19.5 percent by volume or exceeds 23.0 percent by volume, or
 - c. If there is a significant change in the amount of hazardous substances inside the Confined Space.
- 4) An employer must ensure that an effective means of communication is in place to summon emergency response.

3.0 SECTION 1 - CONFINED SPACE

3.0.1 Confined Space Definition

Confined Space is an enclosed or partially enclosed space, not intended for continuous human occupancy that has a restricted, limited or impeded means of entry or exit because of its construction, which may become hazardous to a worker because of:

- a. An atmosphere that is or may be injurious by reason of oxygen deficiency or enrichment, flammability, explosivity, or toxicity,
- b. A condition or changing set of circumstances within the space that present a potential for injury or illness, or
- c. The potential or inherent characteristics of an activity which can produce adverse or harmful consequences within the space.

3.0.2 Identifying a Confined Space (see Figure 1 – Page 8)

- 1) A location will be considered a Confined Space if:
 - a. It is determined by an approved Hazard Assessment that it is a Confined Space,
 - b. Entry requires permitting and gas testing, as designated by area work practices,
 - c. Activities conducted within or within the vicinity of the Confined Space has the potential to change the atmospheric conditions of the Confined Space,
 - d. Requires additional equipment preparation and controls to permit safe entry.

3.1 CLASSIFICATION OF CONFINED SPACE LEVELS

To reflect the relative hazards, and to ensure a consistent approach, Confined Space entries have been classified into Level 1, Level 2, and Level 3. The classification of entry shall be based on the conditions present at the time of entry with consideration for potential changes of conditions as identified in the hazard assessment.

Note: A person must not enter or work at a work area if more than 20 percent of the lower explosive limit of a flammable or explosive substance is present in the atmosphere (as per OH&S Code Part 10)

3.1.1 Confined Space Level 1

- 1) A Confined Space will be considered Level 1 if the entry is either the first or initial entry or *any* of the following apply:
 - a. The hazards in the Confined Space or in its proximity are either not known or have not been determined,
 - b. Oxygen concentration is less than 19.5% or more than 23.0% by volume,
 - c. Explosive or flammable atmosphere **between** 10% and 20% Lower Explosive Limit (“LEL”),
 - d. The area atmosphere exceeds the protective limits of air purifying respiratory equipment or is at/or above IDLH (Immediately Dangerous to Life or Health) concentration of a toxic material/substance.
- 2) The following controls must be put in place for a “Level 1” classified entry:
 - a. Will require an approved hazard assessment,
 - b. Supplied breathing air available and worn,
 - c. Continuous atmospheric testing,
 - d. All Entrants and Monitors must be trained in the use of supplied breathing air equipment,
 - e. PPE as per the approved hazard assessment,
 - f. A competent Confined Space Monitor in attendance at all times,
 - g. A specific, documented Rescue Plan which has been developed reviewed and approved by the equipment owner and the Emergency Response Representative,
 - h. A valid Confined Space Entry Permit,
 - i. A valid Level One Entry Tag hung at each entrance,
 - j. A documented Evacuation Plan,
 - k. Confined Space Signage as per the Level of Entry classification.

Note: Any time a Level 1 entrance is left unattended the entrance must be barricaded physically and a “Danger Do Not Enter” sign displayed across the entrance. (Figure 3 – Page 21)

3.1.2 Confined Space Level 2

- 1) A Confined Space will be considered Level 2 if all identified hazards are controlled and
 - a. Oxygen concentration is between 19.5% and 23.0% by volume, and
- 2) Either of the following exists or is likely to exist:
 - a. Explosive or flammable atmosphere > (greater than) 1% and < (less than) 10% Lower Explosive Limit (“LEL”),
 - b. Concentration of toxic substances exceeds 50% of the Occupational Exposure Limit (“OEL”).

- 3) The following controls must be put in place for a “Level 2” classified entry:
 - a. Will require an approved hazard assessment,
 - b. A Competent Confined Space Monitor in attendance at all times,
 - c. A valid Confined Space Entry Permit,
 - d. A valid Safe Entry Tag hung at each entrance,
 - e. A documented Evacuation Plan,
 - f. A valid Rescue Plan,
 - g. PPE as per the approved hazard assessment,
 - h. Continuous atmospheric testing if there is a potential for the atmosphere to change unpredictably,
 - i. Confined Space Signage as per the Level of Entry Classification.

