

**Oil Sands Safety Association (OSSA)**

**CONFINED SPACE MONITOR**  
Safety Training Standard  
**CSM2005-10**



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## 1.0 PURPOSE

The purpose of this standard is to clearly establish the **minimum** acceptable content for Confined Space Monitor training programs provided by Training Providers Accredited with the Oil Sands Safety Association (OSSA). This Standard is intended for End-Users (See Appendix I - Definitions) of Confined Space Monitor training.

This Standard also meets the **minimum** acceptable content requirements established for Confined Space Entry training programs provided by Training Providers who have received Accreditation from the Oil Sands Safety Association (OSSA) and may also be used by End-Users of Confined Space entry training.

For definitions referred to in this Standard, see Appendix I.

Exceptions to this Standard must be approved 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 between the OSSA Members and Employees and the Training Providers, Instructors, Contract Instructors, employees trained by Accredited Training Providers, or any other Organization. This Standard will not apply to every circumstance. This Standard is not (and is not intended to be) a definitive guide to the OH&S Act or the accompanying regulations and regardless of the Standard 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 Standard set out herein or advise on further developments concerning the topics mentioned herein.

The occupational health, safety and training of Organizations and their respective employees in the workplace remain the responsibility of each employer and employee.

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## 1.2 Introduction

This Confined Space Monitor Training Standard has been established to provide Training Providers with direction as to the **minimum** training program content requirements to meet the needs of the OSSA Member companies. A training program meeting this Standard would typically require 4 hours to complete, depending on class size, number of instructors and any class room props used for practical demonstration and testing.

It should be noted that the training required to meet this standard focuses on the **minimum** training requirement needs of the End-User. Successful completion of this Confined Space Monitor training certifies the End-User to act as a Confined Space Monitor for Confined Space Level 2 and Confined Space Level 3 entries and may certify the End-User to engage in Confined Space Level 1 Monitor (see note below)

**NOTE: For certification as a Confined Space Monitor for Confined Space Level 1 entry, additional training may be required depending on work specific requirements.**

(e.g. gas detection, respiratory protective equipment).

This is the minimum standard that must be met in order to receive Accreditation as a Confined Space Monitor Training Provider from the OSSA.

## 1.3 Scope

A competent Confined Space Monitor must be in attendance outside the confined space at or near the entrance to keep track of the number of persons inside the confined space at all times. The Confined Space Monitor must be in constant communication with personnel inside the confined space and must be provided with a suitable system for summoning assistance.

The purpose of the OSSA Confined Space Monitor Standard is to ensure that the End-User demonstrates basic knowledge and proficiency in performing the required duties of a Confined Space Monitor.

Subject to the previous sentences, all programs submitted for Accreditation must, at a **minimum**, meet the requirements specified in each section of this Standard.

## 1.4 Training Material Requirements

The program content for Accredited Safety Training Programs for Confined Space Monitor must ensure that **all references to weight and measures** are expressed in **both imperial and metric units**.

The programs are also expected to have available for use by End-Users, at a minimum, but not necessarily limited to, the following material:

- 1) End-User guides and/or workbooks that are to be kept by the End-User upon successful completion of the program and that contain general information on, at a minimum, but not necessarily limited to, the following topics:
  - a) Emergency call in protocols.
  - b) Emergency evacuation procedures.
  - c) Entry authorization requirements/limitations.
  - d) Job specific communication methods.
  - e) Job specific additional training requirements.
  - f) Job specific procedures and work practices.

End-User guides and/or workbooks must include reference to the OSSA Regional Code of Practice (RCOP) for Confined Space Entry available on the OSSA website at <[www.ossa-wb.ca](http://www.ossa-wb.ca)>.

**NOTE: End-Users must understand that it is the responsibility of each employer to review the contents of the above listed items with all Confined Space Monitors in their employ. End-Users must also understand that it is their responsibility to obtain information on the above listed items from their employer.**

- 2) Access to the OSSA RCOP for Confined Space Entry.
- 3) Confined Space occupant tracking methods and entry log requirements.
- 4) Access to applicable sections of the OH&S Act, Regulations and Code regarding Confined Spaces, fire and explosion hazards, isolation and control of hazardous sources and chemical hazards.
- 5) Blue vest and air horn.
- 6) Representative examples of signage and entry tags as detailed in the OSSA RCOP for Confined Space Entry.
- 7) Additional training aids as determined by the Training Provider (e.g. videos)

## **2.0 CONFINED SPACE MONITOR BASICS**

### **2.1 Legislation and Standards**

Development of training materials or instruction must include, at a **minimum**, but necessarily be limited to, the following references:

- 1) OH&S Act, Regulations and Code requirements for Confined Space Entry.
- 2) OSSA RCOP for Confined Space Entry.

