

Confined Space Entry (CSE)

HSE Policy No.:	HSE-P-023
Original Release:	January, 2001
Revision No.:	2
Revision Date:	November 2014
Approval:	Vice President, Human Resources

1. PURPOSE

The purpose of this policy is to establish procedures for confined space entry.

2. SCOPE

- 2.1 This policy outlines the function, duties and training requirements for all personnel associated with confined space.
- 2.2 This policy applies to all Windsor Casino Limited (WCL) employees and contractors associated with confined space. Only contractors with the required training will be entering confined spaces.

3. DEFINITIONS

Confined Space: means a fully or partially enclosed space that is;

- (a) 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.

Confined Space Entrant: The individual who will be entering the confined space.

Confined Space Entry Permit (CSEP): A written or printed document that allows and controls entry into a confined space.

Department Entry Manager/Supervisor: Individual who is responsible for overseeing the CSE activity performed by contractors.

Hazardous Atmosphere: Atmosphere that may expose employees to risk of death, incapacitation, impairment of ability to self-rescue, injury, or acute illness. Conditions which could cause these risks are:

- a) flammable gas, vapour, mists in excess of 10% of the lower explosive limit (LEL);
- b) airborne combustible dust at a concentration that meets or exceeds the LEL;
- c) atmospheric oxygen concentration below 19.5% or above 23%;
- d) atmospheric concentrations of any substance for which a dose or permissible exposure limit is published which could result in employee exposure in excess of its dose or permissible exposure limit; or any other atmospheric condition that is immediately dangerous to life or health.

Multiple Entrances: Refers to the entrances used to enter and exit a confined space. When multiple entrances exist, a CSE Attendant will be stationed at only the entrance which is in use for that entry. If more than one opening is used, then each opening will have the required CSE Attendants.



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4. AUTHORITY AND RESPONSIBILITIES

4.1 Health and Safety Team:

4.1.1 Will provide information and assistance regarding current Confined Space Entry regulations and acceptable industry related safety practices to allow departments to initiate and maintain proper procedures, thereby ensuring worker health and safety and compliance with applicable legislation.

4.2 Department Entry Manager/Supervisor and Contractors:

- 4.2.1 The Department Entry Manager/Supervisor and Contractor will be knowledgeable in the Confined Space Entry Procedure.
- 4.2.2 The Department Entry Manager/Supervisor is responsible for overseeing entry operations.
- 4.2.3 The Department Entry Manager/Supervisor and Contractor will initiate the permit process and is responsible for determining if the conditions are appropriate to allow entry.

This will include:

- a) Identifying sources of energy associated with the CSE;
- b) Lockout/Tagout (LOTO) requirements;
- c) The level of personal protective equipment (PPE) to be worn:
- d) CSE rescue procedures;
- e) Atmospheric testing requirements;
- f) Other safety equipment required and any additional precautions to be taken prior to entry.
- 4.2.4 The Department Entry Manager/Supervisor and Contractor will confirm atmospheric testing has been completed and the appropriate PPE for the job has been determined.
- 4.2.5 The Department Entry Manager/Supervisor and Contractor is responsible for ensuring all conditions of the permit requirements are met (See Appendix B) and that a separate entry permit is issued each time work is to be performed in a confined space, before any worker enters the confined space. The entry permit should be readily available at the confined space work location and remain so until the work is completed. The Department Entry Manager/Supervisor must keep a copy of the completed permit on file.



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- 4.2.6 The Department Entry Manager/Supervisor and Contractor must know the hazards involved with the entry and ensure the CSE Attendant and Entrants are informed of them (See Appendix A for reference)
- 4.2.7 The Department Entry Manager/Supervisor and Contractor must ensure there is an adequate written plan, including procedures for the control of hazards identified and implemented by a competent person for the confined space before any worker enters a confined space.
- 4.2.8 The Department Entry Manager/Supervisor and Contractor must ensure that the Entrant(s) and Attendant are aware of all specific applicable permit requirements, and ensure that the entrant(s) and observer sign the CSE Permit.
- 4.2.9 The Department Entry Manager/Supervisor and Contractor will ensure the CSE Entrant(s) and CSE Attendant(s) have a radio prior to the confined space being entered.
- 4.2.10 The Department Entry Manager/Supervisor and Contractor must ensure every worker who enters a confined space or who performs related work shall have received adequate training for safe work practices for working in confined spaces and for performing related work, including training in the recognition of hazards associated with confined spaces. Training records must be kept and a review of required training must be conducted, in consultation with the Joint Health and Safety Committee to ensure that proper training requirements are met.

