

## **Workplace Safety and Health (Confined Spaces) Regulations 2009**

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**No. S 462**

### **WORKPLACE SAFETY AND HEALTH ACT ([CHAPTER 354A](#))**

#### **WORKPLACE SAFETY AND HEALTH (CONFINED SPACES) REGULATIONS 2009**

In exercise of the powers conferred by [section 65 of the Workplace Safety and Health Act](#), the Minister for Manpower hereby makes the following Regulations:

#### **PART I**

#### **PRELIMINARY**

## Citation and commencement

1. [These Regulations](#) may be cited as the [Workplace Safety and Health \(Confined Spaces\) Regulations 2009](#) and shall come into operation on 1st November 2009.

## Definitions

2. In these Regulations, unless the context otherwise requires —

“authorised manager” means an authorised manager appointed under [regulation 9](#) and includes any other person appointed to perform the duties of an authorised manager by the responsible person;

“competent person” means a person who has sufficient experience and training to perform the work required to be carried out;

“confined space” means any chamber, tank, manhole, vat, silo, pit, pipe, flue or other enclosed space, in which —

- (a) dangerous gases, vapours or fumes are liable to be present to such an extent as to involve a risk of fire or explosion, or persons being overcome thereby;
- (b) the supply of air is inadequate, or is likely to be reduced to be inadequate, for sustaining life; or
- (c) there is a risk of engulfment by material;

“confined space attendant” means a confined space attendant appointed under [regulation 22](#);

“confined space entry permit” means a permit issued under [regulation 13](#);

“confined space safety assessor” means a confined space safety assessor appointed under [regulation 9\(b\)](#);

“entry” means ingress by a person into a confined space which occurs when the person’s head passes through an opening into the confined space;

“hazardous atmosphere” means an atmosphere where —

- (a) the level of oxygen in the atmosphere is not within the range of 19.5% to 23.5% by volume;
- (b) the level of flammable gas or vapour in the atmosphere is 10% or more of its lower explosive limit; or
- (c) the levels of toxic substances in the atmosphere exceed the permissible exposure levels as specified in [the First Schedule to the Workplace Safety and Health \(General Provisions\) Regulations \(Rg 1\)](#);

“responsible person”, in relation to a person entering or working in a confined space, means —

- (a) his employer; or
- (b) the principal under whose direction he enters or works in the confined space.

## Application

3. [These Regulations](#) shall apply in relation to confined spaces in workplaces.

## PART II

## GENERAL PROVISIONS

### **Record of confined spaces in factory**

4. Where a fixed and stationary confined space is sited in a factory, it shall be the duty of the occupier of the factory to —

- (a) make a record of the description and location of the confined space; and
- (b) inform persons who are liable to be exposed to the hazards of the confined space, of the existence and hazards of the confined space.

### **Access to and egress from confined space**

5. It shall be the duty of the occupier of a workplace to take, so far as is reasonably practicable, measures to ensure that the means of entry into and egress from any confined space in the workplace are safe and without risks to the health of every person entering or leaving the same.

### **Opening of entrance cover of confined space**

6. It shall be the duty of the responsible person of a person entering or working in a confined space which contains any substance under pressure greater than atmospheric pressure to ensure that —

- (a) the entrance cover of the confined space is not removed unless the confined space is depressurised and rendered safe for opening; and
- (b) when such entrance cover is removed, the opening to the confined space is barricaded or guarded by railings or other effective means, to prevent any person or object from falling into the confined space.

### **Lighting in confined space**

7. It shall be the duty of the responsible person of a person entering or working in a confined space to ensure that there is sufficient and suitable lighting for such entry into or work in the confined space.

### **Ventilation in confined space**

8.—(1) It shall be the duty of the responsible person of a person entering or working in a confined space to ensure that the ventilation in the confined space complies with this regulation.

(2) Adequate and effective ventilation shall be maintained in the confined space for the purposes of entry into and work in the confined space.

(3) The air supply for the ventilation shall be —

- (a) from a source free from contaminants; and
- (b) directed to the area where a person is or will be present in the confined space.