## 2.2 Why Confined Space Monitor Training

The training program must be personalized by providing an overview and introduction to confined spaces, Confined Space Legislation, and the recognition and understanding of hazards and controls associated with confined spaces. The training must also provide the information necessary to perform specific Confined Space Monitor duties and ensure appropriate response to emergency situations.

**Note:** Program must emphasize that for a Level 1 confined space entry, additional training may be required depending on work specific requirements (e.g. gas detection, respiratory protective equipment).

- 1) The training program content must include, at a minimum, but not necessarily be limited, to the following information:
  - a) Overview of the characteristics and definitions of the entry level classifications as defined in the OSA RCOP for Confined Space Entry, with examples of each.
  - b) Overview of the Legislative requirements covered in the OH&S Act, Regulations and Code including the responsibilities of the employer and worker.
  - c) Recent statistical information and examples (where possible) on confined space related injuries/fatalities from Alberta Workplace Health and Safety or other applicable sources.
  - d) Overview of typical confined space hazards (e.g. atmospheres, noise, heat, solids entrapment, etc.) and hazard identification methods (e.g. gas testing, job safety analysis, field level risk assessment, etc.).
  - e) Overview of confined space control methods: confined space monitor, permits, isolation controls, lock out, purging, ventilation, shoring and atmospheric testing requirements.

**NOTE: Confined Space hazards should be eliminated whenever possible and practical to do so. The use of personal protective equipment (“PPE”) should be used as a “last line of defense” and only if it affords adequate protection to the End-User.**

- f) Overview of emergency planning requirements including evacuation procedures, lines of communication, and rescue plans.
- g) Overview of the responsibilities and specific duties of a Confined Space Monitor.
- h) Overview of additional training requirements that may be needed for specific entry classifications (e.g. gas detection, respiratory protective equipment for Confined Space Level 1 entry) or special work situations as identified by hazard assessment.

## 2.3 Confined Space Entry Preparation

- 1) End-Users must understand the need for rescue and escape plans which will include, but not necessarily be limited to: identifying an emergency contact, methods of communication, and knowledge of the responsibilities of other workers. The training program must also include a thorough review of the responsibilities of the Confined Space Monitor in relation to emergency reporting, escape and rescue plans.

- 2) The training program must include methods and examples of analyzing, eliminating, preventing, and controlling hazards associated with Confined Spaces. This should include, but not necessarily be limited to: engineering and/or administrative controls, personal protective equipment (PPE) requirements, review of rescue and escape plans, communication protocol, and workplace hazards identification and controls.
- 3) End-Users must understand that specific work can create potential hazards and must be part of the hazard assessment for confined space entry. The training program must include a review and examples of the hazards associated with work activities including, but not necessarily limited to: welding/hot work, chemical handling and safe use of compressed gases.
- 4) End-Users must understand the need for cleaning, purging, neutralizing, proper isolation, atmospheric testing, adequate ventilation, and entry authorization requirements as it applies to Confined Space.
- 5) End-Users must understand and know the Legislative requirements associated with confined space entry. They must also know the confined space documents required to be retained as per Legislation and site specific policies. (e.g. Check lists, job safety analysis, field level risk assessment, permits, entry logs, safe entry tags, etc.).

#### **2.4 Classification of Confined Space Entries**

The training program must contain a class exercise that includes the a) definition, b) characteristics, c) training requirements and d) examples for each of the following:

- 1) Confined Space Level One entry
- 2) Confined Space Level Two entry
- 3) Confined Space Level Three entry

**NOTE:** Refer to Appendix for detailed definitions.

#### **2.5 Hazardous Atmospheres / Gas Testing**

The End-Users must understand the a) elements of hazardous atmospheres, the b) associated terminology, and the c) importance of atmospheric testing requirements. This must include an explanation of:

- 1) Toxic Atmospheres Immediately Dangerous to Life or Health (IDLH) and Occupational Exposure Limits (OEL) in regards to substances common to the industry including, but not necessarily limited to: carbon monoxide, hydrogen sulfide, sulfur dioxide, nitrogen and hazardous particulates.
- 2) Flammable/Explosive atmospheres including an explanation of Lower Explosive Limit (LEL), Upper Explosive Limit (UEL), and absolute limits for entry/evacuation.
- 3) Oxygen Enrichment related to Flammable/Explosive Atmospheres.
- 4) Oxygen Deficient/Inert Atmospheres including causes and symptoms of Oxygen Deficiency.

