McMaster University

Risk Management Manual Program

Complete Program Title: **Confined Space Entry Program**	Risk Management Manual (RMM) Number: **305**
Approved by: **Vice-President, Administration** **President and Vice-Chancellor**	Date of Most Recent Approval: **November 2014**
Date of Original Approval: **September 2006**	Supersedes/Amends Program dated: **September 2010**
Responsible Executive: **Vice-President, Administration**	Enquiries: **Environmental and Occupational Health Support Services (EOHSS) eohss@mcmaster.ca**
DISCLAIMER: *If there is a discrepancy between this electronic program and the written copy held by the program owner, the written copy prevails.*	

1. Purpose

1.1. To ensure compliance with the Occupational Health and Safety Act and Ontario Regulation for Confined Spaces

1.2. To provide for the safety of persons who are required to work within a confined space and to ensure the confined space program is followed .

2. Scope

2.1. All employees, students, contractors and sub-contractors who are required to work within confined space(s). Contractors and sub-contractors contracted to enter confined space at the University must also adhere to the procedures established by this program as a minimum required unless their own procedures are over and above the McMaster Confined Space Entry Program.

3. Related Documents

3.1. Occupational Health and Safety Act/R.S.O. 1990 O.Reg 632/05 – Confined Space.

3.2. McMaster University RMM #100 Workplace and Environmental Health and Safety Policy

3.3. McMaster University RMM #201 Hot Work Program.

3.4. McMaster University RMM #304 Persons Working Alone Program

3.5. McMaster University RMM #306 Lockout and Tag out Program.

3.6. McMaster University RMM #311 Respiratory Protection Program.

3.7. McMaster University RMM #1204 First Aid Program.

4. Definitions

4.1. **Confined Space** - a fully or partially enclosed space,
(a) that is not both designed and constructed for continuous human occupancy, and
(b) in which atmospheric hazards may occur because of its construction, location or contents or because of work that is done in it;

4.2. **Class I Confined Space** - This is a permit required for confined space which, due to the nature of the hazard(s) or the location of the space, it is not feasible or possible to render the space safe to enter without proper respiratory protection. Authorized personnel entering this type of space must wear appropriate supplied air respiratory equipment.

4.3. **Class II Confined Space** - This is a permit required for confined space which, due to the nature of the potential hazard(s) or the location of the space, can be rendered safe for an employee to enter without wearing respiratory protection. This can be accomplished through work practices such as continuous ventilation and air monitoring of the space.

4.4. **Atmospheric hazards:**

(a) the accumulation of flammable, combustible or explosive agents,

(b) an oxygen content in the atmosphere that is less than 19.5 per cent or more than 23 per cent by volume, or

(c) the accumulation of atmospheric contaminants, including gases, vapours, fumes, dusts or mists that could,

(i) result in acute health effects that pose an immediate threat to life, or

(ii) interfere with a person's ability to escape unaided from a confined space.

4.5. **Restricted Work Space** - This is a space which does not require a permit but is restricted to the degree that a Standard Operating Procedure (SOP) must be provided for work to be conducted in such areas. O.Reg 67/93 Section 42, 'space from which the egress of a worker is restricted, limited, or impeded'.

Examples of **Restricted Work Spaces** may include small machine rooms, air handling units, nitrogen dispensing rooms, ammonia storage rooms.

4.6. **Hazard Assessment** - To ensure an adequate assessment of the hazards related to the space is carried out prior to the worker(s) entering the space. A Hazard Recognition Checklist is a McMaster University approved document which must be completed recording the findings of the hazard assessment, signed by the supervisor and worker(s) entering a confined or restricted space.

4.7. **Confined Space Entry Permit** - A McMaster University approved permit, which must be completed in full and signed by the supervisor and the worker(s) entering the confined space. The permit will be posted at the entrance to the confined space and renewed at the start of each work shift or when work or entry conditions change.

