

LETTERHEAD OF EDUCATION AND MANPOWER BUREAU

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12 December, 1998

Clerk to Subcommittee,
Legislative Council Secretariat,
Legislative Council,
8 Jackson Road,
Central, Hong Kong

(Attn. Mrs. Sharon Tong)

Dear Mrs. Tong,

**Subcommittee on regulations
relating to occupational safety and health
Meeting on 14 December 1998**

Further to my letter of 11 December 1998, I enclose a revised marked up version of the Factories and Industrial Undertakings (Confined Spaces) (Amendment) Regulation 1998 for your distribution to Members of the Subcommittee.

Please note that in addition to amendments to sections 14(2)(i) and (ii) of the draft Regulation as mentioned in my earlier letter (a new section 14(2)(iii) is also added), the revised version also contains further refinements to the draft Regulation in the following sections:

Definition of “specified risk” in section 2,

Section 5(2)(a)(iii)(C), and

Section 7(f)(ii).

The Chinese copy of the revised marked up version of the draft Regulation will be forwarded to you once available.

Yours sincerely,

(Herman Cho)
for Secretary for Education and Manpower

c.c.

C for L (Attn. Mr. William Siu) }
D of J (Attn. Mr. W.B. Maddaford/Ms Stella Chan) } w/o encl.

**FACTORIES AND INDUSTRIAL UNDERTAKINGS
(CONFINED SPACES) REGULATION**

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**FACTORIES AND INDUSTRIAL UNDERTAKINGS
(CONFINED SPACES) REGULATION**

(Made under section 7 of the Factories and Industrial
Undertakings Ordinance (Cap. 59) subject to the
approval of the Legislative Council)

1. Commencement

This Regulation shall come into operation on a day to be appointed by the Commissioner for Labour by notice in the Gazette.

2. Interpretation

In this Regulation, unless the context otherwise requires -

“approved breathing apparatus” (認可呼吸器具) means a breathing apparatus of a type approved by the Commissioner under section 12;

“certified worker” (核准工人) means a person -

- (a) who has attained the age of 18 years; and
- (b) who holds a certificate issued by a person whom the Commissioner has authorized to certify workers as being competent to work in a confined space;

“competent person” (合資格人士) means a person -

- (a) who has attained the age of 18 years;
- (b) who is either -
 - (i) a safety officer registered under the Factories and Industrial Undertakings

(Safety Officers and Safety Supervisors)

Regulations (Cap. 59 sub. leg.); or

(ii) a person who holds a certificate issued by a person whom the Commissioner has authorized to certify persons as being competent to prepare risk assessment reports; and

(c) who has at least one year's relevant experience, after obtaining the registration or certification referred to in paragraph (b) (i) or (ii), in assessing risk to the safety and health of workers working in confined spaces;

~~"confined space" () means~~

~~(a) a chamber, tank, vat, pit, well, sewer, tunnel, pipe, flue, boiler, pressure receiver, hatch, caisson, shaft or silo, and~~

~~(b) any other space in which, because of its construction, location or contents or because of the work activities taking place therein~~

~~(i) the accumulation of a hazardous gas, vapour, dust or fume or the creation of an oxygen deficient atmosphere may occur, or~~

~~(ii) there is a risk of an inrush of mud or water,~~

“confined space” (密閉空間) means any place in which, by virtue of its enclosed nature, there arises a reasonably foreseeable specified risk, and without limiting the generality of the foregoing, includes any chamber, tank, vat, pit, well, sewer, tunnel, pipe, flue, boiler, pressure receiver, hatch, caisson, shaft or silo in which such risk arises;

“risk assessment report” (危險評估報告) means an assessment and recommendations carried out by a competent person in accordance with section 5;

“specified risk” (指明危險) means a risk of -

- (a) serious injury to any person at work arising from a fire or explosion;
- (b) the loss of consciousness of any person at work arising from an increase in body temperature;
- (c) the loss of consciousness or asphyxiation of any person at work arising from gas, fume, vapour or the lack of oxygen;
- (d) the drowning of any person at work arising from an increase in the level of liquid; or
- (e) the asphyxiation of any person at work arising from a free flowing solid or the inability to reach a respirable environment due to entrapment by a free flowing solid.

3. Application

This Regulation applies to work in an industrial undertaking -

- (a) that takes place within a confined space; and
- (b) as required by this Regulation, that takes place within the immediate vicinity of, and is associated with work occurring within, a confined space,

and the duties imposed on a proprietor or contractor under this Regulation are in respect of work in confined spaces within the industrial undertaking for which he is such proprietor or contractor.

4. Certified worker and competent person to complete an approved course

(1) Where a person has been authorized by the Commissioner to issue certificates to certified workers, he shall not issue a certificate unless the worker has successfully completed a course that has been approved by the Commissioner in respect of safety and health while working in confined spaces.