4.3 Atmospheric Tester:

- 4.3.1 Ensures that testing equipment is properly calibrated prior to each use.
- 4.3.2 Measures and records the results of atmospheric tests indicated on the Confined Space Entry Permit.

4.4 CSE Attendant:

- 4.4.1 The CSE Attendant will be knowledgeable in;
 - a) The Confined Space Entry procedure;
 - b) The hazards associated with the confined space
 - c) The required personal protective equipment required by the occupants
 - d) The hazards of the surrounding area
 - e) The retrieval system
 - f) How to shutdown any burning and welding equipment
 - g) The operation of blower for constant source of circulated fresh air
 - h) Continuous monitoring equipment for atmospheric testing



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- i) Proper use of Radio Communication device(s) used in conjunction with the CSE
- j) Atmospheric Testing Equipment
- 4.4.2 The CSE Attendant must sign acknowledgement that they have been properly instructed and understand all applicable requirements on the CSE Permit.
- 4.4.3 Whenever personnel are in the confined space, the CSE Attendant is to remain in contact with the entrants and the CSE Attendant will not perform any duties that may interfere with the primary function of monitoring and protecting the entrants.
- 4.4.4 Should an entrant require assistance, either emergency or nonemergency, the CSE Attendant <u>will not enter the confined space</u>.
- 4.4.5 The CSE Attendant will understand the emergency procedures and how to notify CSE entrants of an emergency.
- 4.4.6 The CSE Attendant will monitor activities both inside and outside the permit space. Should a hazard be detected, the CSE Attendant will alert the entrants and order their removal.
- 4.4.7 Upon completion of the job or shift, the CSE Attendant will return the Confined Space Entry permit and radio to the Department Entry Manager/Supervisor.

4.5 Confined Space Entrants:

- 4.5.1 Must know the hazards they face, be able to recognize symptoms of exposure and understand the consequences of exposure to hazards.
- 4.5.2 The CS Entrant must sign acknowledgement that they understand all applicable requirements on the CSE Permit.
- 4.5.3 Entrants are expected to know how to use any rescue equipment and communicate with the CSE Attendant as necessary.
- 4.5.4 Exit as quickly as possible whenever ordered or alerted to do so by the CSE Attendant.



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5. PROCEDURE

Entry to a confined space shall not be allowed until all precautions have been taken; permits completed and rescue systems in place. All confined spaces subject to entry shall be identified and hazards evaluated.

- 5.1 Entry into a confined space shall not be made unless the initiating Department Entry Manager/Supervisor and Contractor has assured that the requirements have been met, according to the Confined Space Permit:
 - 5.1.1 All fixed mechanical devices and electrical equipment, shall be placed at zero energy state as per HSE-P-017-Lockout / Tagout Policy.

5.2 **Atmospheric Testing:**

The confined space atmosphere shall be tested for oxygen level, flammable atmosphere and hazardous materials (toxic atmosphere) known or expected to be present.

NOTE: Dependent on the size/configuration of the confined space, it may be necessary to take atmospheric tests at more than one location inside the confined space in order to ensure a representative test.

- 5.2.1 Above LEL: Where flammable gases or vapours are detected at or above 10% of the lower explosive limit, entry into the confined space is prohibited until the confined space is completely ventilated to a point where such gases or vapours are reduced to less than 10% LEL. This atmosphere must be maintained for any confined space entry to take place. Continuous monitoring may be required to confirm combustible gas levels.
- 5.2.2 **Below LEL:** Entry will require a supplied air respirator complete with 5-minute emergency egress unit. **NOTE:** NO HOT WORK SHALL BE ALLOWED IF FLAMMABLE GASES OR VAPOURS ARE DETECTED AT ANY LEVEL, OR IF COMBUSTIBLE SLUDGE OR SCALE IS PRESENT IN THE CONFINED SPACE

5.2.3 **Oxygen:**

5.2.3.1 No confined spaces shall be entered if the oxygen level is less than 19.5% by volume. The confined space should be ventilated to increase the oxygen level. If further testing confirms an oxygen level of less than 19.5%, a self-contained breathing apparatus or supplied airline respirator, complete with a 5-minute SCBA emergency egress unit, is required.