3.1.3 Confined Space Level 3

- 1) A Confined Space will be considered Level 3 if all identified hazards are controlled, the potential for change is unlikely, and **all** of the following apply:
 - a. Oxygen concentration is between 19.5% and 23.0% by volume,
 - b. Concentration of explosive gases is less than 1% of LEL,
 - c. Airborne concentration of toxic substances is less than 50% of OEL.
- 2) The following controls must be put in place for a “Level 3” classified entry:
 - a. Will require an approved hazard assessment,
 - b. A competent Confined Space Monitor may be required,
 - c. A valid Confined Space Entry Permit,
 - d. A valid Safe Entry Tag hung at each entrance,
 - e. A documented Evacuation Plan,
 - f. A valid Rescue Plan,
 - g. PPE as per the approved hazard assessment,
 - h. Confined Space Signage as per the Level of Entry classification.

Note: If the hazard assessment determines that a Confined Space Monitor is not required at the point of entry, a competent worker must be designated to be in communication with worker(s) in a Confined Space. (e.g. Co-worker, buddy system) The entry log must still be maintained.

3.1.4 Protection - Hazardous Substances and Energy

- 1) An employer must ensure that workers within a Confined Space are protected by means of isolation against the release of hazardous substances or energy that could harm them.
- 2) An employer must ensure that a worker does not enter a Confined Space unless adequate precautions are in place to protect a worker from drowning, engulfment or entrapment.

3.1.5 Testing the Atmosphere

- 1) If the hazard assessment identifies a potential atmospheric hazard and a worker is required or authorized by an employer to enter the Confined Space, the employer must ensure that a competent worker performs a pre-entry atmospheric test of the Confined Space:
 - a. Verify that the oxygen content is between 19.5 percent and 23.0 percent by volume,
 - b. Identify the amount of toxic substance,
 - c. Identify the amount of flammable or explosive substance that may be present.
- 2) The employer must ensure that the testing required is performed using calibrated test instruments appropriate for the atmosphere being tested and the instruments are used in accordance with the manufacturer's specifications.
- 3) The employer must ensure that as often as necessary after the first time a worker enters the Confined Space, a competent worker:
 - a. Performs and records the tests and,
 - b. Identifies and records any additional hazards.
- 4) If tests identify additional hazards, the employer must control or eliminate the identified hazards. Any additional hazards identified must be included in the original hazard assessment.

3.1.6 Ventilation and Purging

- 1) If the atmospheric testing identifies that a hazardous atmosphere exists or is likely to exist in a Confined Space, an employer must ensure that the Confined Space is ventilated, purged or both before a worker enters the Confined Space.
- 2) If ventilating or purging a Confined Space is impractical or ineffective in eliminating a hazardous atmosphere, the employer must ensure that a worker who enters the Confined Space uses personal protective equipment appropriate for the conditions within the Confined Space.
- 3) If mechanical ventilation is needed to maintain a safe atmosphere in a Confined Space during the work process, an employer must ensure it is provided and operated as needed.
- 4) If mechanical ventilation is required to maintain a safe atmosphere in the Confined Space, the employer must ensure that:
 - a. The ventilation system incorporates a method of alerting workers to a failure of the system so that workers have sufficient time to safely leave the Confined Space, and
 - b. All workers must evacuate a Confined Space or use an alternative means of protection if a ventilation system fails.

3.1.7 Inerting

- 1) An employer must ensure that a Confined Space is inerted if it is not reasonably practicable to eliminate an explosive or flammable atmosphere within the Confined Space through another means.

- 2) If a Confined Space is inerted, an employer must ensure that:
 - a. Every worker entering the Confined Space is equipped with supplied air respiratory protection equipment,
 - b. All ignition sources are controlled,
 - c. The atmosphere within the Confined Space stays inerted while workers are inside.

4.0 ENTRY PERMIT SYSTEM

The Entry Permit System contains several components; An Entry Tag which must be completed before any permit is issued for entry to a Confined Space, the Safe Work Permit for Entry, an Entry Log and specific Confined Space Signage.

