



Department
Of
Facilities Management

Occupational Health and Safety

Confined Space Entry
Program

April 2015

1.0 INTRODUCTION

The Department of Facilities Management has identified numerous confined spaces on its various campuses; as a result it has developed this written confined space entry program in compliance with Part 12, Section 130 (3) of the Occupational Safety General Regulations.

2.0 PURPOSE

The purpose of this program is to:

- ensure the health and safety of FM employees involved in confined space entry is protected.
- ensure that all confined space entry work performed by FM employees, or contractors, at Dalhousie University campuses or facilities is done in compliance with the OHS Act, the Occupational Safety General Regulations and all other relevant regulations and standards.
- provide direction for the identification, and evaluation of confined spaces, ensure appropriate control measures are implemented to deal with confined space hazards and ensure that employees and contractors who must enter confined spaces to perform work are properly trained and competent.

3.0 SCOPE

This program applies to all Facilities Management employees that must enter confined spaces to perform work and as a minimum standard for assessing the confined space entry programs of any contractors hired to perform work involving confined space entry.

4.0 DEFINITIONS

“**adequate**” means sufficient to protect a person from injury or harm to health.

“**adequate communication**” means a system of communication:

- the effectiveness of which must not be negatively impacted by existing hazards
- that is understood by each person using the system; and,
- that is easily initiated at all times.

(NOTE: Types of communication may include, but are not limited to; voice, radio, hand signals, rope signals, etc.)

“**hazard assessment**” means a process that identifies:

- existing or potential hazards,
- determines the level of risk associated with each hazard,
- specifies appropriate control measures to ensure the health and safety of all persons at the confined space location, and;

- a means for monitoring hazardous conditions during a specific confined space entry

“attendant” means a competent employee whose primary responsibility is to remain in the immediate vicinity of a confined space for the purpose of continuously monitoring or checking on any employee(s) involved in confined space work, to provide support to workers in the confined space and to initiate emergency procedures when necessary.

“competent person” means a person who is qualified because of that persons knowledge, training and experience to do the assigned work in a manner that will ensure the health and safety of every person in the workplace, and is knowledgeable about provisions of the Act and regulations that apply to the assigned work, and about potential or actual danger to health or safety associated with the assigned work.

“confined space” means an enclosed or partially enclosed space:

- not designed or intended for regular human occupancy;
- with restricted access or exit; and,
- that is or may become hazardous to a person entering it because of its design, construction, location, atmosphere or the materials or substances in it or other conditions.

“enter” means that a persons entire body is in the confined space.

“entrant” means an employee that enters a confined space to do work and has been trained in confined space entry, hazard identification and control and the work to be performed.

“every person” means workers, attendants and rescue workers involved in confined space entry.

“hot work” means any work where a flame is used or a source of ignition may be produced.

“immediate vicinity” means close enough to the confined space to enable the person to physically check on the status of the individual in the confined space in time to initiate the emergency response procedure.

“initiate a rescue” means taking the first action that leads to the process of events specified in the Facilities Management confined space rescue procedure.

“IDLH” means immediately dangerous to life and health and refers to an atmosphere that poses an immediate threat to life, would cause irreversible, adverse, debilitating health effects, or would impair an individual’s ability to escape.

“on-site rescue plan” means a written set of procedures specific to a particular confined space, that will allow for immediate and adequate rescue of all workers in the space.

“purging” means the removal of contaminants inside a confined space by displacement with air to achieve acceptable atmospheric levels.

“restricted access or exit” means inhibited movement such as bending, crawling, climbing or having to be mechanically transported.

“ventilation” means the continuous provision of fresh air into the confined space by mechanical means to maintain acceptable atmospheric levels. It may also help to control temperature, humidity or odours.

5.0 REGULATORY REFERENCES

- The Nova Scotia Occupational Safety General Regulations, Part 12
- The Nova Scotia Occupational Safety General Regulations, Part 6
- Nova Scotia Temporary Workplace Traffic control Regulations
- Nova Scotia, Department of Transportation and Infrastructure Renewal, Temporary Workplace Traffic control Manual
- Canadian Standards Association Standard, CSA Z1006, Management of Work in Confined Spaces

6.0 RESPONSIBILITIES

Regardless of their position all employees involved in confined space activities must comply with their responsibilities under the Dalhousie University Health and Safety Program. Supervisors, entrants and attendants will be held accountable for complying with the additional responsibilities listed below:

Supervisors shall be responsible for:

- ensuring that all contractors and / or sub-contractors involved in confined space work at Dalhousie University follow an approved confined space program that meets or exceeds the requirements of this program.

