
Working in restricted or confined spaces

OHS information for work site parties

This bulletin provides information about Alberta's occupational health and safety (OHS) requirements related to working in restricted or confined spaces.

KEY INFORMATION

- The terms “restricted space” and “confined space” have specific definitions in Alberta’s Occupational Health and Safety Code (OHS Code).
- A number of legislated requirements apply to working in restricted and confined spaces.
 - Most of these requirements are specified in Part 5 of the OHS Code.
- Employers must have a written code of practice governing practices and procedures to be followed when workers enter and work in a confined space.
 - Workers involved in any aspect of a confined space entry must comply with the code of practice.

Definitions

Under Alberta’s OHS Code, a *restricted space* is any space that:

- is enclosed or partially enclosed;
- isn’t designed or intended for continuous human occupancy; and
- has a restricted, limited or impeded means of entry or exit because of its construction.

In some circumstances, a restricted space may become a *confined space*. Specifically, a confined space is defined in the OHS Code as any restricted space that may become hazardous because of:

- an atmosphere that is or may be injurious because of oxygen deficiency or enrichment, flammability, explosivity or toxicity;
- a condition or changing set of circumstances within the space that presents a potential for injury or illness; or
- the potential or inherent characteristics of an activity which can produce adverse or harmful consequences within the space.

Appendix 1 in this bulletin has an illustration that shows how to identify a restricted or confined space.

Legislated requirements

A number of legislated requirements (mostly specified in Part 5 of the OHS Code) apply to work in a restricted or confined space; a few other requirements only apply to work in a confined space. All of these are outlined below. (For ease of reference, a table listing the sections of the OHS Code that apply to each type of space is provided in Appendix 2 at the end of this bulletin.)

Code of practice for confined space entry/work

Employers must have a written code of practice governing practices and procedures to be followed when workers enter and work in a confined space. Workers involved in any aspect of a confined space entry must comply with the code of practice.

The code of practice must, at a minimum:

- identify all existing and potential confined space work locations at the work site;
- take into account and apply all the confined space requirements of Part 5 of the OHS Code, as well as the hot work requirements in Section 169; and
- be maintained and periodically reviewed.

The code of practice can be organized and written in any manner, as long as it contains at least the three required elements described earlier.

When writing the code of practice, a good way to organize it could be to separate the various requirements into sections. For example, the code of practice could start off with a section describing its scope and purpose, followed by a section introducing the legal requirements that pertain to the code of practice itself.

After that, a third section could identify the existing and potential confined space work locations at the work site. This list can be included in the code itself or kept separately. Helpful information to provide in the list might include:

- Specific details about the location, such as the address, building, floor or room number.
- Photos of the space.
- What kind of space it is.
- What type of access there is to the space.

Next, you could include a section outlining the practices and procedures workers must follow when entering and working in a confined space. Although these practices and procedures are at the discretion of the employer, they must satisfy all the requirements in Part 5 and Section 169 of the OHS Code.

Remember to consult the relevant parts of the OHS Code to ensure the code of practice complies with the requirements in their entirety.

Maintaining and reviewing the code of practice

As mentioned above, one of the minimum requirements for the code of practice is that it must be maintained and periodically reviewed.

Although OHS legislation doesn't specify a timeline for the review to take place, it's recommended to review the code of practice at least once every three years. Note that the review should be done sooner if circumstances warrant it (such as if an incident occurs or a work activity changes).

Hazard assessment

Before workers can enter a restricted or confined space, the employer must appoint a competent person to do a hazard assessment, determine and perform any needed inspections and tests, and perform other related tasks. For more details, see Section 45 of the OHS Code. (Note: This hazard assessment is not the same as the general work site hazard assessment required under Part 2 of the OHS Code.)

Training

Employers must ensure workers who will be working in a restricted or confined space are trained by a competent person to:

- recognize hazards associated with working in such spaces; and
- perform their duties in a safe and healthy manner.

Employers must keep records of this training.

Additionally, employers must ensure workers who will respond to an emergency in a restricted or confined space are competent in first aid, the use of the appropriate emergency equipment and the procedures appropriate to the space.