(2) Where a person has been authorized by the Commissioner to issue certificates to ~~competent~~ persons certifying them to be competent to prepare risk assessment reports, he shall not issue a certificate unless the person has successfully completed a course that has been approved by the Commissioner in respect of preparing risk assessment reports.

5. Risk assessment and recommendations

(1) When work is to be undertaken in a confined space, a proprietor or contractor shall appoint a competent person to carry out an assessment of the working conditions in the confined space and make recommendations on measures to be taken in relation to safety and health of workers while working in that space.

(2) The assessment and recommendations under subsection (1) shall be in writing and shall identify the hazards likely to be present in the confined space, evaluate the extent of the risks arising from such hazards and, without limiting the foregoing, cover the following -

(a) assessment of -

- (i) the work method to be used and the plant and materials to be used in work activities;
- (ii) whether or not there is any hazardous gas, vapour, dust or fume present or there is any deficiency in oxygen;
- (iii) the possibility of -
 - (A) ingress of hazardous gas, vapour, dust or fume;
 - (B) sludge or other deposits being present that are liable to give off hazardous gas, vapour, dust or fume;

(C) in-rush of ~~mud or water~~ free flowing solid or liquid;

(D) a fire or explosion in the confined space; and

(E) an ambient temperature that could result in a certified worker losing consciousness from an increase in body temperature;

(b) recommendations on the measures required, including whether or not the use of approved breathing apparatus is necessary, to render the space safe for workers, having regard to the nature and duration of the work to be performed therein; and

(c) the period during which workers may remain safely in the confined space.

(3) For the purposes of subsection (2)(b), where sludge or other deposits are present and a competent person considers that there is a possibility that they will give off hazardous gas, vapour, dust or fume, he shall recommend the use of approved breathing apparatus.

(4) For the purposes of subsection (2), where a competent person, in evaluating the extent of the risks in a confined space, is of the opinion that there is a substantial likelihood of a change in the environment leading to an increased risk from one of the hazards referred to in subsection (2)(a)(iii) during the course

of the work in such confined space, he shall recommend the use of such monitoring equipment as he considers appropriate in the circumstances and shall specify the manner of its use.

~~(4)~~(5) A proprietor or contractor shall appoint a competent person to carry out a fresh assessment and make recommendations under this section whenever there has been a significant change in the conditions of the confined space or of the work activities therein to which the previous assessment relates, or there is reason to suspect that such change may occur, and that the change is likely to affect the safety and health of workers working therein.

~~(5)~~(6) A competent person shall, when requested to do so by a proprietor or contractor -

- (a) carry out an assessment of the working conditions that will occur in a confined space for which such proprietor or contractor has made a request; and
- (b) make recommendations on measures in relation to safety and health of workers while working in that space,

in accordance with the provisions of this section, and shall submit the assessment and recommendations to such proprietor or contractor within a reasonable period of time after the request has been made.

6. Compliance with risk assessment report and issuing of certificate in respect thereof

- (1) A proprietor or contractor shall ensure that no worker -
 - (a) enters a confined space for the first time until the proprietor or contractor -
 - (i) has received, in respect of such confined space, a risk assessment report;
 - (ii) has verified that such risk assessment report covers all matters referred to in section 5(2); and
 - (iii) has issued a certificate stating -
 - (A) that all necessary safety precautions in relation to the hazards identified in the risk assessment report have been taken; and
 - (B) the period during which workers may remain safely in the confined space; or
 - (b) enters or remains in a confined space unless all recommendations in the risk assessment report have been complied with.
- (2) A proprietor or contractor shall keep a certificate and risk assessment report for one year after the work in the confined space to which they relate has been completed and shall make them available, on request, to an occupational safety officer.

7. Safety precautions before work begins

A proprietor or contractor shall ensure that no worker enters a confined space for the first time unless -

- (a) every piece of mechanical equipment in the confined space, which is liable to cause danger, has been disconnected from its power source, with its power source locked out;
- (b) every pipe or supply line whose contents are liable to create a hazard has been properly blanked off;
- (c) the confined space has been tested to ensure the absence of any hazardous gas and no deficiency of oxygen;
- (d) the confined space has been adequately purged and sufficiently cooled and ventilated, having regard to the circumstances of the particular confined space, to ensure that it is a safe workplace;
- (e) an adequate supply of respirable air and an effective forced ventilation have been provided inside the confined space; and
- (f) effective steps have been taken to prevent -
 - (i) an ingress to the confined space of hazardous gas, vapour, dust or fume; and
 - (ii) an in-rush into the confined space of ~~mud~~ or water free flowing solid or liquid.

8. Safety precautions when work is being undertaken

When work is being carried out in a confined space, a proprietor or contractor shall ensure that -

- (a) no workers enter or work in the confined space other than certified workers;
- (b) a person is stationed outside the confined space to maintain communication with the workers inside;
- (c) the risk assessment report and the related certificate issued under section 6(1)(a)(iii) are displayed in a conspicuous place at the entrance of the confined space; and
- (d) the safety precautions undertaken under section 7 continue to be effective.