(4) Where exhaust ventilation is used, the exhaust air from the ventilation system shall be exhausted to a location outside the confined space where it does not present a hazard to any person.

## PART III

### CONTROL OF ENTRY INTO CONFINED SPACE

## Implementation of confined space entry permit

9. Before any person enters or works in a confined space, it shall be the duty of his responsible person to —

- (a) appoint a person whom the responsible person reasonably believes is competent to carry out the duties of an authorised manager, as an authorised manager for the confined space;
- (b) appoint a person whom the responsible person reasonably believes is competent to carry out the duties of a confined space safety assessor, as a confined space safety assessor for the confined space; and
- (c) ensure that a confined space entry permit has been issued in respect of the entry into or work in the confined space which specifies —
  - (i) the description and location of the confined space;
  - (ii) the purpose of entry into the confined space;
  - (iii) the results of the gas testing of the atmosphere of the confined space; and
  - (iv) its period of validity.

## No entry into or work in confined space without evaluation and confined space entry permit

10.—(1) Subject to [paragraph \(2\)](#), no person shall enter or work in a confined space unless —

- (a) the occupier of the workplace in which the confined space is sited has made an evaluation that it is necessary for such person to enter or work in the confined space; and
- (b) a confined space entry permit has been issued in respect of such entry into or work in the confined space.

(2) [Paragraph \(1\)\(b\)](#) shall not apply if the person entering or working in the confined space —

- (a) is wearing a suitable breathing apparatus;
- (b) has been authorised to enter or work in the confined space by the authorised manager for the confined space; and
- (c) where reasonably practicable, is wearing a safety harness with a rope securely attached and there is a confined space attendant keeping watch outside the confined space who is provided with the means to pull such person out of the confined space in an emergency.

## Application for confined space entry permit

11. An application for a confined space entry permit shall —

- (a) be made by the supervisor of the person who is to enter or work in the confined space;
- (b) be made in such form and manner as may be required by the authorised manager for the confined space;
- (c) state the measures which will be taken to ensure the safety and health of persons who enter or carry out the work in the confined space; and
- (d) be addressed to the authorised manager and submitted to the confined space safety assessor for the confined space.

## Evaluation of confined space entry permit

12.—(1) On receipt of the application for a confined space entry permit, the confined space safety assessor shall test the atmosphere of the confined space prior to entry by any person into the confined space.

(2) The confined space safety assessor shall, in relation to the testing of the atmosphere referred to in [paragraph \(1\)](#) —

- (a) use a suitable and properly calibrated instrument;
- (b) conduct the test in the following sequence:
  - (i) test for level of oxygen content;
  - (ii) test for level of flammable gas or vapour; and
  - (iii) test for concentration of toxic gas or vapour, where applicable;
- (c) conduct the test in a manner that will not endanger himself or others; and
- (d) record the results of the test in the confined space entry permit.

(3) If the confined space safety assessor is satisfied that entry into or work in a confined space can be carried out with due regard to the safety and health of persons who enter or work in the confined space, he shall endorse the application for the confined space entry permit and forward the endorsed application to the authorised manager for the confined space.

(4) It shall be the duty of the confined space safety assessor to exercise all due diligence when performing his functions in relation to the testing, evaluation and endorsement of an application for a confined space entry permit under [paragraphs \(1\)](#), [\(2\)](#) and [\(3\)](#).

## Issue of confined space entry permit

13.—(1) The authorised manager for a confined space may issue a confined space entry permit in respect of entry into or work in the confined space if the authorised manager is satisfied that —

- (a) the level of oxygen in the confined space is within the range of 19.5% to 23.5% by volume;
- (b) the level of flammable gas or vapour in the confined space is less than 10% of its lower explosive limit;
- (c) the levels of toxic substances in the atmosphere of the confined space do not exceed the permissible exposure levels as specified in [the First Schedule to the Workplace Safety and Health \(General Provisions\) Regulations](#) (Rg 1);
- (d) the confined space is adequately ventilated;
- (e) effective steps have been taken to prevent any ingress of dangerous gases, vapours or any other dangerous substances into the confined space; and
- (f) all reasonably practicable measures have been taken to ensure the safety and health of persons who will be entering or working in the confined space.