The person in charge of a confined space entry shall be responsible for:

(This person will either be the shop supervisor whose employees are performing the work, a job foreperson, or some other employee that has been appointed as “supervisor” of the entry and the work being performed.)

- ensuring entry into the confined space does not occur unless it is absolutely necessary for the completion of the job.
- ensuring that the entrant and attendant are fully trained and certified in confined space entry and that their training is up to date.
- having a competent person perform pre-entry testing and inspections to ensure the entry and planned work can be done safely.
- ensuring that all other regulations, precautions, procedures and Codes of Practice (e.g. Traffic Control) are followed.
- ensuring that only properly trained / competent employees are allowed to enter the confined space.
- ensuring that an entry permit, or any other required permit, is completed and posted next to the confined space point of entry prior to entry.
- ensuring that while work is being performed in a confined space all posted entry permits are maintained in a legible state, and, if necessary, replaced with a legible copy of the permit.

- ensuring that if any changes occur during the entry that could affect worker safety employees are removed from the confined space immediately, a hazard assessment is performed and safe work procedures are reviewed for adequacy.
- ensuring that all relevant forms are completed and filed as required.
- ensuring rescue personnel have been notified of where work will be performed and the type of work.

Entrants shall be responsible for:

- working in compliance with the requirements of this program.
- following the written procedures that are part of this program and any procedures developed as a result of an assessment of a specific confined space.
- ensuring that required hazard assessments have been performed prior to entering a confined space.
- ensuring they are aware of all known or potential hazards associated with the confined space and the work to be performed.
- ensuring that all required personal protective equipment is used, stored and maintained in the proper fashion.
- ensuring that any / all means of communication to be used during the confined space entry are working properly and are understood by the entrant and the attendant.
- informing the person in charge of the confined space entry of any personal condition or limitation that may jeopardize the entrant's abilities to perform their job.
- communicating any health and safety concerns they have about the entry / rescue plan as it applies to the planned work.
- immediately exiting the confined space if ordered to do so by the attendant.
- following the procedures specified in the confined space entry plan at all times.

Attendants (Safety Watch) shall be responsible for:

- remaining in the immediate vicinity of the confined space at all times while someone is working in the confined space, checking on the status of entrants in the confined space and initiating an emergency response procedure if necessary.
- ensuring they are replaced by a qualified attendant, who has been completely familiarized with conditions at the workplace, before leaving the workplace for what ever reason.
- assisting the entrant to enter and exit the confined space.
- using the designated mode of communication to constantly monitor and stay in contact with the entrant(s) in the confined space.
- ensuring they have in their possession a device that is adequate for existing conditions and will allow them to initiate a rescue response if an emergency occurs.

- following the procedures specified in the confined space entry plan at all times.
- monitoring conditions in the confined space if necessary.

7.0 IDENTIFICATION OF CONFINED SPACES AND CREATING AN INVENTORY

Facilities Management shall be responsible for identifying confined spaces on all Dalhousie University Campuses. Spaces that are believed to a confined space shall be assessed by a competent person, or persons, to confirm their status.

For a space to be designated as a confined space it must meet the definition provided in Part 12, Section 129(1) of the Nova Scotia Occupational Safety General Regulations.

A Confined Space Inventory Form must be completed for each confined space that is identified and when completed filed in the Confined Space Inventory Folder.

7.1 ESTABLISHING A CONFINED SPACE INVENTORY

Once a space has been identified as a confined space the following steps must be taken:

- The space is to be assessed and a written and photographic record of the space and any potential hazards is to be compiled using the Confined Space Inventory Form.
- Appropriate signage is to be posted to clearly identify the location of the space and warn people of the danger.

**DANGER
Confined Space
Entry By
Permit Only**

- A number that specifically identifies the confined space is to be written in the upper right hand corner of the above sign. Each identification number shall include three number sets. For example: **F100 – 220 - 01**
 - F100 – the building number
 - 220 – the room number (This may be a combination of alpha / numeric characters in order to properly identify the location of the space within the building.)
 - O1 – This may be an incremental number if there is more than one confined space in a room or area.
- If it is necessary to perform work in a space that is not identified with a confined space sign and / or it is not listed in the Confined Space Inventory, it is to be listed in the inventory and identified by posting a confined space sign.