4.8. **Confined Space Entry Rescue Plan** - A McMaster University approved document, which must be completed in full and signed by the supervisor and the worker(s) assigned to perform an emergency rescue if necessary. The rescue plan will be posted at the entrance to the confined space and renewed at the start of each work shift or when work or entry conditions change.

4.9. **Attendant** - A worker that is trained in the hazards of confined spaces and the work to be done and whose primary responsibility is to monitor and assist the workers in the confined space. The attendant must never enter the confined space unless an alternate attendant is assigned.

4.10. **Confined Space Coordinator** - A Facility Service's employee who is trained in Confined Space Entries; who will act as a resource for Confined Space Entries conducted on McMaster University property; and who will ensure locations of Confined Spaces are documented in an accurate inventory and signed appropriately where possible.

4.11. **Constructor** - A person who undertakes a project for an owner and includes an owner who undertakes all or part of a project by himself or by more than one employer.

4.12. **Acronyms:**

- **CJHSC** – Central Joint Health and Safety Committee;
- **CSJHSC** – Campus Services Joint Health and Safety Committee;
- **EOHSS** – Environmental and Occupational Health Support Services
- **FHS safety office** – Faculty of Health Science Safety Office
- **LEL** – Lower Explosive Limit;
- **PPM** – Parts Per Million;
- **SAR** – Supplied Air Respirator;
- **SCBA** – Self Contained Breathing Apparatus;
- **SOP** – Standard Operating Procedure
- **UEL** – Upper Explosive Limit.

5. Responsibilities

5.1. **Role of Senior Managers (Directors, Deans, Chairs, and Department Managers): Senior Managers Shall:**

- Provide the resources and direction necessary to ensure that an effective Confined Space Program is strictly adhered to;

- Ensure all staff under their supervision are aware of and adhere to the Confined Space Program.

5.2. **Role of Facility Services**

Facility Services shall:

- Control contractor access to confined and restricted spaces;
- Review requests for confined space entries by contractors or outside companies.
- Ensure that only trained and authorized employees enter confined spaces;
- Inventory potential confined space areas;
- Update confined space survey as needed due to changes, renovation or new construction;
- Authorize work in confined spaces;
- Authorize a key point of contact for each confined space;
- Appoint a confined space coordinator;
- Maintain an inventory of confined space safety equipment, e.g. safety belts and harnesses, tripods, lifelines, air monitors, air line respirators, self contained breathing apparatus etc.
- Notify Security Services before commencing Entry

5.3. **Role of Supervisors:**

ONLY CONFINED SPACE TRAINED AND AUTHORIZED SUPERVISORS MAY SUPERVISE A CONFINED SPACE ENTRY

The Supervisor shall ensure that:

- only workers trained in Confined Space Entry and Rescue participate and work within a confined space;
- the requirements of the Confined Space Program are strictly enforced;
- start of the work consultations with EOHSS and/or FHS safety office prior to the confined space being entered; and
- all documents i.e. hazard recognition checklist, confined space entry permit, rescue plan and work procedure (SOP) are filed and retained as required by the Confined Entry Space Program.

5.4. **Role of Employees:**

Employees shall:

- Work in compliance with McMaster University's Confined Space Entry Program when required to enter and work in a confined space.

5.5. **Role of Constructor/Contractor:**
Contractor shall:

- Identify a confined space by using Appendix A
- Ensure individuals contracted to enter and perform work in a confined space shall work in compliance with McMaster University's Confined Space Program; or use own program provided it meets requirements identified in the McMaster University program;
- Be allowed to use their own Confined Space Entry Program while servicing their systems on campus, if they are communications Contractors working under Federal Health and Safety legislation, e.g. may on approval by EOHSS and/or FHS safety office if appropriate, be allowed to use their own confined Space Entry Program while servicing their systems on campus. Obtain permission from Facility Services prior to any confined space work;
- Obtain permission from Facility Services prior to any confined space work.