Entry permit system for confined spaces

For confined space work, employers must establish an entry permit system that includes certain specified information and meets other criteria. Before a worker enters a confined space, the employer must ensure the worker has a properly completed entry permit signed by a competent person. The employer must also keep a copy of this permit readily available.

For more details on the entry permit system requirements, see Section 47 of the OHS Code.

General safety and protection

For restricted or confined spaces, employers have several general health, safety and protection responsibilities relating to safety equipment, emergency equipment and personal protective equipment (PPE) for workers.

For details on these requirements, see Section 48 of the OHS Code.

Protection from hazardous substances and energy

Employers must ensure:

- Workers in a confined space are protected against the release of hazardous substances or energy that could harm them.
- Workers don't enter a confined space unless adequate precautions are in place to protect them from drowning, engulfment or entrapment.
- Any hazardous energy in a restricted space is controlled in accordance with Part 15 of the OHS Code. (See Section 1 of the OHS Code for the definition of hazardous energy.)

Unauthorized entry

Employers must ensure anyone not authorized by the employer to enter a restricted or confined space is prevented from entering.

Traffic hazards

Employers must ensure workers in a restricted or confined space are protected from hazards created by traffic in the vicinity.

Testing the atmosphere in a confined space

Employers have several responsibilities related to testing the atmosphere in a confined space before workers can enter. These include:

- Ensuring the atmosphere is properly tested by a competent worker to:
 - identify any toxic, flammable or explosive substances; and
 - make sure the oxygen content is within the legislated acceptable range.
- Ensuring the testing uses calibrated instruments that are appropriate for the atmosphere being tested and are used in accordance with manufacturer specifications.
- Ensuring the atmosphere is continuously monitored if it might change unpredictably after a worker enters the space.
- Recording the test results and dealing with any hazards that are identified.

For the detailed list of requirements for atmospheric testing, see Section 52 of the OHS Code.

Ventilation and purging of confined spaces

Employers have several responsibilities related to ventilation and purging of a confined space. These include:

- Ensuring the space is ventilated and/or purged before workers enter, if atmospheric testing shows that a hazardous atmosphere exists or is likely to exist.

- Ensuring workers wear appropriate PPE if ventilating or purging a confined space is impractical or ineffective in eliminating a hazardous atmosphere.
- Ensuring mechanical ventilation is provided if it's needed to maintain a safe atmosphere for workers.
- Ensuring workers are trained in evacuation procedures if the mechanical ventilation fails, along with ensuring an alerting system is in place that gives workers enough time to escape.

For the detailed list of requirements for atmospheric testing, see Section 53 of the OHS Code.

Inerting a confined space

Employers must ensure a confined space is inerted if it's not reasonably practicable to eliminate an explosive or flammable atmosphere in the space. (See Section 1 of the OHS Code for the definition of inerting.)

If a confined space is inerted, the employer must ensure:

- Workers entering the confined space are equipped with supplied air respiratory protective equipment that complies with Part 18 of the OHS Code.
- All ignition sources are controlled.
- The atmosphere within the confined space stays inerted while workers are inside.

Emergency response

Employers must ensure workers don't enter or stay in a restricted or confined space unless an effective rescue can be carried out. Workers share this responsibility.

Employers must also develop and implement procedures to be followed in case of an emergency in a restricted or confined space. These must include procedures to evacuate immediately if the atmosphere is (or could become) a hazard to workers.

Tending worker

For any restricted or confined space entry, the employer must designate a competent worker as a "tending worker" to communicate with workers inside the space.

Employers must also ensure that when a worker is in a confined space and certain hazardous conditions are

present, a tending worker must be outside the confined space at or near its entrance, or at a remote monitoring station. Depending on whether the tending worker is at the confined space or at a remote monitoring station, the employer and the tending worker have different requirements related to monitoring the workers inside the confined space.

Additionally, employers must ensure that all tending workers:

- have a suitable system for summoning assistance, and
- are trained in the evacuation procedures referred to in Section 55(3) and the emergency response plan referred to in Section 115(1).