The confined space inventory must be kept up to date by:

- adding any newly identified confined spaces

- updating the inventory when ever changes are made to the design of a space, items contained in a confined space or to the area surrounding the space.
- recording new hazards as they are identified.
- adding any newly created confined space.

The confined space inventory must be reviewed and updated every three years.

8.0 Workspace Design or Modification of Existing Confined Spaces

When new facilities are being built, new work spaces are designed or existing work spaces or confined space are modified or equipment is installed in such spaces, Facilities Management employees shall refer to Clause 6.2 and Clause A.3 of CSA Standard Z1006 – 10, Management of Confined Spaces for guidance.

Every effort must be made to avoid creating a confined space, eliminating the need to enter confined spaces, or, where this is not possible, assess and control hazards in order to ensure the safety of any employee that may have to enter the confined space.

9.0 Hazard Assessment

Prior to any work being performed in a confined space a hazard assessment shall be performed by a competent person. A Pre-Entry Hazard Assessment Form must be completed and signed by the competent performing the assessment prior to anyone entering a confined space. If necessary the Job or Project Hazard Assessment Worksheet can be used to identify and assess hazards at the worksite and the surrounding area and to ensure adequate control measures are developed to either eliminate or minimize the risk associated with the hazards.

If necessary refer to the Dalhousie University Occupational Health and Safety Manual for further instructions on performing hazard assessments.

If the level of risk associated with the hazards that have been identified at a specific confined space require the implementation of control measures that are beyond the operational capabilities of Facilities Management, the work must be postponed until:

- Facilities Management has developed the required expertise
- a competent contractor is hired to perform the work, or;
- Facilities Management has developed alternative control measures that eliminate the hazard or minimize the level of risk to an acceptable level.

10.0 Atmospheric Testing

The atmospheric testing procedures in this section must be followed at all times prior to and during the entry of any confined space at Dalhousie University.

The hazard assessment must include atmospheric testing and all results are to be recorded on a Confined Space Entry Permit. The testing must be done by a competent person who will complete and sign the Permit. The competent person referred to here must be properly trained in the calibration and use of any instrument used for atmospheric testing.

The atmospheric testing instrument must be bump tested (exposed to a known quantity of test gas) daily or prior to each use to ensure it is functioning properly.

A written record must be kept of the functional and calibration tests of each instrument that will be used for assessing the atmospheric conditions of a confined space.

To ensure testing provides as accurate a picture as possible of the atmospheric conditions in a confined space, tests must be done at the top, middle and as close to the bottom of the space as possible at the entrance to the confined space and at each sampling location within the space.

Oxygen Levels

- Prior to any work being performed in a confined space atmospheric testing must be performed to ensure that the level of oxygen in the atmosphere in the confined space is not less than 19.5% and not more than 22.5%.

Chemical Substances or Mixtures of Chemical Substances

- Prior to any work being performed in a confined space atmospheric testing must be performed to ensure that the concentration of a chemical substance or a mixture of chemical substances identified as a potential hazard in the confined space does not exceed its occupational exposure limit under the *Occupational Health Regulations* or 50% of its lower explosive limit (LEL).

The types of work permitted in a confined, base on the Lower Explosive Limit detected, are as follows:

- 0% of the Lower Explosive Limit – Hot work such as oxy-acetylene cutting, grinding or welding in a confined space is only permitted when the lower explosive limit is 0%.

NOTE: Monitoring for toxic gases and the LEL must be done constantly while this type of work is being performed.

- 1 – 10% of the Lower Explosive Limit – Cold work is permitted in a confined space provided the lower explosive limit does not exceed 10%. Explosion proof lighting and non-sparking tools must be used.
- 11% - 50% of the Lower Explosive Limit – Cleaning or inspection work is permitted in a confined space provided it lower explosive limit does not exceed 49%. Explosion proof lighting must be used and the nature of the work that will be performed must not create any ignition source.
- 50% and above – Entering, performing work of any sort is absolutely prohibited when conditions exceed 50% of the lower explosive limit.

10.1 Continuous Atmospheric Testing

Continuous atmospheric testing must be performed while entrants are in a confined space to ensure that oxygen levels and levels of hazardous substances remain within the safe limits. A written record of readings must be maintained by using the Record of Continuous Atmospheric Testing form.

If continuous monitoring identifies a new hazard, all entrants are to evacuate the confined space immediately and control measures must be developed to deal with the hazard before work can resume.