4.1 ENTRY TAG

Before any permit is issued for entry to a Confined Space, an Entry Tag must be completed and hung at the entrance to the Confined Space by the equipment owner and will contain the following information as a minimum:

- a. Equipment number, identification or description,
- b. Entry level,
- c. Checks completed (gas tests, temperature, cleanliness, etc.),
- d. Frequency of subsequent tests,
- e. Personal protective equipment required for entry,
- f. Name and signature of tester,
- g. Date and time and results of all atmospheric tests,
- h. On the reverse of the tag the date, time and results of subsequent atmospheric tests will be recorded.

Confined Space Level 1 Entry Tag (Figure 5 & 6 - Pages 23 - 24)

- a. A visually distinguishable **Salmon Pink (Pantone 805) and White Level 1 Entry tag** shall be used to identify the space as being Immediately Dangerous to Life or Health (IDLH).

Confined Space Level 2 & 3 Entry Tag (Figure 7 & 8 – Pages 25 -26)

- a. A **Green and Yellow Safe Entry Tag** shall be used. (See Appendix I)

4.2 ENTRY PERMIT

- 1) A person must not enter a Confined Space without a valid entry permit.
- 2) An employer must establish an entry permit system for a Confined Space that:
 - a. Maintains a list of the names of each worker who enters the Confined Space,
 - b. Gives the location of the Confined Space,
 - c. Specifies the time during which an entry permit is valid,
 - d. Takes into account the work being done in the Confined Space,
 - e. Takes into account the Code of Practice requirements for entering, being in and leaving a Confined Space,

- f. Ensures all required documents are collected and maintained for retention.
- 3) An employer must ensure that, before a worker enters a Confined Space, an entry permit is properly completed, signed by a competent person and a copy kept readily available at the Confined Space location.

5.0 CONFINED SPACE TAGS & SIGNAGE

Whenever an entrance to a Confined Space is left unattended 3 types of signs are used as indications of the status of the space and the requirements for entry. Do not allow Confined Space Entry Signs to be hung overlapping (except in the case of an emergency) or allow the signs to be attached to each other where they can inadvertently cover up a valid entry sign.

5.0.1 Danger, Do Not Enter: (Figure 3 – Page 21)

This sign overrides all other signs at entrances to Confined Spaces. When it is in place NO ONE is to enter the space under any circumstances. Operations personnel are the only personnel who are allowed to remove this sign.

This sign will be placed immediately upon opening the space by the equipment owner and if an event occurs that could compromise the conditions in a Confined Space.

For Confined Space Level 1 entries the "DANGER, DO NOT ENTER" sign must be hung at the entrances every time the space is left unattended.

For Confined Space Level 2 & 3 entries, a "DANGER DO NOT ENTER" sign must be hung at the entrance whenever the space is evacuated due to emergency.

If entry is required into a Confined Space, Operations personnel must be contacted to evaluate the conditions of the Confined Space, test the atmosphere of the space, and remove the sign if everything meets the standards to enter and work.

5.0.2 Confined Space Monitor and Permit Required for Entry: (Figure 2 – Page 20)

Operations Personnel will hang a Confined Space Monitor and Permit Required for Entry Sign to signify that a space is safe to enter. People authorized to enter must have a valid Safe Work Entry Permit and a valid Safe Entry Tag is in place. There must be a Confined Space Monitor present at the entrance prior to entering.

This sign can be removed by the Confined Space Monitor provided all the permit criteria are met and the Safe Entry Tag is valid and current.

For Level 2 & 3 Confined Space entries, when the Confined Space is left unattended, provided the status of the Confined Space has not changed, this sign must be hung at the entrance by the Confined Space Monitor when leaving.

5.0.3 Confined Space Required for Entry:(Figure 4 – Page 22)

For Level 3 Confined Space entries where a **Confined Space Monitor is not required**, this sign must be hung by the Operations Personnel at the entrance to indicate that although there is a Safe Entry Tag on it, the space can only be entered with a valid Safe Work Entry Permit.

