Health and Safety

Confined Spaces

Minimum Standard

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Contents

1 Aims and Principles

The aim of this document is to provide guidance on the steps which should be taken to ensure safe working in confined spaces.

Departments responsible for carrying out this type of work should develop their own procedures which detail the specific arrangements to be implemented. The procedures must include the standards set out in this document or go beyond them.

2 Legislation and Guidance

a) Applicable Legislation and UK Guidance

There is no specific legislation in Jersey which covers working in confined spaces but work of this nature is covered by the general requirements of the:

Health and Safety at Work (Jersey) Law, 1989

Guidance on safe work in confined spaces is available in UK Health and Safety Executive documents:

Safe Work in Confined Spaces: Confined Space Regulations 1997 (UK HSE)

Confined Spaces – A Brief Guide to Working Safely (UK HSE)

3 Definitions

A confined space can be any space of an enclosed nature where there is a risk of death or serious injury from hazardous substances or dangerous conditions (e.g. lack of oxygen)

Under the Confined Space Regulations 1997:

Confined Space - means any place, including any chamber, tank, vat, silo, pit, trench, pipe, sewer, flue, well or other similar space in which, by virtue of its enclosed nature, there arises a reasonably foreseeable specified risk.

Specified risk - means a risk of -

- serious injury to any person at work arising from a fire or explosion.
- the loss of consciousness of any person at work arising from an increase in body temperature.

- the loss of consciousness or asphyxiation of any person at work arising from gas, fume, vapour or the lack of oxygen.

- the drowning of any person at work arising from an increase in the level of liquid

- 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.

Some confined spaces are easy to identify, for example, closed tanks, vessels, boilers, sewers, pumping stations etc.

Others are less obvious but may be equally dangerous for example, open topped tanks, closed and unventilated rooms and silos or constructions that become confined spaces during manufacture (e.g. a spray booth during paint spraying).

Under the Regulations, a confined space must be a space which is substantially enclosed **and** has one or more of the specified risks present or reasonably foreseeable.

To help determine whether a working area is a confined space, see *Appendix A - Flowchart - Is this area a confined space?*

4 Who does this Minimum Standard apply to?

The following persons who manage or carry out work in confined spaces or who engage contractors to carry out such work.

- Anyone employed by the States Employment Board (SEB)
- Voluntary staff or those on honorary contracts where there is no implied contract of employment

Where departments carry out confined space work under emergency conditions e.g. the Jersey Fire and Rescue Service, it is recognised that working under these circumstances presents unique challenges. Whilst it will not always be practicable to adopt all of the measures in full as prescribed in this document, the department must ensure that their own arrangements reflect this and that all reasonably practicable steps are taken to ensure the safety of persons carrying out the work.

Any contractors engaged by GoJ to work in confined spaces will be expected to implement and if necessary, demonstrate, similar standards to those set out in this document and include them in the risk assessment and method statement for their works.

5 Links to other GoJ Policies, Minimum Standards and Guidance

a) Policies

Jersey Public Service – Corporate Health and Safety Policy (My States)

b) GoJ Minimum Standards

Control of Contractors
Control of Substances Hazardous to Health (COSHH)
Lifting Equipment and Lifting Accessories
Lone Working
Manual Handling
Permit to Work
Personal Protective Equipment
Risk Assessment
Working at Height

c) Other Internal Guidance

Further guidance may be available from other departments carrying out this type of work.

For assistance with preparing internal procedures, contact should be made with your departmental Health and Safety Manager/ Adviser/ “Professional”.

6 Roles and Responsibilities

The department’s procedures which cover work in confined spaces, must clearly set out the roles and responsibilities of all those individuals involved with the work.

Reference should be made to the Jersey Public Service -Corporate Health and Safety Policy for general responsibilities.

7 Determining if Entry to a Confined Space is Appropriate

No work should be permitted to take place in a “confined space” unless there is no other reasonably practicable means of performing the task without such entry taking place.

All persons responsible for planning work in a confined space must take all steps to avoid the need for entry.

Where entry is required, steps must be taken to:

- eliminate or reduce the hazards where possible
- reduce the numbers of persons requiring entry
- reduce the duration of any entry.

The use of CCTV, sight glasses, mirrors, robotic moles, etc. should be considered before inspection by persons is deemed necessary.

The use of long tools, probes, water jetting, steam cleaning, remotely operated flails, vibrators, air purges, etc. should be considered as a substitute for entry by persons.

8 Work Equipment (excluding Personal and Respiratory Protective Equipment)

Work in confined spaces can involve a wide range of equipment to check it is safe to enter, to facilitate entry and to affect a rescue. This includes but is not limited to:

- gas monitor
- tripod
- davit
- winch
- fall arrest device
- manhole lifting gear
- ventilating equipment

Specific training will be required depending on the equipment used.