9. Use of personal protective equipment

Where -

- (a) a risk assessment report recommends the use of an approved breathing apparatus; or
- (b) a person has to enter a confined space for underground pipework,

a proprietor or contractor shall, in addition to the safety precautions listed in sections 7 and 8, ensure that -

- (i) a person entering or remaining in that particular confined space is properly wearing an approved

breathing apparatus of a type that gives appropriate protection given the nature of the confined space; and

- (ii) a person referred to in paragraph (i) is wearing a suitable safety harness connected to a lifeline that is strong enough to enable him to be pulled out, and that the free end is held by a person outside the confined space who has sufficient physical strength to be capable of pulling the person out of the confined space.

10. Emergency procedures

(1) A proprietor or contractor shall formulate and implement appropriate procedures to deal with any serious and imminent danger to workers inside a confined space.

(2) A proprietor or contractor shall provide and keep readily available in a satisfactory condition a sufficient supply of -

- (a) approved breathing apparatus;
- (b) suitable apparatus for reviving an unconscious worker;
- (c) vessels containing oxygen or air;
- (d) safety harnesses and ropes; and
- (e) an audio and visual alarm by which the workers inside the confined space can alert those outside.

(3) When work is taking place in a confined space, a proprietor or contractor shall ensure that a sufficient number of persons, commensurate with the scale of the job, are present who know how to use the safety equipment referred to in subsection (2).

11. Provision of information, instructions, etc.

(1) A proprietor or contractor shall provide, to all workers working within a confined space or assisting with such work from immediately outside the confined space, such instructions, training and advice as are necessary to ensure the safety and health of all workers in the confined space.

(2) A proprietor or contractor shall provide all necessary equipment to ensure the safety and health of workers in a confined space.

12. Approval of breathing apparatus

The Commissioner may approve any type of breathing apparatus for the purposes of this Regulation and, where he does so, he shall publish in the Gazette the name or description of the type of breathing apparatus that he has approved.

13. Duties of certified workers

A certified worker, while working in a confined space, shall -

- (a) observe such procedures as may be implemented by a proprietor or contractor under section 10;

- (b) observe such instructions and advice and attend such training as may be provided by a proprietor or contractor under section 11;
- (c) make full and proper use of, and forthwith report to the proprietor or contractor any fault or defect in, any safety equipment or emergency facilities provided under this Regulation.

14. Offences

- (1) A proprietor or contractor who contravenes -
 - (a) section 7, 8, 9, 10(2) or (3) or 11(1) or (2) commits an offence and is liable, on conviction, to a fine at level 6 and to imprisonment for 6 months;
 - (b) section 5(1) or ~~(4)~~ (5), 6(1) or 10(1) commits an offence and is liable, on conviction, to a fine of \$200,000 and to imprisonment for 12 months;
 - (c) section 6(2) commits an offence and is liable, on conviction, to a fine at level 5.
- (2) A competent person who -
 - (a) when requested to do so by a proprietor or contractor, without reasonable excuse fails or refuses within a reasonable period of time to carry out an assessment of the working conditions of a confined space and make recommendations on measures in relation to safety and health of workers while

working in that space as required under section
5(4)(6);

- (b) without reasonable excuse, fails in his risk assessment report to deal with all matters specified in section 5(2); or
- (c) makes a risk assessment report which is to his

knowledge false as to a material particular,

commits an offence and is liable, on conviction, in respect of a
contravention of -

- (i) paragraph (a), to a fine at level 5;
- (ii) paragraph (b) ~~or (c)~~, to a fine of \$200,000, ~~and to imprisonment for 12 months.~~
- (iii) paragraph (c), to a fine of \$200,000 and to imprisonment for 12 months.

(3) Any certified worker who -

- (a) contravenes section 13; or
- (b) while working in a confined space, wilfully and without reasonable cause does anything likely to endanger himself or others,

commits an offence and is liable, on conviction, in respect of a
contravention of -

- (i) paragraph (a), to a fine at level 5;
- (ii) paragraph (b), to a fine at level 5 and to imprisonment for 6 months.

15. Repeal

The Factories and Industrial Undertakings (Confined Spaces) Regulations (Cap. 59 sub. leg.) are repealed.

Commissioner for Labour

1998

Explanatory Note

The purpose of this Regulation is to replace the existing Factories and Industrial Undertakings (Confined Spaces) Regulations (Cap. 59 sub. leg.) with new provisions.

2. The Regulation requires a proprietor or contractor -
 - (a) to obtain a written report assessing the risks, and making recommendations in respect thereof, associated with a confined space (section 5);
 - (b) to comply with the recommendations in the risk assessment report and issue a certificate that the report has been complied with (section 6);

- (c) to take certain safety precautions before allowing workers into a confined space and while they are working therein (sections 7, 8 and 9);
- (d) to formulate emergency procedures and keep emergency equipment on hand (section 10); and
- (e) to provide safety instructions, training and advice to workers involved in confined space work (section 11).