6.0 CONFINED SPACE MONITOR

6.1 CONFINED SPACE LEVEL 1 & 2 ENTRY

- 1) For every Level 1 and 2 Confined Space Entry, a competent Confined Space Monitor will be assigned.
- 2) The Confined Space Monitor will:
 - a. Hold valid Monitor Certification,
 - b. Be deemed competent as a Confined Space Monitor by their employer,
 - c. Be capable and equipped to summon rescue personnel, if required. A means of communication (See definition Appendix II) is mandatory,
 - d. Be in communication or visual contact with personnel inside the Confined Space at all times,
 - e. Initiate evacuation as necessary, and ensure proper signage is posted at the entrance(s) to the Confined Space,
 - f. **NEVER** leave the entrance to the Confined Space with people inside unless properly relieved by another Certified Monitor,
 - g. **NEVER** enter the Confined Space for any reason,
 - h. **NEVER** become directly involved in any activity that distracts from the primary duty as a Confined Space Monitor.
 - i. After verifying all personnel have exited the Confined Space, ensure correct signage is in place prior to leaving the Confined Space entrance(s) unattended (e.g. breaks and end of shift),
 - j. Control the number of personnel allowed in the Confined Space, as identified by hazard assessment,
 - k. Maintain a Confined Space Entry and Exit log (as per site specific requirements) for the duration of the job. The logs must be safely stored for record retention purposes,
 - l. Ensure Entry and Exit points are kept clear and clean,
 - m. Maintain awareness of potential hazards in the vicinity of the Confined Space that may affect the health and safety of the worker(s) inside,
 - n. Be identified by wearing a blue Confined Space Monitor vest.

6.2 CONFINED SPACE LEVEL 3 ENTRY

Confined Space Level 3 Entries may require a Confined Space Monitor as determined by the hazard assessment. If a Confined Space Monitor is not deemed necessary a competent worker designated by the employer must be in communication with the worker(s) in a Confined Space.

6.3 CONFINED SPACE ENTRANT TRACKING

For all Confined Space Level 1 and 2 entries, and when there is a Confined Space Monitor on a Level 3 entry, all personnel who enter the Confined Space will leave their ID Card outside the space. (I.e. clipped to the ring, board or cable, etc. provided at the entrance, so as to be conspicuously located at the entrance to the Confined Space).

Personnel are expected to enter and leave a Confined Space by the same entrance. If this is not possible, then they must return to their point of entry to retrieve their ID card and inform the Confined Space Monitor as soon as they exit the Confined Space.

All Levels of Confined Spaces require the Entrant Tracking Log to be in place at the entrance to the Confined Space, and maintained for all entries.

6.4 RETAINING RECORDS

As per OH&S Part 5 Section 58 Retaining Records: An employer must ensure that all records with respect to entry and work in a Confined Space, including entry permits, safe entry tags and entry or exit logs are retained for not less than

- a. 1 year if no incident or unplanned event occurred during the entry, or
- b. 2 years if an incident or unplanned event occurred during the entry.

7.0 APPENDIX “T” SIGNAGE AND TAGGING

CONFINED SPACE ENTRY SIGNAGE AND TAGGING SYSTEM



FIGURE 2



FIGURE 3



FIGURE 4

FRONT SIDE OF LEVEL ONE ENTRY TAG

LEVEL ONE ENTRY TAG

EQUIPMENT # _____

DANGER
THE ATMOSPHERE IN THIS SPACE WILL NOT SUPPORT LIFE.
SUPPLIED BREATHING AIR IS REQUIRED

CHECKS COMPLETED	RESULT	DATE/TIME	INITIALS
FLAMMABLE/EXPLOSIVE VAPOURS			
CARBON MONOXIDE (CO)			
HYDROGEN SULPHIDE (H ₂ S)			
SULPHUR DIOXIDE (SO ₂)			
AMMONIA (NH ₃)			
OXYGEN CONTENT (% O ₂)			
OTHERS:			
MECHANICAL ISOLATION (Blinds, Double Block & Bleed, Disconnects)			
ELECTRICAL ISOLATION			
CLEANLINESS			
VISUAL INSPECTION			

FREQUENCY OF TESTS: _____
 (Record subsequent test results on reverse)

PERSONAL PROTECTIVE EQUIPMENT:

Hard Hat: ___ Safety Boots: ___ Safety Glasses: ___

Hearing Protection: ___ Goggles: ___ Face Shield: ___

Respiratory Protection (Supplied Breathing Air):

Fall Protection (specify):

Fire Resistant Work Wear: _____

This Confined Space may be entered providing Permit and PPE criteria are met.