5.6. **Role of EOHSS**

EOHSS shall:

- coordinate confined space training for McMaster University employees;
- Review and update the Confined Space program on an regular basis; and
- Audit the program.

5.7. **Security Services:**

Security Services Shall:

- Be notified in advance of all confined space entries;
- Respond to confined space emergencies by notifying City of Hamilton Emergency Services.

5.8. **Central Joint Health and Safety Committee (CJHSC):**

- The CJHSC shall review and make comment on the Confined Space Entry Program on a regular basis.

6. Training

6.1. All persons who are required to work in a confined space, attendants assigned to confined space entry and rescue, and supervisors, who authorize such work, shall be trained in Confined Space Entry and Rescue, and the hazards associated with such entry and safe work practices.

6.2. EOHSS is responsible for coordinating the delivery of Confined Space Awareness Training.

7. PROCEDURES

7.1. Class I and Class II Confined Space Entry:

ONLY CONFINED SPACE ENTRY AND RESCUE TRAINED AND AUTHORIZED SUPERVISORS MAY ISSUE A CONFINED SPACE ENTRY PERMIT

The Supervisor shall:

- Prepare a Hazard Recognition Checklist, Confined Space Entry Permit and Rescue Plan and a Work Procedure (SOP), identifying the nature of the space to be entered, the type of work to be conducted within the confined space;
- Review the Hazard Recognition Checklist, Confined Space Entry Permit, Rescue Plan, and a Work Procedure (SOP), with the trained Confined Space Entry worker/attendant(s) assigned to the work;
- Prepare the Confined Space Entry Permit in consultation with EOHSS. All Confined Space Entry Procedures (Appendix B) must be considered together with an assessment of the need for specific entry, rescue plan and work procedure (SOP) related to the confined space and work to be conducted therein;
- Review the rescue plan in consultation with EOHSS and ensure communication is in place with Security Services;
- Together with EOHSS, review the completed confined space entry permit and all aspects of the work to be conducted in the space, with the trained and authorized confined space worker(s) and attendant(s); and
- Ensure the Hazard Recognition Checklist, Confined Space Entry Permit and Rescue Plan, and Work Procedure (SOP) are posted at the entrance to the Confined Space and renewed every eight (8) hours.

7.2. **Restricted Work Space:**

In the context of the Confined Space Entry Program a restricted space is a non-permit required space from which the egress of a worker is restricted, limited, or impeded for a worker to enter and perform assigned work. A Restricted Space is an area in which the access or egress may be limited and movement inside the space awkward. Given these limitations, Restricted Spaces require specific procedures to be followed to ensure the safety of persons who enter and work in these areas. Examples of restricted areas may include air handling units, small machine rooms etc.

The Supervisor shall:

- Identify restricted spaces;
- Control access to and authorize work in these spaces;
- Complete a hazardous recognition checklist, rescue plan and work procedure (SOP), for these areas; and
- Ensure workers are informed of the hazardous recognition checklist and rescue plan, for the restricted spaces in which they perform work.

Procedures for Entry and Work in Restricted Spaces will include:

i. Restricted spaces must be identified and labeled;
ii. All entry and work in Restricted Spaces must not be done alone;
iii. A reliable means of communication must be available for restricted spaces work (buddy system, portable radio, emergency phone in or near space) ; and
iv. Appropriate protective equipment for the space and nature of the work.

8. RECORDS

To facilitate external audits by regulatory agencies e.g. Ministry of Labour copies of the Hazardous Recognition Checklist, Specific Event Confined Space Entry Permit, Rescue Plan and Work Procedure (SOP) shall be kept by the department responsible for the Confined Space Entry and for the longer of the following periods:

i. One year after the document is created
ii. The period that is necessary to ensure that at least the two most recent records of each kind that relate to a particular confined space are retained

Appendices

Appendix A: Hazardous Recognition Checklist

Appendix B: Confined Space Entry Permit

Appendix C: Rescue Plan

Appendix D: Standard Operating Procedure – Confined Space Entry

Note: A digital copy of the appendices can be obtained upon request by contacting EOHSS at eohss@mcmaster.ca.