(2) If the authorised manager issues a confined space entry permit, it shall be his duty to retain a copy of the permit.

(3) It shall be the duty of the authorised manager to exercise all due diligence when performing his function in relation to the issuance of a confined space entry permit under [paragraph \(1\)](#).

(4) If the entry or work in the confined space for which the confined space entry permit is

issued is not completed within the validity period of the permit, a fresh application shall be made in accordance with [regulation 11](#).

### **Posting of confined space entry permit**

**14.** Where a confined space entry permit is issued to a supervisor of a person who is to enter or work in a confined space, it shall be the duty of the supervisor to —

- (a) clearly post a copy of the permit at the entrance to the confined space, including where reasonably practicable, a sketch of the area within the confined space where the entry is to be made or work is to be conducted; and
- (b) ensure that the copy of the permit is not removed until —
  - (i) the date of expiry of the permit;
  - (ii) the revocation of the permit; or
  - (iii) the person entering or working in the confined space has left the confined space after achieving the purpose of the entry or completing the work, as the case may be,

whichever is the earliest.

### **Monitoring to ensure safety and health of worker during entry into or work in confined space**

**15.—**(1) It shall be the duty of the responsible person of a person entering or working in a confined space and the authorised manager for the confined space to ensure that all measures necessary to ensure his safety and health are taken and in place at all times during his entry into, stay or work in the confined space.

(2) It shall be the duty of the responsible person of a person entering or working in a confined space to inform the authorised manager for the confined space when the person entering or working in the confined space has left the confined space after achieving the purpose of the entry or completing the work, as the case may be.

### **Periodic testing of atmosphere**

**16.—**(1) It shall be the duty of the responsible person of a person entering or working in a confined space to ensure that —

- (a) the atmosphere in the confined space is tested by a confined space safety assessor at such intervals as is necessary to evaluate the safety and health of the person entering or working in the confined space;
- (b) if there are 2 or more persons present in the confined space, at least one of them continuously monitors the atmosphere in the confined space with a suitable gas detector; and
- (c) if a hazardous atmosphere in a confined space is detected by the tests or continuous monitoring referred to in [sub-paragraphs \(a\) and \(b\)](#) —
  - (i) all persons in the confined space shall vacate the confined space immediately;
  - (ii) an evaluation is made to determine how the hazardous atmosphere developed; and
  - (iii) no person re-enters the confined space until a new confined space entry permit

is issued by the authorised manager for the confined space.

(2) It shall be the duty of the confined space safety assessor referred to in paragraph (1)(a) to record the results of the tests referred to in that paragraph.

(3) It shall be the duty of the responsible person to ensure that each of the records referred to in [paragraph \(2\)](#) are kept for not less than 2 years from the date it is made.

### **Duty to report incompatible work**

**17.**—(1) It shall be the duty of any person who is aware of any work being carried out in a workplace in which a confined space is sited which is incompatible with any other work being carried out in the confined space, to immediately report the incompatible work to his supervisor, the workplace safety and health officer, the workplace safety and health co-ordinator or the authorised manager for the confined space.

(2) In [paragraph \(1\)](#), “incompatible work” means work which is carried out at or in the vicinity of any work carried out in the confined space and which is likely to pose a risk to the safety and health of persons present in the confined space.

### **Review and revocation of confined space entry permit**

**18.**—(1) It shall be the duty of the authorised manager for a confined space who has issued a confined space entry permit to review and assess the need for entry into or work in the confined space on a daily basis and revoke the permit if he thinks fit to do so.

(2) If, after issuing a confined space entry permit, the authorised manager is of the view that the carrying out of the work in the confined space poses or is likely to pose a risk to the safety and health of persons entering or working in the confined space, he may order all persons to leave the confined space immediately and all work in the confined space to cease immediately, and revoke the confined space entry permit.

(3) Without prejudice to [paragraph \(2\)](#), the authorised manager —

- (a) may revoke a confined space entry permit in respect of a confined space if he is satisfied that —
  - (i) the entry or work in the confined space has been completed; or
  - (ii) the entry or work in the confined space cannot be continued for a significant period of time; and
- (b) shall, in the circumstances described in [regulation 16\(1\)\(c\)](#), revoke the relevant confined space entry permit.