- 5) An explanation of the rationale and/or need for Purging (see Appendix 1-Definitions).
- 6) Gas testing frequency; methods and frequencies will vary from site to site and be dependant upon area classification, nature of the work, adjacent work activities and proximity to plant processes.

## **2.6 Entry Authorization**

The training program must provide an understanding of the requirements of the OSSA RCOP for Confined Space Entry, the purpose of a permit system, and an overview of the requirement for a competent Confined Space Monitor. Emphasis must be placed on the requirement for every worker who is involved in any aspect of a confined space entry to comply with the site and/or space specific practices and procedures.

**The Training Provider must ensure the End-Users understand that each work location may have different Entry Authorization requirements.**

## **2.7 Signage/Tagging**

The training program must provide a clear understanding of the different signage and entry tags used for Confined Spaces as outlined in the RCOP for Confined Space Entry.

Emphasis must be placed on the significance of “Danger Do Not Enter” Signage which is placed over the opening prior to vacating a post and when an evacuation of the confined space is initiated due to an event that may compromise the conditions of the confined space. The “Danger Do Not Enter” signage means absolutely NO person enters the confined space at which such signage is posted.

## **2.8 Isolations**

The training program must include an overview of the **minimum** Legislated isolation requirements for entry into a confined space as outlined in Parts 5, 10, and 15 of the OH&S Act, Regulations and Code. The End-User must also have an understanding of the definition of “positive isolation”, typical energy sources, and isolation methods. The information must include, but not necessarily be limited to, the following:

- 1) Overview of Legislative isolation requirements for entry into a confined space
- 2) Definition of “positive isolation”
- 3) An understanding of the following typical energy sources:
  - a) Mechanical;
  - b) Hydraulic;
  - c) Pneumatic;
  - d) Electrical;
  - e) Radiation;

- f) Chemical; and
  - g) The potential for the above to be residual or stored energy.
- 4) An understanding of the following typical isolation methods:
- a) Blinding / Blanking;
  - b) Double block and bleed;
  - c) Misaligning or removing sections of line, pipe or ducts;
  - d) Lock out / tag out / verification; and
  - e) Immobilizing or disconnecting of energy sources.

## 2.9 Confined Space Monitor Responsibilities

The training program must provide a thorough understanding of the responsibilities and duties of a Confined Space Monitor. The training must include, but not necessarily be limited to, the following subjects:

- 1) Adequate training: it is the responsibility of both the Employer and the Confined Space Monitor to ensure the training and information received is sufficient to perform their duties.
- 2) Level of Authority: Confined Space Monitor must ensure all entry requirements have been fulfilled (e.g. valid authorization, copy of permit at job site, gas testing, PPE) and has the authority to deny entry into a confined space if any of the requirements are not met. Responsibility also includes notification to appropriate level of supervision of any deficiencies or noncompliance situations.
- 3) Tracking of confined space occupants: the Confined Space Monitor is required to account for all Confined Space occupants at all times and maintain the entry log.
- 4) Initiate Emergency Response: the Confined Space Monitor must be capable of summoning emergency response personnel as per site specific call in procedure/protocol in the event of an emergency. **The Confined Space Monitor is to summon emergency assistance but is NOT to enter the Confined Space and/or perform rescue functions at any time.**
- 5) Awareness of changing conditions: The Confined Space Monitor is to remain at a safe location outside of the Confined Space and is to be aware of and react to changing conditions that may adversely affect the Confined Space occupants.
- 6) Evacuate Confined Space: the Confined Space Monitor must understand situations, inside and outside of the confined space, that warrant evacuation and will use an air horn where necessary to do so.
- 7) Communication with personnel inside confined space: the Confined Space Monitor must understand the importance of maintaining communication with confined space occupants. Training must include an overview of direct and indirect methods of communication that might be implemented in various confined space work situations.
- 8) Confined Space Monitor Identification: the Confined Space Monitor will wear a blue vest.