_____ (print) _____ (signature)

Date: _____ Time: _____

FIGURE 5

LEVEL ONE ENTRY TAG

RETESTS FOR CONDITIONS ON FRONT OF TAG

DANGER
THE ATMOSPHERE IN THIS SPACE WILL NOT SUPPORT LIFE.
SUPPLIED BREATHING AIR IS REQUIRED

CHECKS COMPLETED	RESULT	DATE/TIME	INITIALS
FLAMMABLE / EXPLOSIVE VAPOURS			
CARBON MONOXIDE (CO)			
HYDROGEN SULPHIDE (H ₂ S)			
SULPHUR DIOXIDE (SO ₂)			
AMMONIA (NH ₃)			
OXYGEN CONTENT (% O ₂)			
VISUAL INSPECTION			
OTHERS:			

CHECKS COMPLETED	RESULT	DATE/TIME	INITIALS
FLAMMABLE / EXPLOSIVE VAPOURS			
CARBON MONOXIDE (CO)			
HYDROGEN SULPHIDE (H ₂ S)			
SULPHUR DIOXIDE (SO ₂)			
AMMONIA (NH ₃)			
OXYGEN CONTENT (% O ₂)			
VISUAL INSPECTION			
OTHERS:			

CHECKS COMPLETED	RESULT	DATE/TIME	INITIALS
FLAMMABLE / EXPLOSIVE VAPOURS			
CARBON MONOXIDE (CO)			
HYDROGEN SULPHIDE (H ₂ S)			
SULPHUR DIOXIDE (SO ₂)			
AMMONIA (NH ₃)			
OXYGEN CONTENT (% O ₂)			
VISUAL INSPECTION			
OTHERS:			

COMMENTS:

FIGURE 6

FRONT SIDE OF SAFE ENTRY TAG

SAFE ENTRY TAG

EQUIPMENT # _____

ENTRY LEVEL: _____

CHECKS COMPLETED	RESULT	DATE/TIME	INITIALS
FLAMMABLE / EXPLOSIVE VAPOURS			
CARBON MONOXIDE (CO)			
HYDROGEN SULPHIDE (H ₂ S)			
SULPHUR DIOXIDE (SO ₂)			
AMMONIA (NH ₃)			
OXYGEN CONTENT (% O ₂)			
OTHERS:			
MECHANICAL ISOLATION (Blinds, Double Block & Bleed, Disconnects, Plugs, etc.)			
ELECTRICAL ISOLATION			
TEMPERATURE			
CLEANLINESS			
VISUAL INSPECTION			

FREQUENCY OF TESTS: _____
(Record subsequent test results on reverse)

PERSONAL PROTECTIVE EQUIPMENT:

Hard Hat: ___ **Safety Boots:** ___ **Safety Glasses:** ___

Hearing Protection: ___ **Goggles:** ___ **Face Shield:** ___

Respiratory Protection (specify type and cartridge):

Fall Protection (specify):

Fire Resistant Work Wear: _____

This Confined Space may be entered providing Permit and PPE criteria are met.

_____ (print) _____ (signature)

Date: _____ Time: _____

FIGURE 7

BACK SIDE OF SAFE ENTRY TAG

SAFE ENTRY TAG

RETESTS FOR CONDITIONS ON FRONT OF TAG

CHECKS COMPLETED	RESULT	DATE/TIME	INITIALS
FLAMMABLE / EXPLOSIVE VAPOURS			
CARBON MONOXIDE (CO)			
HYDROGEN SULPHIDE (H ₂ S)			
SULPHUR DIOXIDE (SO ₂)			
AMMONIA (NH ₃)			
OXYGEN CONTENT (% O ₂)			
VISUAL INSPECTION			
OTHERS:			

CHECKS COMPLETED	RESULT	DATE/TIME	INITIALS
FLAMMABLE / EXPLOSIVE VAPOURS			
CARBON MONOXIDE (CO)			
HYDROGEN SULPHIDE (H ₂ S)			
SULPHUR DIOXIDE (SO ₂)			
AMMONIA (NH ₃)			
OXYGEN CONTENT (% O ₂)			
VISUAL INSPECTION			
OTHERS:			

CHECKS COMPLETED	RESULT	DATE/TIME	INITIALS
FLAMMABLE / EXPLOSIVE VAPOURS			
CARBON MONOXIDE (CO)			
HYDROGEN SULPHIDE (H ₂ S)			
SULPHUR DIOXIDE (SO ₂)			
AMMONIA (NH ₃)			
OXYGEN CONTENT (% O ₂)			
VISUAL INSPECTION			
OTHERS:			

COMMENTS: _____

FIGURE 8

8.0 SECTION 2 - RESTRICTED SPACE

8.0.1 RESTRICTED SPACE

The 2009 Edition of the OH&S Code has introduced the concept of a “Restricted Space”. As discussed below, Restricted Spaces and Confined Space share certain common characteristics. They differ however in key areas that may help employers and workers to operate more safely and efficiently.