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5.2.3.2 The space should not be entered if its atmosphere is found to be oxygen-enriched, i.e. (23% oxygen by volume or greater). Should this be the case, it should be ventilated until the oxygen level is reduced to the normal range (19.5% - 23.0%) This atmosphere must be maintained for any confined space entry to take place.

5.2.4 Test Equipment Alarm Levels for Carbon Monoxide and Oxygen:

Toxic Hazard	Alarm Level Low	Alarm Level High	No Entry Allowed
Carbon Monoxide - CO	25 ppm	25 ppm	400 ppm
Oxygen	19%	23 %	24 %

- 5.2.5 **Surrounding Area:** The surrounding area must be visually checked for signs or potential sources of flammable or toxic gases
- 5.2.6 Re-Testing Atmospheric Condition:
 - 5.2.6.1 After initial entry into a confined space, the atmospheric test must be re-tested every hour unless constant monitoring is in place.
 - 5.2.6.2 The results of the new atmospheric tests must be recorded on the confined space permit.
- 5.2.7 In the event of an emergency evacuation, due to the possibility of contamination of the confined space area, a new atmospheric test must be taken and recorded on the permit prior to re-entry.
- 5.2.8 In the event that the site is unattended for any reason, upon return to the site, prior to re-entry, the confined space atmosphere must be re-tested.
- 5.2.9 Security Shift Manager on duty (ext. 22514) will be notified prior to entering a confined space.
- 5.2.10 Rescue Equipment: A risk assessment prior to entering a confined space will be conducted to determine the necessary rescue equipment. A Confined Space Entry (CSE) Guideline will be completed for each identified confined space, outlining the rescue equipment needed.
- 5.2.11 A mechanical retrieval device shall be in place for rescues requiring vertical lifts from spaces more than 5 feet deep. Otherwise, the other end of the retrieval line shall be attached to a fixed point outside the permit space to facilitate rescue should this be necessary.



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5.3 Safety/Emergency Equipment:

- 5.3.1 Shall be positioned at the site of all confined space entry locations.
 NOTE: The equipment is not to be used in the normal course of work during the confined space entry; its sole purpose is for potential use should an emergency situation arise.
 - 5.3.1.1 The emergency equipment required will be determined for each confined space entry.

5.4 Electrical Equipment:

- 5.4.1 Adequate illumination must be provided inside the confined space.
- 5.4.2 All electrical equipment to be used inside the confined space must be in good condition and properly grounded and protected with ground fault interrupters.
- 5.5 **Hot Work:** When hot work is to be done inside the confined space, a Hot Work Permit must be completed and displayed prominently at the job site.
 - 5.5.1 The Hot Work Permit shall be signed by the worker or contracted services performing the hot work.
 - 5.5.2 A constant source of circulating fresh air must be provided when doing hot work within any confined space and constant monitoring conducted. If constant monitoring cannot be done, the air within the confined space must be checked for oxygen level, flammability and toxic atmosphere at least once every hour.
 - 5.5.3 Compressed gas cylinders, except those containing breathing air (5 minute egress cylinders only), shall not be allowed inside the confined space. Only torches and hoses shall be placed inside the confined space.
 - 5.5.4 Arc welding leads and hoses for oxy-acetylene must be checked by the welder and his manager/supervisor prior to use in a confined space.

 Damaged equipment shall be replaced.

6. THE CONFINED SPACE ENTRY PERMIT

NOTE: NO INDIVIDUAL IS TO ENTER ANY CONFINED SPACE UNLESS A CONFINED SPACE ENTRY PERMIT, COVERING THE SPECIFIC ACTIVITY INVOLVED, HAS BEEN PROPERLY COMPLETED!



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- 6.1 Each permit is assigned an identification number which is recorded in a departmental logbook.
- 6.2 All individuals associated with the confined space entry are required to understand the requirements of the permit and sign it.
- 6.3 Each Entrant and CSE Attendant must install a personal lock on the LOTO devices associated with the job if one is required.
- 6.4 The permit must be displayed at the confined space entry job site.
- 6.5 CSE Permits will be returned to Health & Safety and kept on file for two years from the date of issue.