Appendix A: Hazard Recognition Checklist

Page 1

Hazard Recognition Checklist

Industrial Regulation 692/05, Section 119.5
(1) Before any worker enters a confined space, the employer shall ensure that an adequate assessment of the hazards related to the confined space has been carried out.

(2) The assessment shall be recorded in writing and shall consider, with respect to each confined space.
a. The hazards that may exist due to the design, construction, location, use or contents of the confined space; and
b. The hazards that may develop while work is done inside the confined space.
3) The record of the assessment may be incorporated into an entry permit under section 119.9
Industrial Regulation 629/05, Section 119.9
(2) 3. A description of the hazards and the corresponding control measures

The hazard assessment is <u>not</u> intended for the purpose of evaluating whether or not a space is a confined space. <u>The assessment is intended to be carried out as part of the entry preparation process and included in the confined space permit.</u> It is critical to identify the existing hazards of individual spaces, and the hazards that may develop during the work activity inside the space. In addition to assessing the atmospheric hazards that pose an imminent danger to workers, the employer should also assess general safety and health hazards present in the space.

Building:_____ Room Number: _____ Date:

1. Identification of the potential atmospheric hazards should be done taking into consideration the previous contents of the space. What the space previously used for?

What is the space used for presently?

2. What type of work activity is to be performed?

3. Could the work activity create an atmospheric hazard? YES or NO
Describe the hazard that could be created and what control measures will require implementation?

4. Are there any other types of hazards in the space which require attention (i.e. ladder not braced to the structure of the building or tied off)?

Describe the work activity, equipment, tools to be used, including PPE:

Appendix A: Hazard Recognition Checklist (Cont'd)

Page 2

Answer the following questions to determine if there are atmospheric hazards presently in the space or could be based on the above list of work activities (question 5) to be performed?

Yes ☐	No ☐	Oxygen deficiency (not less than 19.5%) or oxygen enrichment (not more than 23%)
Yes ☐	No ☐	Flammable, combustible or explosive agent
Yes ☐	No ☐	Toxic air contaminants, smoke, fumes and dusts and corresponding over exposure limits
Yes ☐	No ☐	Residual chemicals/materials
Yes ☐	No ☐	Ignition hazards, including hot work, tools and other potential sources of ignition
Yes ☐	No ☐	Chemical contact hazards, including acids, alkali
Yes ☐	No ☐	Physical hazards, including mechanical hazards, thermal stress, humidity, radiation, noise and vibration, working/walking surfaces, engulfing materials, physical obstacles, poor visibility.
Yes ☐	No ☐	Electrical hazards, including lines and cables, exposed to terminals
Yes ☐	No ☐	Traffic hazards, including animals and biological agents
Yes ☐	No ☐	Biological hazards, including animals and biological agents
Yes ☐	No ☐	Other hazards related to the confined space, including piping/distribution systems, pressurizing fluids, any uncontrolled energy (water, liquid, vapour, electric, magnetic, gaseous, etc.) limited access and egress

7. Control Measures:
Is ensuring the concentrations of an atmospheric hazard are controlled or maintained at an appropriate level, and will not eliminate the possibility of a potential atmospheric hazard.
Therefore the space would be considered a confined space. Can the hazard(s) be controlled? YES or NO
If YES, explain the control measures to be implemented:

8. Elimination Measures:
If measures are implemented to eliminate the possibility that any atmospheric hazard(s) may occur in a space, then the confined apace provisions would no longer need to apply. Elimination of an atmospheric hazard occurring is different from the control of the hazard. If workers must enter the confined space to eliminate the hazard(s) then the regulation would apply during the cleaning process.
If YES, explain how the elimination will be implemented:

9. The worker(s) possess the knowledge, experience and have received confined space entry training? YES or NO
The completed Recognition Hazard Checklist will be provided to the worker(s) to review and sign off acknowledging understanding.