For full details on the tending worker and remote monitoring station requirements, see Section 56 of the OHS Code.

Entry and exit

Employers must ensure that a safe means of entry and exit is available to:

- all workers required to work in a restricted or confined space; and
- all rescue personnel who attend to the workers.

Retaining records of confined space work/entry

Employers must ensure all records regarding entry and work in a confined space, including entry permits and testing, are retained for at least:

- one year if no incident or unplanned event occurred during the entry; or
- two years if an incident or unplanned event occurred during the entry.

Hot work in a confined space

Hot work refers to work in which a flame is used, or sparks or other sources of ignition may be produced. Employers have certain responsibilities if hot work in a confined space is to take place in:

- a hazardous location; or
- a location where an explosive atmosphere may exist temporarily for certain reasons.

In such situations, the employer must ensure the hot work in the confined space does not begin until:

- A hot work permit is issued.
- The hot work location is cleared of, or suitably isolated from, combustible materials.
- Procedures are implemented to ensure the hot work can be performed safely.
- Tests show that the atmosphere doesn't contain a flammable substance and doesn't contain the minimum ignitable concentration of dust. (The employer must ensure these tests are repeated at regular intervals appropriate to the hazard associated with the work.)

See Section 169 of the OHS Code for full details of the hot work requirements.

Contact us

OHS Contact Centre

Alberta toll-free

- 1-866-415-8690

Edmonton region

- 780-415-8690

Deaf or hard of hearing (TTY)

- 1-800-232-7215 (Alberta toll-free)
- 780-427-9999 (Edmonton region)

Notify OHS of health and safety concerns

alberta.ca/file-complaint-online.aspx

Call the OHS Contact Centre if you have concerns that involve immediate danger to a person on a work site.

Report a workplace incident to OHS

alberta.ca/ohs-complaints-incidents.aspx

Website

alberta.ca/ohs

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For more information

Handling and storage of flammable materials at the work site (FEX002)

ohs-pubstore.labour.alberta.ca/fex002

Occupational Hygiene reports: requirements and tips (GS019)

ohs-pubstore.labour.alberta.ca/gs019

Safe work permits (SH013)