Like Confined Spaces, Restricted Spaces have a limited means of entry and exit. Entry points may not be designed for easy walk in. Other limitations include access by ladders or by stairways that provide poor access because of steep slope, narrow width or extreme length. Physical obstructions such as bulkheads, collapsed material, or machinery may impede exit. Limited means of entry and exit can make escape or rescue difficult.

8.0.2 RESTRICTED SPACE DEFINITION:

A “Restricted Space” is an enclosed or partially enclosed space, not intended for continuous human occupancy that has a restricted, limited or impeded means of entry or exit because of its construction. **All other hazards are either non-existent or have been eliminated or controlled as required by Part 2 of the OH & S Code.**

Note: Employers and workers must be mindful that a restricted space can become a Confined Space if conditions or work scope changes.

8.0.3 IDENTIFYING A RESTRICTED SPACE (See Figure 1)

- 1) A location may be considered a Restricted Space if:
 - a. It is determined by an approved hazard assessment that it is not a Confined Space,
 - b. Entry does not require permitting or gas testing as designated by area work practices,
 - c. No work or activities conducted within or within the vicinity of the restricted space will or have the potential to change the atmospheric conditions of the Restricted Space.

8.1 PROTECTION – HAZARDOUS SUBSTANCES AND ENERGY

- 1) An employer must ensure that any hazardous energy in a Restricted Space is controlled in accordance with Part 15 of the Alberta OH & S Code.

8.2 PERMITTING, ATMOSPHERIC TESTING AND TENDING WORKER REQUIREMENTS:

Part 5 of the Alberta OH & S Code states that Restricted Spaces are not subject to the permitting, atmosphere testing and tending worker requirements of a Confined Space, however, **on OSSA Member sites:**

- a. Restricted Space work must conform to safe work permit requirements for the specific work area,
- b. Atmospheric testing must conform to specific work area requirements in conjunction with the hazard assessment and area specific permitting requirements,
- c. A competent worker designated by the employer must be in communication with the worker(s) inside a restricted space and must have a suitable system for summoning assistance in the event of an incident or emergency as specified by the valid rescue plan (e.g. radio). (As per Working Alone Legislation and OH&S Part 28),
- d. A copy of the approved Restricted Space hazard assessment will be posted and readily accessible for review at the entrance to the Restricted Space.

8.3 ADDITIONAL CONTROLS:

In addition, if a location has been identified as a Restricted Space, the following controls must be put in place for a “Restricted Space” Entry:

- a. An Evacuation Procedure including a documented communication process (as part of the approved Restricted Space hazard assessment) between entrants and a competent worker has been established,
- b. A valid Rescue Plan.

8.4 RETAINING RECORDS

On OSSA member sites the approved hazard assessment will be retained as per the individual OSSA member company policy. It is the OSSA’s recommendation that these records are retained for a period not less than those specified as per the Confined Space Documentation Records Retention.