All equipment used for lifting or suspending persons should be subject to the required statutory examinations by a competent person at the prescribed intervals.

Routine checks should also be carried out on a weekly/monthly basis/quarterly basis and a record kept. The frequency should be determined using manufacturer recommendations and risk assessment.

Pre- and post-use checks should also be carried out. A simple pre - use checklist is included in Appendix B.

The provision, use and checking of personal and respiratory protective equipment is detailed in section 14 of this document.

9 Risk Assessment and Safe System of Work (Method Statement)

All work in confined spaces requires a written risk assessment and safe system of work to be prepared prior to entry. The assessment will identify the hazards and categorise the confined space accordingly.

There should be two types of risk assessment

- **Initial assessment for basic entry categorisation**– this will identify the hazards to be controlled for any entry and provide a basic categorisation of the confined space. The information from the assessment will form the safe system of work that all confined spaces are required to have. These initial assessments allow for entry and simple tasks or inspection work.

- **Work Specific Risk assessment** – an additional assessment will be required where the work being undertaken is liable to significantly change the conditions and introduce other hazards into the confined space, for example where new equipment or processes are being introduced. Most activities other than basic inspection work will require this assessment.

Matters which should be addressed in the risk assessment include but are not limited to:

- previous content, residues and contamination
- oxygen deficiency/enrichment
- potential flammable and explosive atmospheres
- physical dimensions of the space
- presence of toxic gases, fumes or vapours including those created by the task
- sources of ignition
- increasing temperature
- ingress or presence of substances (liquids, gases, steam, water, raw materials)
- presence of free-flowing solids
- unexpected discharges into the confined space e.g. through pipes
- changes in floor level
- heat stress
- emergency rescue requirements

Other hazards which should be addressed in the risk assessment include but are not limited to:

- chemicals
- slips, trips and falls
- biological hazards
- work at height
- dust
- noise
- manual Handling

A safe system of work should be prepared using the findings of the risk assessment(s). This following list is not exhaustive but includes many of the essential elements for a safe system of work:

- the appointed supervisor of the entry and works
- suitability of people carrying out the work
- isolation requirements of electrical and mechanical equipment
- method of access and egress
- normal operating procedures including safe means of access and egress
- ventilation requirements
- testing/monitoring the atmosphere
- specialist tools and equipment
- provision of PPE and RPE
- communication arrangements
- emergency escape plan
- rescuing and dealing with a casualty

Prior to the works commencing, the safe system of work should be brought to the attention of all persons involved with the confined space work.

Actions to be taken in the event of an emergency must be included in the discussions to reduce the risk of any confusion or delays occurring which could have serious consequences.

10 Supervision

The level of supervision required will depend on the findings of the risk assessment. Unless the work is routine and the safety arrangements can be controlled by the operator, it is likely that the level of risk will require the appointment of a competent person to supervise the work who will need to remain present whilst the work is being undertaken.

The supervisor's role will be to ensure that the permit-to-work system (where applicable) operates properly, that only suitably trained persons are permitted to enter the confined space and that the prescribed safety precautions are put in place.

11 Training

Providing suitable training for work in confined spaces, including training in the use of Permit to Work systems, is critical in ensuring persons are competent and that the risks associated with this type of work are adequately controlled.
Relevant training courses include, but are not limited to:

- manage work in confined spaces
- emergency rescue and recovery of casualties from confined spaces
- Permits-to-work

All GoJ employees involved with work in confined spaces i.e. those who manage, supervise or enter confined spaces must hold a relevant qualification for the work they are required to undertake.

It is the responsibility of the department undertaking the work to ensure that the training provided to its employees is suitable for the type of confined space work undertaken in terms the frequency and complexity of the work. The type of work carried out by the department should be discussed with the training provider to establish what standard of training is required, including recommended repeat or refresher training intervals.

Details of the training required for the employees carrying out confined space work should be included in the department's internal procedures.

Any contractors carrying out confined space work on behalf of GoJ or on GoJ premises, must provide evidence of suitable training.

12 Competence

Training is one element of competence and whilst refresher or repeat training will be required, employees will also need to be able to show that they have undertaken practical work in confined spaces to be able to demonstrate competence.

In addition to providing suitable training, departments should prescribe methods of demonstrating competence which are relevant to the frequency and complexity of the confined space work being undertaken by its employees.

These methods could include:

- minimum number of entries per specified time
- in house "donning and doffing" exercises
- simulated casualty rescue

Records of entry and exercises should be kept as evidence of competency being maintained.

Details of the arrangements in place for ensuring the competence of employees carrying out confined space work should be included in the department's internal procedures.