ohs-pubstore.labour.alberta.ca/sh013

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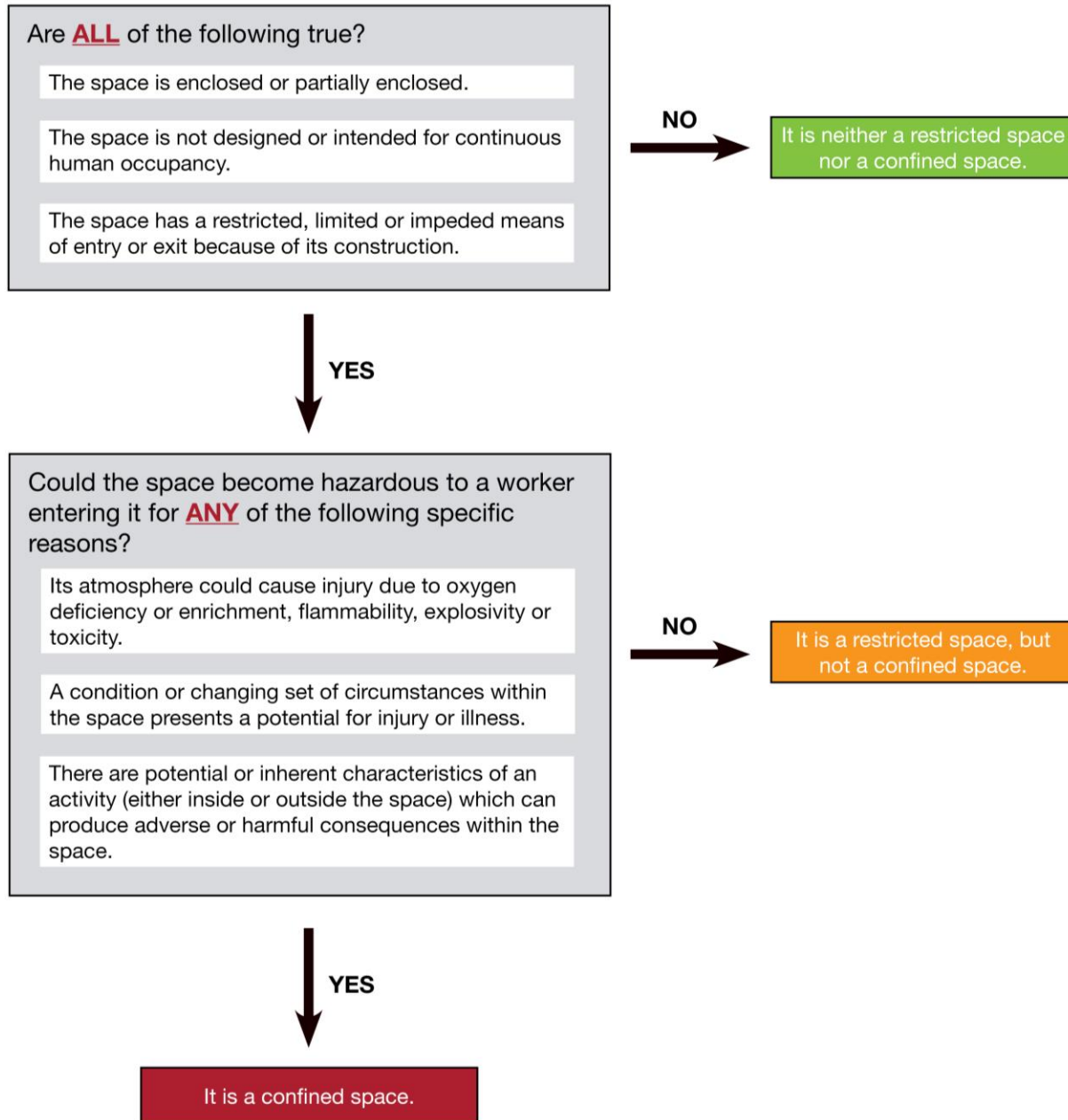
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Appendix 1: How to identify a restricted or confined space

START HERE:



Long description:

A flowchart which helps the user determine whether a space is a restricted space, a confined space, or neither.

Start here: Are **all** of the following true?

- The space is enclosed or partially enclosed.

- The space is not designed or intended for continuous human occupancy.
- The space has a restricted, limited or impeded means of entry or exit because of its construction.

If no: It is neither a restricted space nor a confined space.

If yes: Could the space become hazardous to a worker entering it for **any** of the following specific reasons?

- Its atmosphere could cause injury due to oxygen deficiency or enrichment, flammability, explosivity or toxicity.
- A condition or changing set of circumstances within the space presents a potential for injury or illness.
- There are potential or inherent characteristics of an activity (either inside or outside the space) which can produce adverse or harmful consequences within the space.

If no: It is a restricted space, but not a confined space.

If yes: It is a confined space.

Appendix 2: Table of OHS Code requirements

This table lists the sections within Part 5 of the OHS Code where you can find the requirements that apply to various aspects of restricted or confined space work.

Legislated requirements for:	Restricted spaces	Confined spaces
Atmospheric testing	N/A	Section 52
Code of practice	N/A	Section 44
Communication system	Section 48	Section 48
Emergency response and rescue	Section 55	Section 55
Entry and exit	Section 57	Section 57
Entry permit	N/A	Section 47
Hazard assessment	Section 45	Section 45
Hazardous substances and energy	Section 49	Section 49
Inerting	N/A	Section 54
Personal protective equipment (PPE)	Section 48	Section 48
Purging	N/A	Section 53
Record retention	N/A	Section 58
Rescue equipment	Section 48	Section 48
Tending worker	Sections 56(1) and 56(2)	Sections 56(1) to 56(5)
Traffic hazards	Section 51	Section 51
Training	Section 46	Section 46
Unauthorized entry	Section 50	Section 50
Ventilation	N/A	Section 53