(signature)	(signature)	(signature)
(signature)	(signature)	(signature)

10. The person completing the Hazard Recognition Checklist is competent and shall sign and date this document. This document shall be completed on the same day the work is scheduled to start.
A copy shall be provided to the JSHC and the worker(s) expected to perform the work.

Signature & Title Date

Appendix B: Confined Space Entry Permit

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McMaster University
Facility Services Department

CONFINED SPACE ENTRY PERMIT Job No.

Important Notes:

Is the space to be entered included in the confined space survey? YES or NO

If No, contact Confined Space Coordinator.

If a contractor will be performing a confined space, the confined space program shall apply to all contractors.
The constructor is responsible, whether one or more contractor(s), for the completion of the Hazard Recognition Checklist, confined space entry permit, and rescue procedure. These documents shall be provided to the contractor(s) to discuss with the contractor's worker(s) and provide worker(s) with a copy (pages 1 to 8 inclusive).
The permit is conditional on compliance with all requirements specific in this permit.
New permit is required every shift (maximum 8 hours) or for a new job activity.
Permit is to be located and in full view at job site for duration of work period.

DESCRIPTION:
Building: Confined Space To Be Entered (specific):
Valid Only On This Date:_____ From:____ am/pm To (max 8 hours)_____am/pm
Equipment To Be Worked On In The Confined Space:
Work To Be Performed In The Confined Space:

Appendix B: Confined Space Entry Permit (Con't)

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PRE-PLANNING REQUIREMENTS

Yes ☐	N/A ☐	Was the Hazard Recognition Checlist completed?	Yes ☐	N/A ☐	Has air monitoring equipment been checked & calibrated?
Yes ☐	N/A ☐	Have the MSDS been reviewed	Yes ☐	N/A ☐	Are special tools and equipment required, ie. spark proof tools, explosion proof lighting?
Yes ☐	N/A ☐	Minimum of 2 perons with Emergency First Aid/CPR			
Yes ☐	N/A ☐	The safety and structural integrity of Confined Space shall be checked (i.e. brickwork, ladder, trenches, etc.)	Yes ☐	N/A ☐	Does the equipment require to be grounded?
			Yes ☐	N/A ☐	Is the requried rescue equipment & PPE available
Yes ☐	N/A ☐	Will there be safe access and egress been provided?	Yes ☐	N/A ☐	Is the rescue equipment checked and in working order?
Yes ☐	N/A ☐	Is area around work site cleared and roped off?	Yes ☐	N/A ☐	Is fire protection equipment available?
Yes ☐	N/A ☐	Are any hazardous materials to be used?	Yes ☐	N/A ☐	Is hot work permit required? If yes, hot work permit shall be attached to the Confined Space Entry permit.
Yes ☐	N/A ☐	The specific event confined space entry, work and rescue procedures is completed and reviewed with the workers(s) prior to the start of the entry?	Yes ☐	N/A ☐	Copies of the specific event confined space entry permit, hazard recognition checklist, rescue plan and work procedure will be provided to the worker(s) (paes 1 to 8 inclusive)?
Yes ☐	N/A ☐	Will this entry affect the users and have they been notified			
Yes ☐	N/A ☐	Does the confined space require to be cleaned and flushed out?	Yes ☐	N/A ☐	EOHSS and Security shall be contacted
Yes ☐	N/A ☐	Does this confined space require to be purged and ventilated?	Yes ☐	N/A ☐	Is signage to be posted?