A least one entrants should wear a monitoring device, with an alarm, to ensure an additional degree of protection.

Only when there is conclusive proof that there is no possibility of hazardous atmospheric conditions existing /developing in the confined space will the requirement for continuous atmospheric testing be waived.

11.0 Immediately Dangerous to Life or Health (IDLH) Confined Spaces

When it is known or determined that a confined space has an atmosphere that is immediately dangerous to life or health, or, it has an unknown atmosphere that must be treated as though it is immediately dangerous to life or health, Facilities Management must hire a competent contractor that is qualified to perform the work required and can provide properly trained rescuers.

12.0 RESPONSE TO HAZARDOUS CONDITIONS

If atmospheric testing indicates any of the following conditions the corresponding actions must be taken.

If, at any time, testing of a confined space indicates that the concentration of a chemical substance, or mixture of chemical substances, equals or exceeds 50% of their lower explosive limit (LEL) the following precaution must be taken:

- Any entrants outside the confined space must not be allowed to enter the space and any entrants already in the space must be evacuated immediately.

If, at any time, the concentration of a chemical substance or mixture of chemical substances has the potential to cause a flammable or explosive hazard and tests indicate the concentration of the substance, or substances, in the confined space is between 10% and 50% of the LEL the following precautions must be implemented:

- Entrants must be provided with explosion proof lighting and the person in charge of the confined space entry must ensure that it is used where necessary.
- The person in charge must ensure that the only work performed in the confined space is cleaning or inspecting and that the activities involved in either of these jobs do not create any source of ignition.

If, at any time, testing indicates that the oxygen level in a confined space is greater than 22.5% and work is to be performed in the confined space, the person in charge of the entry must ensure that:

- The confined space does not contain any substance that is classified as flammable and combustible material or as dangerously reactive material under the *Controlled Products Regulations* made under the *Hazardous Products Act* (Canada).

Section 133(4)(a) and (b) of the *regulations* introduces an exception for dealing with a confined space that has been confirmed to be inert. This exception does not apply to Facilities Management employees engaged in confined space entry. See Section 16 of this program.

If a liquid in which an entrant could drown or a free flowing solid that could entrap an entrant exists in a confined space they must not enter the confined space until the hazard has been eliminated or minimized to levels that ensure the health and safety of the entrant.

Any machines equipment, tools, electrical installations or other energy sources that are identified as hazards near the entrance to or in the confined space must be isolated using the appropriate energy isolating device, locked out and tagged before any work begins in the confined space.

The person in charge of a confined space entry must confirm that any entry point to the confined space is large enough to accommodate entrants wearing personal protective equipment or emergency equipment.

NOTE: If the hazards associated with a confined space where work is to be performed necessitate the availability of a rescue team and one is not available the work MUST NOT PROCEED. Reliance on 911 is not acceptable in this case.

13.0 CERTIFICATION OF A CONFINED SPACE

For a confined space to be certified a competent person must fill in all of the information required on page one of the Confined Space Entry permit and certify by signing in the designated spot on page two, that, the atmospheric conditions tested in the confined space are likely to be maintained within the specified ranges for the duration of the permit.

This certification shall not be valid for longer than 24 hours after the time the tests are performed. If work must continue following expiration of the original certification the confined space must be re-certified for each following 24 hour period.

The person in charge of the confined space entry must ensure that a valid copy of the certification (Confined Space Entry Permit) is posted at the entrance to the confined space for the entire time of the confined space occupancy.

14.0 COMMUNICATION

Maintaining good communication between entrants and attendants is a key component of every confined space entry or rescue.

The selection of a communication system must involve consideration of existing hazards, environmental conditions, design of the confined space and the affect of surrounding structures. Some examples of effective types of communication are:

- Walkie Talkies
- Hand Held Radios
- Verbal
- Hand Signals
- Cell Phones
- Tapping / knocking
- Tugging on the life line

In addition to selecting a primary system of communication a secondary system must be selected as a back-up in case the primary system fails. A written explanation of the communication process is to be included in the appropriate section of the Confined Space Entry Permit to ensure that everyone involved understands what the various words, signals, etc. that will be used actually mean. Always use clear / concise words or signals.

The person in charge of a confined space entry must ensure that an adequate number of communication devices are available at the confined space before any entry begins.

Attendants are to be provided with back-up communication equipment to ensure they are able to call for assistance during an emergency if their primary system fails.