## **PART IV**

### **MISCELLANEOUS**

#### **Warning sign**

**19.** It shall be the duty of the occupier of any workplace in which a confined space is sited to clearly post a notice at the entrance to the confined space to warn persons of the hazards of the confined space unless —

- (a) a copy of the confined space entry permit in respect of the confined space is posted there in accordance with [regulation 14\(a\)](#); or

- (b) there is no entrance which persons may use to enter the confined space.

### **Display of name or identification badge**

**20.** It shall be the duty of a person entering a confined space to display his name and identification badge at the entrance to the confined space; and it shall be the duty of his responsible person to ensure that he does the same.

### **Training of workers and supervisors**

**21.—(1)** It shall be the duty of the responsible person of a person entering or working in a confined space to ensure, before such entry or work, that the person has first received adequate safety and health training for the purpose of familiarising himself with the hazards associated with such entry into or work in the confined space and the precautions to be observed.

(2) Where any person conducts oversight or supervisory work in a confined space, it shall be the duty of his responsible person to ensure that the person has first received adequate safety and health training to ensure that the work which the person oversees or supervises can be carried out safely.

### **Appointment and duties of confined space attendant**

**22.—(1)** It shall be the duty of the responsible person of a person entering or working in a confined space to appoint a confined space attendant before such entry or work.

(2) It shall be the duty of the confined space attendant to remain outside the confined space in order to —

- (a) monitor persons entering and working in the confined space;
- (b) maintain regular contact with the persons in the confined space and when necessary assist them to evacuate should the need arise; and
- (c) alert the persons appointed to carry out rescue work in the event of an emergency.

### **Rescue operation**

**23.—(1)** It shall be the duty of the responsible person of a person entering or working in a confined space to —

- (a) establish a written rescue plan for the purpose of rescuing persons in the confined space in the event of an emergency;
- (b) appoint persons to carry out rescue work and ensure that such persons have first received adequate training in rescue operation including first-aid and the proper use of personal protective equipment and other equipment necessary for carrying out a rescue operation in the confined space; and
- (c) ensure that there is a sufficient supply of suitable breathing apparatus, safety harness and ropes, suitable rescue equipment and suitable reviving apparatus which are —
  - (i) kept readily available;
  - (ii) properly maintained; and
  - (iii) thoroughly examined by a competent person at least once a month or at such other intervals as the Commissioner may require.

(2) It shall be the duty of the competent person referred to in sub-paragraph (c) of



[paragraph \(1\)](#) to —

- (a) exercise all due diligence when making the examination referred to in that sub-paragraph; and
- (b) record every examination made under that sub-paragraph and produce such record for inspection upon request by an inspector.

(3) It shall be the duty of the responsible person referred to in [paragraph \(1\)](#) to ensure that each of the records referred to in [paragraph \(2\)\(b\)](#) is kept for not less than 2 years from the date each is made.

## Offences

**24.**—(1) Except as otherwise provided in this regulation, any person who contravenes any provision of these Regulations shall be guilty of an offence and shall be liable on conviction —

- (a) in the case where the person is an individual, to a fine not exceeding \$20,000 or to imprisonment for a term not exceeding 2 years or to both;
- (b) in any other case, to a fine not exceeding \$20,000.

(2) Any person who contravenes [regulation 9](#) or [10\(1\)](#) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$20,000.

(3) Any person who contravenes [regulation 20](#) or [22\(2\)](#) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$1,000 and, in the case of a second or subsequent conviction, to a fine not exceeding \$5,000.

(4) Any person who contravenes [regulation 23\(2\)](#) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$2,000 and, in the case of a second or subsequent conviction, to a fine not exceeding \$5,000.

Made this 25th day of September 2009.

LEO YIP  
*Permanent Secretary,  
Ministry of Manpower,  
Singapore.*

[C010-048-00006; AG/LEG/SL/354A/2006/11 Vol. 1]

(To be presented to Parliament under [section 65\(8\) of the Workplace Safety and Health Act](#)).