ATMOSPHERE PRE-ENTRY READINGS

Gas Test Unit-make	Last calibration date	Tested by

Yes ☐	N/A ☐	Oxygen must be greater than 19.5% but less than 23% by volume
Yes ☐	N/A ☐	Carbon Monoxide (maximum is 10 ppm)
Yes ☐	N/A ☐	Hydrogen Sulfide (maximum is 5 ppm)
Yes ☐	N/A ☐	Combustible Level (cold work 10% of LEL, hot work 0-1% of LEL plus completion of a hot work permit)
Yes ☐	N/A ☐	Other - limited access/egress, any type of uncontrolled energy (water, liquid, vapour, electric, magnetic, gaseous)
Yes ☐	N/A ☐	Are readings within safe entry range

PROCEDURE REQUIREMENTS

PLEASE complete all sections 1, 2, 3 & 4
For each section below that applies, all the requirements for that section shall be met

Does the space meet the CONFINED SPACE definition? Both (a) AND (b)

Yes ☐	Proceed to Section 1
No ☐	Implement appropriate safety procedure(s)

Section 1

Yes ☐	Easy egress from Confined Space (means shall be provided for ready entry and exit)
Yes ☐	Lockout/Tagout - Mechanical equipment disconnected from its power source or pinned or blocked (I.e. electrical hydraulic, steam, pneumatic, gravity and manually operated equipment)

Section 2 - CLASS II

Does there exist or is there likely to exist: An accumlation of atmospheric contaminants, including gasses, vapours, fumes, dusts, or mists, or an oxygen content in the atmosphere that is less than 19.5% or more han 23% that could result in acute health affects that pose an immediate threat to life, or interfere with a person's ability to escape unaided from a confined space, which can be purges or ventilated to provide and maintain a safe atmosphere?

No ☐	If NO, Section 2 DOES NOT APPLY
Yes ☐	Section 1 and 2 WILL APPLY
Yes ☐	**All requirements of Section 1 shall be complied with**
Yes ☐	Hazard Recognition Checklist (pages 1 & 2) is completed and discussed with the worker(s) and copy provided to the worker(s)
Yes ☐	A Specific Event Confined Space Entry permit (page 3, 4, 5 & 6), a work plan describing the work (pages 1 & 3), a rescue procedure (pages 7 & 8) are documented, communicated to the worker(s), and posted
Yes ☐	Rescue equipment in place (tripod, winch, harness, lifeline, SCBA, 10 min emergency air pack, shackles)
Yes ☐	Measures taken to maintain safe atmosphere by monitoring continuously and recording results hourly
Yes ☐	Measures taken to ensure safe atmosphere by monitoring continuously and recording results hourly
Yes ☐	Space purged and ventilated to provide safe atmosphere
Yes ☐	Communication system in place (i.e. telephone/radio), tested and in working order
Yes ☐	A personal air monitoring device with alarm (calibrated, tested) shall be worn by worker in confined space
Yes ☐	Worker(s) entering confined space shall use equipment necessary to ensure health and safety (e.g. PPE, spark resistant tools, explosion proof lights)
Yes ☐	Attendant(s) certified in Emergency First Aid/CPR, shall be stationed at the entrance throughout the duration of the day
Yes ☐	Emergency First Aid/CPR attendant(s) shall NOT enter the confined space
Yes ☐	One or more specified workers must be immediately available to assist first aid/CPR person(s) and or assist with the entry and or rescue
Yes ☐	Specified workers to provide assistance are NOT permitted to enter the confined space
Yes ☐	Workers decending space by fixed ladder (if more than 3m/10 ft), shall wear a full body harness and fall arrest system to prevent freefall greater than 1.5m/5 ft

Appendix B: Confined Space Entry Permit (Con't)

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EOHSS shall be consulted on all Class I Confined Space Entry
Security Services shall be notified of all Class I Confined Space Entry

Section 3 - CLASS I

Does there exist, or is there likely to exist: An accumulation of atmospheric contaminants, including gasses, vapours, fumes, dusts or mists, or an oxygen content in the atmosphere that is less than 19.5% or more than the 23% that could result in acute health affects that pose an immediate threat to life, or interfere with a person's ability to escape unaided from a confined space, which CAN NOT be purged or ventilated to provide and maintain a safe atmosphere