15.0 PERSONAL PROTECTIVE EQUIPMENT

The personal protective equipment required for a confined space entry job is dependant on the specific hazards of the confined space and the work to be performed. Control measures must be developed in keeping with the hierarchy of control measures with personal protective equipment used as a final barrier for protecting the health and safety of employees.

Supervisors must ensure that any personal protective equipment (PPE) selected is sufficient for the hazards identified at a confined space and for any rescue activities that may be required at that confined space. All PPE must be available at the work site prior to any entry activities.

All entrants must be supplied with a Class "E" full body harness and it must be worn when entering or working in a confined space. A life line must be connected to the harness unless it is not reasonably practicable to use the full body harness.

The Dalhousie University Occupational Health and Safety Program requirements for the selection, use and care of PPE must be followed at all times.

16.0 EMERGENCY EVACUATION AND RESCUE PLANS

Before work begins at any confined space an emergency response plan must be developed using the Facilities Management Emergency Evacuation and Rescue Plan. The Plan defines the standard procedures to be followed in the case of an emergency evacuation, a non-entry rescue or an entry rescue.

Additional written emergency evacuation or rescue procedures required, based on the hazards identified during the pre-entry hazard assessment of each confined space, are to be added to the appropriate part of the plan. The employee in charge of the confined space entry must ensure that the completed emergency plan ensures the health and safety of all entrants, attendants and rescuers.

A copy of the completed Emergency Evacuation and Rescue Plan must be posted outside the confined space.

16.1 Rescue Options

Due to the conditions normally found in the confined spaces at Dalhousie the following three types of rescue procedures will normally be used by Facilities Management employees involved in vertical and / or horizontal rescue scenarios:

- Emergency evacuations (self rescue) are to be used when entrants are physically and mentally able to exit the confined space without any assistance. The process can be initiated by either the attendant or an entrant.
- Non-entry rescues are to be used when something happens to an entrant and they cannot self rescue. Under no circumstances are rescuers to enter the confined space; a retrieval system must be used to extract the entrant, or entrants.
- Entry rescues are to be used when something happens to an entrant and they are unable self rescue.

Facilities Management must ensure that, in addition to those employees performing confined space entry work, an adequate number of employees are trained as confined space rescuers. Anyone acting as a Confined space Attendant must be trained as a rescuer. There must be a sufficient number of employees trained as rescuers so that at any given time there are enough two person rescue teams to:

- respond to a minimum of two confined space emergencies at the same time.
- accommodate employee vacation requests and absences due to illness without jeopardizing the number of teams available..

Whether a rescue team must be on site during confined space work or only the trained Attendant is required will be based on the severity of hazards identified in the confined space Pre-Entry Hazard Assessment.

A stand-by rescue team must be designated for each job involving entry into a confined space even when it has been determined that only an Attendant is required to be on duty outside the confined space while work is being performed.

The names and contact information for the team members must be recorded in the appropriate place on the Confined Space Entry Permit.

When a trained rescuer has been designated to be on stand-by for confined space job they must inform their Supervisor of this fact. The Supervisor must ensure that the employee can be immediately available to respond in the case of an emergency.

Dalhousie Security must be contacted immediately to any call from a rescuer that requires emergency response.

If, due to extenuating circumstances, a designated rescuer cannot continue to be available to respond in the case of an emergency they must immediately inform the Attendant at the job of that fact. In such a case the Attendant must call an evacuation of the confined space until a replacement rescuer is available.

If the Attendant becomes part of the rescue team they must be replaced by a competent person that will perform the Attendant's duties.

All required emergency and rescue equipment and personal protective equipment must be readily available at the work site prior to the confined space work beginning.

17.0 CONTRACTOR SAFETY

Any employee hiring a contractor to perform work at any Dalhousie University facility must strictly adhere to the requirements of the Contractor Safety Policy found in the Dalhousie University Occupational Health and Safety Program.

18.0 LOCK OUT / TAG OUT

All energy sources and hazardous substances must be controlled during confined space work to ensure they are not a hazard to employees. When possible a confined space should be fully isolated by locking out all hazardous energy sources such as mechanical, electrical, steam, condensate, hydraulic and propane lines. Lines draining water or other waste into the space must be isolated and locked out as well.

De-energizing of all energy sources is to be accomplished by following the Facilities Management Lock Out / Tag Out Program and Procedures.

19.0 TRAFFIC AND PEDESTRIAN CONTROL

Particular attention must be paid to confined spaces that are accessed through manhole covers located in or very close to roadways, streets, lanes, roads, driveways or any other area on Dalhousie property where vehicles or pedestrians are likely to travel.