- 9) **Attentiveness/Relief:** the Confined Space Monitor must understand the importance of maintaining a high level of alertness while executing their duties and must **never leave their post** while the confined space is occupied unless relieved by another qualified Confined Space Monitor.
- 10) **Signage/Barricades:** the Confined Space Monitor must understand the importance of, and ensure that, confined space access is adequately identified with signage/barricades, as per site specific requirements, to prevent unauthorized entry prior to leaving the unoccupied space unattended.

### **3.0 KNOWLEDGE TESTING**

It is important that knowledge and evaluation test topics are covered to ensure that End-Users have acquired the necessary knowledge upon completion of the Confined Space Monitor Training Program. End-Users must demonstrate knowledge and proficiency regarding Confined Space Monitor duties and entry by successfully completing a theory-style examination covering the minimum training content as outlined under Sections 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8 and 2.9 of this Standard.

The End-User must demonstrate knowledge by individually answering questions on topics that include, at a minimum, but are not necessarily limited to:

- 1) Legislative and OSSA RCOP requirements for Confined Space Entry as they apply to Confined Space Monitors and Confined Space Entry.
- 2) Classification, characteristics and examples of all confined space entry levels.
- 3) Responsibilities of the Confined Space Monitor in relation to entry authorization requirements, signage and tagging, emergency reporting, escape and rescue plans, and access control.
- 4) Employer responsibilities to provide site specific information on isolation requirements, procedure and work practices, communication protocol, authorization and permits, additional training and occupant tracking requirements.
- 5) Hazardous atmospheres, the associated terminology and the effects of specific types of work.
- 6) The Confined Space Monitor's responsibilities to obtain site specific information on codes of practice, procedures and work practices, authorization/permits, signage/tagging, and additional training requirements.

### **4.0 RE-CERTIFICATION PROCESS**

#### **4.1 Proficiency Timeline**

Certification for Confined Space Monitor training is valid for a period of not longer than one (1) year from the initial certification date.

#### **4.2 Re-Certification Process**

The Re-Certification process must include the following:

- 1) A review of any major changes to a Confined Space Monitor's duties as a result of, but not necessarily limited to, the following:
  - a) Changes to Legislation.
  - b) Changes to the OSHA RCOP for Confined Space Entry.
  - c) Changes to safety training standard requirements.
- 2) Proficiency testing as per Section 3.0.

**NOTE: End-Users who do not successfully pass the Re-Certification proficiency tests will be required to take the entire course.**

## 5.0 APPENDIX I - DEFINITIONS

- 1) **“Accreditation” or “Accredited”** means authorization, in writing, from the OSSA that a Training Provider’s Program meets the minimum requirements of a particular Safety Training Standard. Accreditation may be withdrawn by the OSSA any time. In order to be a Safety Training Provider of a Standard, an Organization’s Accreditation must be current.
- 2) **“Atmosphere”** refers to the gases, vapors, mists, fumes and dust within a Confined Space.
- 3) **“Blind/Blank”** means a secured device that physically prevents the possibility of flow or leakage.
- 4) **“Board of Directors”** means the Board of Directors as appointed by the Owners of the OSSA that provide, in writing, endorsement for initial documents of, and approval for any revisions or exceptions to, a Safety Training Standard and/or a Regional Code of Practice.
- 5) **“Confined Space”** means an enclosed or partially enclosed space with a restricted means of entry or exit that is not designed or intended for continuous human occupancy, and due to:
  - its design, construction, location, or atmosphere;
  - the work activities, materials or substances in it;
  - the compromised nature of providing first aid, evacuation, rescue or other emergency response services within it; or
  - other hazards relating to it;may become dangerous to the life, health, or safety of a worker who enters it.
- 6) **“Confined Space Level 1”** means a Confined Space that is Immediately Dangerous to Life or Health (IDLH). This includes, but is not necessarily limited to, Confined Spaces characterized by: Oxygen Deficiency, Flammable (Explosive) Atmospheres, and/or concentrations of toxic substances.
- 7) **“Confined Space Level 2”** means a Confined Space that is not Immediately Dangerous to Life or Health, but has the potential for causing injury and illness if preventive measures are not used.
- 8) **“Confined Space Level 3”** means a Confined Space in which the potential danger to life or health would not require any special modifications of the work procedure.
- 9) **“Confined Space Monitor”** means a person capable of summoning rescue assistance and assigned to remain on the outside of the Confined Space while maintaining communication with those working inside.
- 10) **“Contract Instructor”** means an individual or Organization, independent of an Accredited Training Provider, that has completed a “Train-the-Trainer” program with an Accredited Training Provider, signed all legal agreements, and has otherwise met the requirements set out in this Standard.
- 11) **“End-User”** means a worker required to perform the duties of Confined Space Monitor or engage in Confined Space entry.