9.0 APPENDIX “II” - DEFINITIONS

DEFINITIONS

1. **Accreditation or Accredited:** authorization, in writing, from the OSSA to be a Training Provider of a Safety Training Standard. Accreditation may be withdrawn by the OSSA and at any time. In order to be a Safety Training Provider of a Standard, an Organization’s Accreditation status must be current.
2. **Board of Directors:** the Owners of the OSSA that provide, in writing, endorsement for initial documents and approval for any revisions or exceptions to a Safety Training Standard or Regional Code of Practice.
3. **Communication System:** an established method of communication between workers inside the Confined Space and the Confined Space Monitor, as well as between the Confined Space Monitor and the Emergency Response contact. Methods must be defined within the hazard assessment and may encompass but not limited to the following: Voice, hand signals (requires direct line of sight), radios, handheld mike phone, lights, cell phone or an air horn (e.g. Klaxon horn).
4. **Competent Worker:** (as per Alberta OH&S Code in relation to a person) adequately qualified, suitably trained and with enough relevant experience to safely perform work without supervision or with only a minimal degree of supervision.
5. **Confined Space Monitor:** a person defined in legislation as a “tending worker” adequately trained and certified, capable of summoning rescue assistance and assigned to remain on the outside of the Confined Space while maintaining communication with those working inside.
6. **Evacuation Plan:** a pre-determined plan to evacuate the Confined Space or Restricted Space should an alarm be activated, or if there is a significant change in or about the Confined Space or Restricted Space that would affect the health and safety of those people working in the Confined Space or Restricted Space. The Evacuation Plan shall be reviewed by all participants involved in a Confined Space or Restricted Space Entry.
7. **Flammable (Explosive) Atmosphere:** an atmosphere containing a flammable gas or vapour at a concentration between the lower explosive limit (LEL) and the upper explosive limit (UEL).
8. **Immediately Dangerous to Life or Health (IDLH):** an oxygen deficient atmosphere or an atmospheric concentration of any harmful substance that poses an immediate threat to life or may cause irreversible or delayed adverse health effects or may interfere with an individual’s ability to escape from a dangerous atmosphere.
9. **Inerting:** intentional displacement of the atmosphere by a non-reactive gas (such as nitrogen) to an extent that the resulting atmosphere is noncombustible (oxygen levels reduced below that needed to support combustion) but thereby creating an oxygen deficient atmosphere.
10. **Initial Entry:** refers to the first entry, performed or directed by the area owner, into the Confined Space or Restricted Space to verify conditions and ensure the Confined Space or Restricted Space is safe for subsequent “ongoing entries” to perform work. i.e. the

first time the equipment is opened for atmospheric testing. Does not refer to the first entry of each shift.

11. **Isolation:** a process whereby the Confined Space is removed from service and completely protected against the inadvertent release of material by the following: blanking/blinding, misaligned sections of all lines and pipes, a double block and bleed system, lockout of all sources of electrical power and nuclear devices, blocking or disconnecting all mechanical, pneumatic, hydraulic linkages and sources of potential stored energy.
12. **Legislation:** all municipal and local laws, statutes, ordinances, by-laws and regulations, orders, directives and decisions rendered by any ministry, department or administrative or regulatory agency relating in any way to the health and safety of workers in the Province of Alberta.
13. **Lower Explosive Limit (LEL):** the lower value of the range of concentrations of a substance, in a mixture with air, at which the substance may ignite.
14. **Members:** the member or subscriber Organizations of the OSSA and includes their respective employees, officers, directors, shareholders, ownership groups and successors and assigns, including, without limitation, Canadian Natural Resources, Syncrude Canada Ltd., Suncor Energy Inc., and Shell Albian Sands.
15. **Occupational Exposure Limit(OEL):** the maximum concentration of substances to which a person may be exposed for specific lengths of time as defined by relevant legislation.
16. **OH&S Act, Regulation, and Code:** the current Occupational Health and Safety Act, Regulation and Code of the Province of Alberta and includes all of the regulations passed under the Act from time to time.
17. **Organization (s):** includes any individual, corporation, partnership, firm joint venture, syndicate, association, government, governmental agency or board or commission or authority, and other forms of entity or organization.
18. **OSSA Members and Employees:** the Oil Sands Safety Association and its employees, agents, contractors, and Members of the Oil Sands Safety Association.
19. **Purging:** the method by which gases, vapors or other airborne impurities are displaced from a Confined Space.
20. **Regional Code of Practice (RCOP):** a Code of Practice, endorsed by the OSSA, governing the practices, procedures and safety training standards, to be followed at each of the OSSA Owner respective sites. These codes can be amended by the OSSA from time to time.
Note: At any time should Legislation requirements change they shall take precedent over the Regional Code.
21. **Rescue Plan:** a plan developed that addresses rescue equipment, location of this equipment, Rescue Personnel requirements, and means of communication and implementation of rescue.