As required by the *Temporary Workplace Traffic Control Regulations*, Facilities Management shall adopt a code of practice for dealing with vehicular traffic at these types of workplaces. The Temporary Workplace Traffic Control Manual published by the Nova Scotia Department of Transportation and Infrastructure Renewal must be used as the Facilities Management Code of Practice when traffic control is required.

When work of this nature is planned consideration should be given to hiring a professional traffic control firm to provide the design of the traffic control measures, the necessary equipment and the trained staff to provide traffic control.

If department employees are involved in traffic control they must be properly trained, follow the traffic control measures recommended in the Temporary Workplace Traffic Control Manual and use all of the required equipment, barriers, signage and personal protective equipment required for the job.

20.0 PURGING AND VENTILATION

Purging involves the removal of contaminants inside the confined space by displacement with air in order to achieve acceptable atmospheric levels. In other words, if a confined space contains a toxic gas, air would be blown into the space to reduce the concentration of the toxic gas to the safe atmospheric exposure level.

Ventilation involves providing a continuous supply of fresh air in the confined space using mechanical means in order to maintain acceptable atmospheric levels. Ventilation of the confined space must be continued for the entire time that work is performed in order to maintain an acceptable oxygen concentration, to provide protection in case of accidental release of chemicals, to remove contaminants generated by the work performed and / or to maintain a comfortable working environment in the confined space.

Employees must assume that natural ventilation will not be sufficient to maintain a safe atmosphere because air travels along the path of least resistance and is not likely to reach all areas in the confined space. Air must be forced into the confined space to be effective.

If atmospheric hazards exist, or are likely to exist in a confined space, the confined space must be purged and / or ventilated before any employee enters it, in order to ensure that acceptable atmospheric levels are established and maintained in the confined space while any entrant is inside.

The length of time required for ventilation of each confined space will vary and depends on many factors such as; size of the confined space, the amount of air moved by the ventilation system, the source of the contamination and the vaporization rate of the contaminant. When ventilation of a confined space is required it must continue until the work is completed, and, must not be interrupted when entrants are in the confined space.

Any mechanical ventilation equipment used by Facility Management employees to maintain acceptable atmosphere levels in a confined space must have an adequate warning system such as a flow or pressure switch in the air stream to alert entrants to an equipment failure. In addition, an evacuation procedure shall be developed for the confined space to ensure that entrants are able to exit the confined space immediately upon hearing the warning.

Refer to the Safe Job Procedure for Ventilation of Confined Spaces for information about the specific steps to be followed when purging and ventilating.

NOTE: When purging and ventilation of a confined space is required, The Facilities Management Safe Job Procedure for Ventilation of Confined Spaces must be followed at all times.

NOTE: In situations where the process of purging and ventilation is not adequate to maintain atmospheric levels within safe limits and supplied air respirators or self contained breathing apparatus are required a competent contractor is to be hired to perform the required work.

21.0 INERTING

Inerting activities involve the displacement of oxygen in a confined space with non-flammable gases such as carbon dioxide or nitrogen. This creates an oxygen deficient atmosphere requiring the use of Self Contained Breathing Apparatus or Supplied Air Breathing Apparatus.

Under no circumstances are Facilities Management employees to become involved in a job that requires inerting of a space. A competent contractor is to be hired to perform this type of confined space work.

22.0 PROJECTS REQUIRING RESPIRATORY PROTECTION

The requirements of the Respiratory Protection Policy found in the Dalhousie University Occupation Health and Safety Program are to be followed at all times.

Any confined space work requiring supplied air shall be contracted out to a qualified contractor.

23.0 ELECTRICAL HAZARDS FROM TOOLS AND EQUIPMENT

If due to conditions in a confined space, or other applicable conditions, an electrical hazard exists all electrical equipment taken into the confined space must be:

- battery operated
- double insulated
- bonded to ground and not exceeding 30 v and 100 volt-amps, or,
- equipped with a ground fault circuit interrupter of the Class A that complies with CSA Standard C22.1-98, Canadian Electrical Code part 1 (18th edition) , Safety Standard for Electrical Installations; and
- tested before each use.

24.0 TRAINING, RECORDS MAINTENANCE AND PROGRAM REVIEW

All activities involving training, records maintenance and program review are to be performed in compliance with the requirements of the Dalhousie University Occupational Health and Safety Program.

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