6.6 **Permit Termination:**

- 6.6.1 The Confined Space Entry Permit is valid for a single shift, maximum 12 hours only. Jobs requiring more than one crew to complete, a new permit must be issued when different personnel arrive at the job site to start their shift and before they enter the confined space.
- 6.6.2 The confined space entry permit must be revoked if the isolation of the confined space is violated. This would include energizing of electrical equipment associated with the confined space.
- 6.7 At the conclusion of the shift or completion of the job, the CSE Attendant will return the CSE Permit to the Department Entry Manager/Supervisor. It will then be forwarded to HSE for filing. Permits are kept for a minimum of 2 years.

7. COMMUNICATION

The Confined Space Entry Policy will be communicated through the Health and Safety Policy Manual located in the Document Library of the corporate intranet site.

8. TRAINING

- 8.1 Each individual who is required to perform any task requiring confined space entry must successfully complete the following;
 - a) A certified program in confined space entry;
 - b) Practical training that includes rescue scenarios;
 - b) Review of WCL's CSE Policy.
- 8.2 All workers involved in the confined space entry shall receive annual refresher training in the Confined Space Entry Policy.



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9. EVALUATION

- 9.1 The Confined Space Entry Policy shall be reviewed on an annual basis.
- 9.2 The Confined Space Entry Policy shall be field-audited periodically to ensure compliance with provincial and corporate requirements. Audit reports shall be prepared identifying deficiencies, corrective actions and action dates.

10. REFERENCE

- 10.1 Ontario Regulation (851) Industrial Establishments: (Sec. 68 71)
- 10.2 Ontario Regulation 213 for Construction Projects (Section: 60 63)
- 10.3 Ontario Confined Space Regulation 632/05

11. REVISION LOG

Revision Number	Revision Date	Revision Summary
Rev. 1	April 2012	New Template
Rev. 2	November 2014	Updated to reflect department entry manager/supervisor and contractor responsibilities if entry into a confined space is required.

12. AUTHORIZATION

Vice President, Human Resources



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APPENDIX A

Hazards in Confined Spaces Can Include:

- Poor air quality: There may be an insufficient amount of oxygen for the worker to breathe. The atmosphere might contain a poisonous substance that could make the worker ill or even cause the worker to lose consciousness. Natural ventilation alone will often not be sufficient to maintain breathable quality air. Note: below grade areas can accumulate with contaminants that are known to be heavier than air.
- Chemical exposures due to skin contact or ingestion as well as inhalation of 'bad' air.
- Fire Hazard: There may be an explosive/flammable atmosphere due to flammable liquids and gases and combustible dusts which if ignited would lead to fire or explosion.
 When hot work is to be done inside the confined space, a Hot Work Permit must be completed and displayed prominently at the job site.
- Process-related hazards such as residual chemicals, release of contents of a supply line
- Noise.
- Safety hazards such as moving parts of equipment, structural hazards, entanglement, slips, falls.
- Radiation.
- Temperature extremes including atmospheric and surface.
- Shifting or collapse of bulk material.
- Barrier failure resulting in a flood or release of free-flowing solid.
- Uncontrolled energy including electrical shock.
- Visibility Adequate illumination must be provided inside the confined space. All
 electrical equipment to be used inside the confined space must be in good condition and
 properly grounded and protected with ground fault interrupters.
- Biological hazards.

APPENDIX B:

Entry Permit Requirements:

An entry permit shall be adequate and shall include at least the following:

- The location of the confined space.
- A description of the work to be performed there.
- A description of the hazards and the corresponding control measures.
- The time period for which the entry permit applies.
- The name of the designated attendant(s) and entrant(s).
- The date and time of each worker's entries and exits.
- A list of the equipment required for entry and rescue, and verification that the equipment is in good working order.
- If the work to be performed in the confined space includes hot work, adequate provisions for the hot work and corresponding control measures.
- The results obtained and details of any atmospheric testing done of the confined space when, where, results, date monitoring equipment was last calibrated. Ideally, calibration

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would be done just before each use. If this is not possible, follow the equipment manufacturer's guidelines for frequency of calibration.

- The rescue plan
- A signature of all workers involved in the confined space entry work (e.g. supervisor authorization, attendant(s), entrant(s), dedicated rescuers, etc). The signatures on the permit indicates that all workers have been authorized to perform the work; have read and understand the entry plan; are aware of the existing and potential hazards and control measures; and have performed all the required pre-entry work.