13 Communication

Communication is critical to ensuring safety during confined space works and any system implemented must ensure the following means of communication are in place:

(a) between those inside the confined space.
(b) between those inside the confined space and those outside; and
(c) to summon help in case of emergency.

The system used can be based on speech, tugs on a rope, telephone, radio etc. but it is vital that messages can be communicated easily, rapidly and without any confusion.

Special consideration will need to be given to the means of communication used in potentially flammable atmospheres to ensure that the equipment does not present a source of ignition.

14 Personal and Respiratory Protective Equipment

The purpose of protective equipment is to protect persons from any residual risks which cannot be controlled through other reasonably practicable means.

Where work takes place in confined spaces, the provision of personal protective equipment (PPE) and respiratory protective equipment (RPE) should be the last resort as it can introduce additional risks and impede the task.

However, it is recognised that the use of PPE and RPE is usually required for works in confined spaces as the hazards present cannot usually be reduced to a level where no residual risk remains.

The use of respiratory protective equipment is often a key element in confined space work. The supply and proper use of breathing apparatus during the working activity or an escape set to be used in the event of an emergency quite literally can make the difference between life and death.

Breathing Apparatus – these are a form of respiratory protective equipment which is designed to be used during normal working activities inside the confined space. Training in the use of this equipment is included in the ‘Confined Space – High Risk’ training.

Escape Sets – these are a form of respiratory protective equipment (RPE) which are designed to be used in the event of an emergency i.e. where the atmosphere becomes hazardous during the works and RPE is necessary to facilitate safe exit from the confined space. Training in the use of this equipment is included in the ‘Confined Space – Medium Risk’ training.

Oxygen Resuscitation Equipment – this equipment can cause injury if used inappropriately and therefore should only be provided and used in accordance with the department’s own

operating procedures.

The use of any of the above equipment must be evaluated during the risk assessment process and be included in the written safe system of work.

It is the responsibility of the department sourcing the training to ensure that the use of the relevant equipment is included in the training.

It is vital that personal and protective equipment is functioning properly and therefore it should be subject to pre-use checks. A basic checklist for this is available in Appendix B.

15 Medical Fitness Assessment

Whilst there is no legal requirement for persons who work in confined spaces to undertake a Confined Space Medical Assessment, steps must be taken to ensure that the individual is fit to carry out this type of work.

Factors which could affect somebody's ability to work in confined spaces include pre-existing conditions such as claustrophobia or asthma and their overall physical strength and ability.

A Confined Space Medical Assessment will provide reassurance that persons are fit to carry out work in confined spaces.

The GoJ's Occupational Health Service Provider, currently provides the following Medical Assessments to GoJ employees:

- Confined Space (With Breathing Apparatus) – annually
- Confined Space (Without Breathing Apparatus) – every 2 years

16 Permit to Work

Any work in a confined space where there is a reasonably foreseeable risk of serious injury in entering or working in the confined space requires a permit-to work (except for emergency work carried out by Jersey Fire & Rescue Service which uses alternative safe systems of work in accordance with its industry standards).

All work in confined spaces should be subject to a risk assessment which may indicate the need for a Permit to Work, if for example

- more than one group is working in the confined space

- toxic or flammable substances are in use
- the possibility of atmospheric change exists
- multiple isolations are required to ensure safety from the system

Reference should be made to the GoJ Minimum Standard – Permit to Work which includes templates.

17 Emergency Arrangements

Entry into a confined space must not take place unless suitable and sufficient provisions have been made for the rescue of persons in the event of an emergency. The key consideration during rescue is to ensure the emergency arrangements, so far as reasonably practicable, protect the rescuers from harm.

Departments carrying out confined space work should have their own arrangements in place which are not dependent on the Emergency Rescue Services.

The requirement for possible rescue and resuscitation should be considered during the risk assessment process and procedures should be included in the safe working procedures.

Factors which will need to be considered include:

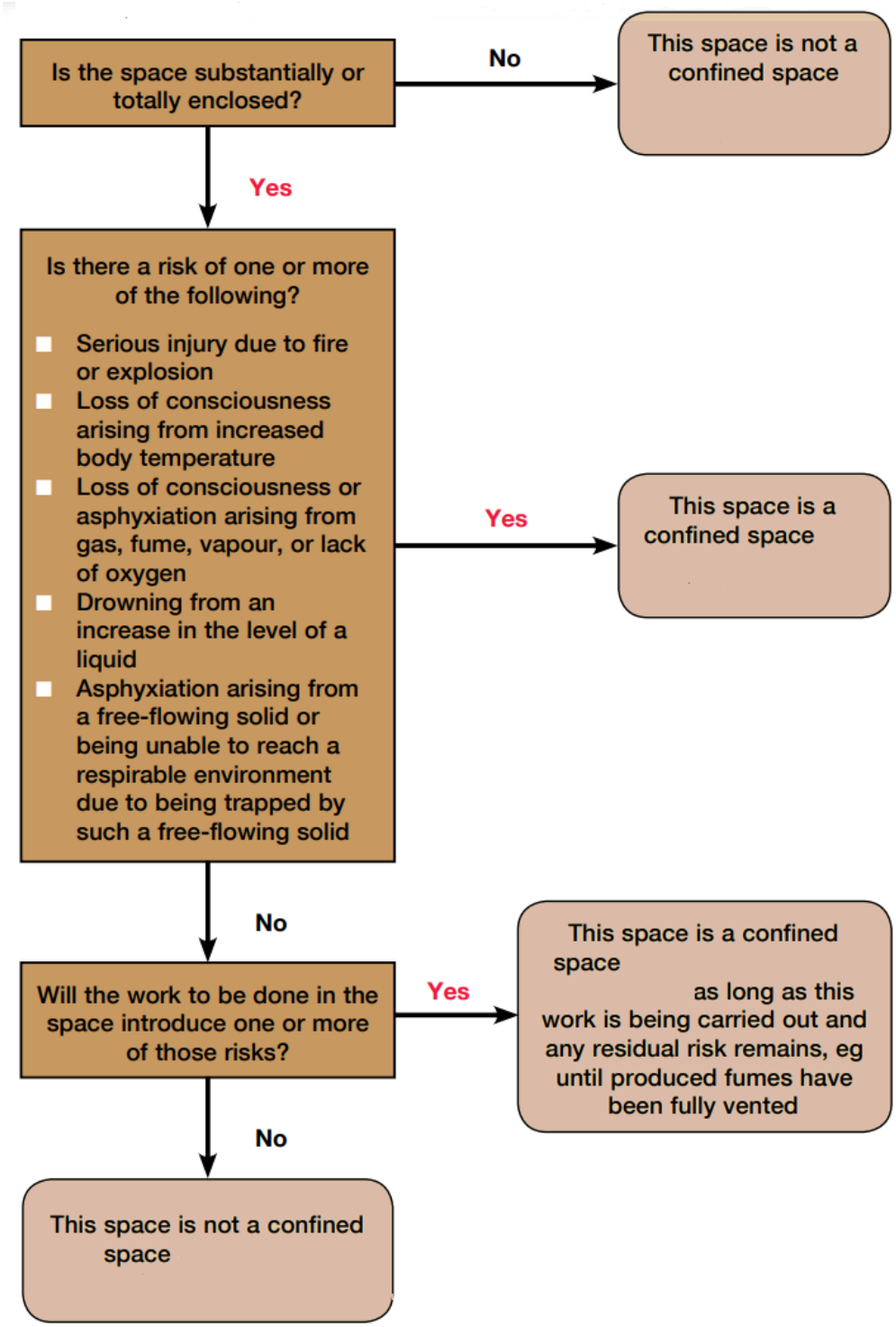
(a) rescue and resuscitation equipment
(b) raising the alarm and rescue
(c) safeguarding the rescuers
(d) fire safety
(e) control of plant
(f) first aid
(g) public emergency services
(h) training

Where it has been necessary to carry out a rescue in a confined space, no further work must be allowed until such time as the situation has been fully reassessed.

An Emergency Action Plan should be documented and regularly practised.

Appendix A

IS THE AREA A CONFINED SPACE?



Appendix B

CONFINED SPACE EQUIPMENT: PRE-USE CHECKLIST

Equipment	Check	Yes	No
Gas Monitor	In Calibration		
	Battery Charged		
	Not Damaged		
	Bump Test		
Tripod	In date for Service and Inspection		
	General Good Condition (Including Feet, Legs and Pins)		
Davit	In date for Service and Inspection		
	General Good Condition (Including Pins and the Ground attachment)		
Harness	In date for Service and Inspection		
	General Good Condition		
	No cuts or frays, no contamination, metalwork in good order		
Winch	In date for Service and Inspection		
	General Good Condition		
	Cable payed out to length required (no frays etc)		
	Connector not pulled (in good order.)		
Fall Arrester	In date for Service and Inspection		
	General Good Condition		
	Cable payed out to length required (no frays etc)		
	Arrester Block Pull Tested		
	Connector not pulled (in good order)		
Escape Set	In date		
	Seal intact		
	Gauge in the green		
	General good Condition		
	Wearer Clean Shaven if relevant		
Full BA	In date		
	Pre-Use Checks – Visual of BA Set & Mask, initial pressure (>240 BAR), Leak Tested, Whistle Tested		