- 12) “**Flammable (Explosive) Atmosphere**” means an atmosphere containing a flammable gas or vapor at a concentration between the Lower Explosive Limit (LEL) and the Upper Explosive Limit (UEL).
- 13) “**Hazard**” means a source of danger or unacceptable risk.
- 14) “**Hot Work**” means work in which a flame is used or sparks or other sources of ignition may be produced, including:
- Cutting, welding, burning, air gouging, riveting, drilling, grinding, and chipping;
  - Using electrical equipment not classified for use in a hazardous location; and
  - Introducing a combustion engine to a work process.
- 15) “**Immediately Dangerous to Life and Health (IDLH)**” means a condition characterized by an Oxygen Deficient Atmosphere or an atmospheric concentration of any harmful substance that poses an immediate threat to life or health, may cause irreversible or delayed adverse health effects, or may interfere with an individual’s ability to escape from a dangerous Atmosphere.
- 16) “**Inerting**” means intentionally flooding the atmosphere inside a Confined Space with an inert gas to eliminate the potential for the ignition of flammable vapors inside a Confined Space but thereby creating an Oxygen Deficient Atmosphere.
- 17) “**Instructor**” means individuals that are employees of the Accredited Training Provider and are providing training under an Accredited Training Program.
- 18) “**Isolation**” means 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 lines and pipes
  - Double block and bleed system
  - Electrical lock out of all sources of power
  - Blocking or disconnecting mechanical linkage
- 19) “**Legislation**” means all municipal and local laws, statutes, ordinances, by-laws, 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.
- 20) “**Lower Explosive Limit (LEL)**” means the minimum concentration of flammable vapor in air at which the propagation of flame occurs on contact with a source of ignition.
- 21) “**Members**” means 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, Syncrude Canada Ltd., Suncor Energy Inc. and Albion Sands Energy Inc.

- 22) “**Occupational Exposure Limit (OEL)**” means the maximum concentration of a substance to which a person may be exposed for specific lengths of time as defined by the Alberta Chemical Hazards Regulation.
- 23) “**OH&S Act, Regulations and Code**” means the *Occupational Health and Safety Act*, R.S.A. 2000, c. O-2, as amended, and all regulations and codes enacted and adopted there under.
- 24) “**Organization(s)**” means and 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.
- 25) “**OSSA Members and Employees**” means the OSSA and its employees, agents, contractors, and Members of the OSSA.
- 26) “**Oxygen Deficiency**” means a condition characterized by an Atmosphere in which the oxygen content is less than 19.5% by volume at sea level.
- 27) “**Oxygen Enriched**” means a condition characterized by an Atmosphere in which the oxygen content is greater than 23% by volume at sea level.
- 28) “**PPE**” means personal protective equipment.
- 29) “**Purging**” means the method by which gases, vapors or other airborne impurities are displaced from a Confined Space.
- 30) “**Re-Certification**” means the process of verifying that a worker continues to maintain the proficiency requirements as specified in the original accredited training program. This process will include re-testing of knowledge requirements and/or challenging a proficiency exam.
- 31) “**Regional Code of Practice (RCOP)**” means 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 sites. This code may be amended by the OSSA from time to time.
- Note:** Any new Legislative requirements shall take precedent over the Regional Code immediately upon the coming into force in Alberta of the new requirements.
- 32) “**Rescue Personnel**” mean qualified emergency response personnel.
- 33) “**Rescue Plan**” means a plan developed that addresses rescue equipment, location of this equipment, Rescue Personnel requirements, and means of communication and implementation of rescue.
- 34) “**Standard**” means the minimum acceptable content requirements for an end-user that is set out in an OSSA Safety Training Standard, as amended by the OSSA from time to time.
- 35) “**Training Provider(s)**” means those Organizations that have received Accreditation, in writing, from the OSSA to provide a Safety Training Program.
- 36) “**Upper Explosive Limit (UEL)**” means the maximum concentration of flammable vapor in air at which the propagation of flame occurs on contact with a source of ignition.