No ☐	Section 3 DOES NOT APPLY
Yes ☐	Sections 1 and 3 WILL APPLY
Yes ☐	**All requirements of Section 1 shall be complied with**
Yes ☐	Specfic Event Confined Space Entry, Work and Emergency Rescue Procedures documented, and communicated to worker(s) and posted with completed permit at the entrance to the Confined Space
Yes ☐	Worker(s) shall use SCBA/SAR apparatus and have available within the confined space a 10 minute emergency air pack
Yes ☐	The atmosphere within the confined space shall be monitored continuously and results recorded every 15 minutes by trained person wearing SCBA/SAR and a 10 minute emergency air pack
Yes ☐	Workers entering the confined space shall wear a safety harness attached to a lifeline the free end of which is held by an attendant equipped with an alarm
Yes ☐	Emergency rescue equipment in place (tripod, winch, harness, lifeline, SCBA, 10 min emergency air pak). See Specific Event Confined Space Entry, Work & Emergency Procedures attached
Yes ☐	Communication system in place (i.e. hand signals/telephone/radio) tested and in working order
Yes ☐	Worker(s) entering confined space shall use equipment necessary to ensure safety (e.g. PPE, spark resistant tools, explosion proof lights)
Yes ☐	Another worker trained in artificial respiration shall keep watch at the entrance to the confined space. This person shall not enter the confined space or leave his/her station unattended.
Yes ☐	One or more specified workers must be immediately available to assist CPR person if needed to perform rescue

Section 4 - CLASS I

Does there exist, or is there likely to exist: **AN EXPLOSION or FLAMMABLE dust, fume, gas or vapour?**

No ☐	Section 4 DOES NOT APPLY
Yes ☐	Sections 1 & 4 WILL APPLY
Yes ☐	**All requirements of Section 1 shall be complied with.**
Yes ☐	Specfic Event Confined Space Entry, Work and Emergency Rescue Procedures documented, and communicated to worker(s) and posted with completed permit at the entry
Yes ☐	Gas is less than 50% of LEL (Lower Explosive Limit) where only cleaning or inspection (no source of ignition)
Yes ☐	Gas is less than 10% LEL (Lower Explosive Limit) where Cold Work is to be performed
Yes ☐	Cold work means a work procedure that does not generate heat and does not cause sparks or open flame, explosions or flash fires
Yes ☐	Worker(s) shall use SCBA/SAR apparatus and have available within the confined space a 10 minute emergency air pack
Yes ☐	The atmosphere within the confined space shall be monitored continuously and results recorded every 15 minutes by trained person wearing SCBA/SAR and a 10 minute emergency air pack
Yes ☐	Workers entering the confined space shall wear a safety harness attached to a lifeline the free end of which is held by an attendant equipped with an alarm
Yes ☐	Emergency rescue equipment in place (tripod, winch, harness, lifeline, SCBA, 10 min emergency air pak). See Specific Event Confined Space Entry, Work & Emergency Procedures attached
Yes ☐	Communication system in place (i.e. hand signals/telephone/radio) tested and in working order
Yes ☐	Worker(s) entering confined space shall use equipment necessary to ensure safety (e.g. PPE, spark resistant tools, explosion proof lights,)
Yes ☐	Another worker trained in artificial respiration shall keep watch at the entrance to the confined space. This person shall not enter the confined space or leave his/her station unattended.
Yes ☐	One or more specified workers must be immediately available to assist CPR person if needed to perform rescue

Appendix B: Confined Space Entry Permit (Con't)

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Approvals (Signatures Required)

I certify I have performed the necessary inspection and completed the Hot Work Permit in this Confined Space (copy attached).
Supervisor: _____

I have been trained and hold a valid certificate in Emergency First Aid Cardio Pulmonary Resuscitation and understand my duties.
Supervisor or Worker: _____

I have been properly instructed for safe entry into this Confined Space and understand my duties and emergency procedures:
Supervisor of Worker(s):_____