22. **Restricted Space:** an enclosed or partially enclosed space, not intended for continuous human occupancy that has a restricted, limited or impeded means of entry or exit because of its construction.
23. **Standard:** the minimum acceptable content requirements for a Training Provider's training program that is set out in an OSSA Safety Training Standard, as amended by the OSSA from time to time.
24. **Training Provider:** those Organizations that have received Accreditation status, in writing, from the OSSA to provide a Safety Training Program.
25. **Upper Explosive Limit (UEL):** the higher value of the range of concentrations of a substance, in a mixture with air, at which the substance may ignite.

References:

The following references have been used in the development of this Regional Code of Practice:

OSSA Member Company applicable Safety Standards

OSSA Regional Code of Practice Confined Space 2010

OSSA Regional Code of Practice Safe Work Permits 2010

Alberta Occupational Health and Safety Act, Regulation and Code – Rev. July 1, 2009

Alberta Occupational Health and Safety Code Explanation Guide – Rev. 2009

APPENDIX III - COMPETENCY GUIDE LINE FOR EMPLOYER USE

Supervisors are encouraged to use this guide and any site specific policies and procedures as a base to check competency for employees performing CSM duties. This is not an all inclusive method for deeming of worker competency.

1. Are you an OSSA certified Confined Space Monitor?

Visually confirm certification. If the worker answers “NO”, supervisor must obtain another worker for the current job who is competent in the position. Steps must be taken to increase the initial workers competency such as worker re-training or mentorship.

2. Do you feel competent performing the task of Confined Space Monitor?

If the worker answers “NO”, supervisor must obtain another worker for the current job who is competent in the position. Steps must be taken to increase the initial workers competency such as worker re-training or mentorship.

3. Have you performed Confined Space Monitor duties before? If so, when was the last time?

4. Are you aware that there are legal requirements for a Confined Space Monitor?

Refer to OH&S

5. What basic equipment is required for this task?

Supervisor to reference RCOP and Site Specific Standard.

6. How are you going to track entrants into the Confined Space?

Supervisor to reference RCOP and Site Specific Standard.

7. What is your role in an emergency?

- a. How are you going to evacuate the Confined Space?
- b. How do you contact emergency personnel?
- c. Who meets emergency personnel?
- d. What do you do if there is a worker down in the Confined Space?
- e. Where are workers expected to go in an emergency?

8. How are you going to communicate with the workers in the Confined Space?

See RCOP Appendix II

9. Name three (3) legitimate reasons to evacuate a Confined Space?

10. How do you safely leave your post in a non emergency situation?

11. What signage must be posted when leaving the Confined Space at:

- a. Coffee break/ End of shift;
- b. Emergency evacuation if safe to do so

OSSA Competency Guide Line for
Employer Use - Pocket Guide

1. Are you an OSSA certified Confined Space Monitor?
2. Do you feel competent performing the task of Confined Space Monitor?
3. Have you performed confined space monitor duties before? If so, when was the last time?
4. Are you aware that there are legal requirements for a Confined Space Monitor?
5. What basic equipment is required for this task?
6. How are you going to track entrants into the Confined Space?
7. What is your role in an emergency?
 - a. How are you going to evacuate the Confined Space?
 - b. How do you contact emergency Personnel?
 - c. Who meets emergency Personnel?
 - d. What do you do if there is a worker down in the Confined Space?
 - e. Where are workers expected to go in an emergency?

8. How are you going to communicate with the workers in the Confined Space?
9. Name 3 legitimate reasons to evacuate a Confined Space?
10. How do you safely leave your post in a non emergency situation?
11. What signage needs to be posted when leaving the Confined Space at:
 - a. Coffee break/ End of shift
 - b. Emergency evacuation if safe to do

Sample

APPENDIX IV - COMPETENCY GUIDE LINE SIGN-OFF SHEET FOR EMPLOYERS

APPENDIX IV

CONFINED SPACE MONITOR COMPETENCY ASSESSMENT SIGN-OFF SHEET

For use by Employer's to check competency levels of personnel assigned as a Confined Space Monitor, on OSSA Member sites.

Supervisor's Name: _____
(Print) (Signature)

Supervisor's Badge Number: _____

Confined Space Monitor's Name: _____
(Print) (Signature)

Monitor's Badge Number: _____

Date of Competency Check: _____
(YYYY / MM / DD)

Competent: Yes No

Additional Training Required: _____
(Specify if any requirements) _____