I certify that all precautions and safety practices outlined on this permit and the attached SOP (work plan), work and rescue procedures have been communicated to the work crew and understood.
Supervisor: _____

I certify all necessary precautions and safety practices have been identified and taken to make this Space safe for entering and carrying out the prescribed work by the authorized crew during the specified time.
Supervisor: _____

Security have been notified of the confined space entry and will be notified upon completion Supervisor: _____

ATMOSPHERE READINGS

Pre-Entry Recording

During Entry - Class I Record at 15 min intervals
Class II Record at hourly intervals

Time	Oxygen <19.5% - >23%	Carbon Monoxide (max 10 ppm)	Hydrogen Sulfide (max 5ppm)	LEL Cold Work 10% Hot Work 0-1%	Other	Time	Oxygen <19.5% - >23%	Carbon Monoxide (max 10 ppm)	Hydrogen Sulfide (max 5ppm)	LEL Cold Work 10% Hot Work 0-1%	Other

Appendix C: Rescue Plan

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Confined Space Entry Rescue Plan

Date:_____ Supervisor:

Building/Location:_____ Confined Space (Room):_____

Name(s) of two persons certified in Emergency First Aid/Cardio Pulmonary Resuscitation. (Attendants(s) shall not enter the space, and shall remain stationed at the entrance at all times throughout the duration of the entry.)

Print Name Signature

Print Name Signature

Name of worker entering the specific confined space entry:

Print Name Signature

Name of worker enter the specific confined space in case of RESCUE

Print Name Signature

Standby persons are required in the event additional assistance is required.

Standby can be the Emergency First Aid/CPR attendant(s), supervisor and/or additional competent staff to assist with the confined space entry and rescue procedures. Standby persons shall remain at the entrance throughout the duration of the entry and are NOT permitted to enter the confined space.

Print Name Signature

Print Name Signature

List the equipment to be used for the RESCUE:

SCBA/SAR & 10 minute emergency air pack
Gas Monitor
Tripod/winch
Harness/lifeline
Radio(communication)
Wristlet
Other:

Emergency SET UP Procedure:

1. Mechanical winch and tripod shall be set up as close as possible (within five feet) to the specific event confined space entry equipment PRIOR to the initial entry.
2. Rescue person(s) will don PRIOR to the specific confined space entry: harness/lifeline, protective clothing and self contained breathing apparatus (SCBA), protective headgear, and carry explosion proof lighting to prevent igniting any gasses in the space, full body harness with an attached lifeline, 10 minute emergency air pack, carry monitoring equipment besides still wearing the SCBA, radio (communication) and wristlet to hook around the wrist or ankle of an incapacitated person to permit the pulling of the victim from the space.
3
4

Emergency RESCUE Procedure:

1. Safety watch or standby or Emergency First Aid/CPR attendant shall contact Security for dispatch of Hamilton Fire Department to respond to fire/explosion/gas or chemical leak AND dispatch ambulance to provide additional medical treatment for the injured worker(s).
2. Safety watch or standby or Emergency First Aid/CPR attendant shall monitor the equipment and communicate with the rescuer(s).
3. Rescue person(s) shall enter the space
4. Safety watch or standby persons shall assist with pulling and extracting of the injured worker(s)
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McMaster University 905-525-9140
Security - Dial 88 EOHSS - Ext. 24352 Work Control Centre - Ext. 24740

Appendix D: Standard Operating Procedure – Confined Space Entry

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Standard Operating Procedure
Specific Event Confined Space Entry - Work Procedure Building: Room/Area: Work Project: (what type of work is to be performed)
Entry Procedures: Briefly describe measures to be taken to eliminate or control:
• Isolation e.g. lock-out blanking
• Accessibility e.g. manhole cover to be removed, wall ladder attached to the wall structure
• Purging/ventilation required
• Atmospheric testing, describe the testing to be performed, by whom, how often
• Class I or class II
Describe the set of work activities in sequence to be performed and by whom:
Describe the set of rescue activities to be performed and by whom: