ESSENTIAL STANDARD no.24

Confined Space Working

Safe People
Happy People
Sustainable Business

KEY MESSAGES

- Confined Space working is strictly controlled by the `Confined Spaces Regulations 1997`
- Every year, people are killed or seriously injured whilst working in Confined Spaces.
- Tragically, it's not just the workers in the Confined Space that die, but the brave people who try and rescue them in an emergency situation.
- **The main risk control required by the Confined Spaces Regulations 1997 is to avoid entry to a confined space. Therefore, confined Space entry and working in a Confined Space is generally prohibited unless it cannot be avoided.**

- If Confined Space working cannot be avoided then:
  - A Risk Assessment must be carried out
  - A Safe System of Work established and agreed
  - Permission given under a `Permit to Work`
  - Only be carried out by trained and competent people
  - A site specific Rescue Plan is required

Introduction

In order to perform their duties some of our employees and sub-contractors need to enter confined spaces.

This Essential Standard sets out Bridges approach on Confined Space working and the minimum standards which must be complied with to protect everyone. **Further information and guidance is available in Bridges `Planning, Entering and Working Safely in a Confined Space` - BHS HSI 141**

2. What is a Confined Space?

A confined space is a place which is substantially enclosed, though not always entirely, where serious injury can occur from hazardous substances or conditions within the space or nearby.

Some Confined Spaces are fairly easy to identify, but others are less obvious, but can be just as dangerous.

3. What are the Hazards?

Atmospheric hazards pose the greatest risk.

Oxygen concentration, the presence of toxic, flammable gases and explosive atmospheres all present an immediate danger to life.

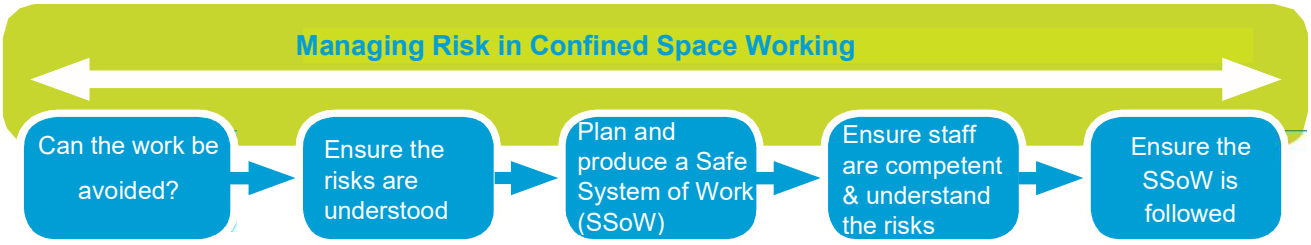
The risks are great, some conditions may already be present in the confined space, but other risks can develop as a result of action you take whilst working.

For example:
Carrying out hot works in a Confined Space - This can deplete oxygen levels and/or ignite flammable gases which in turn can cause an explosion. Hot Works in a Confined Space therefore requires specific management and Director approval before it can be considered.

Changes in physical conditions can also occur, for example water ingress into the confined space in storm conditions. Therefore it is essential to consider weather conditions and effective isolations of the work area.

Incidents happen within the industry all too often, with catastrophic results.

4. Control the Risk



The best way to control risk is to eliminate it. So wherever possible, you need to avoid working in confined spaces.

If this isn't possible, you must be trained and competent to perform the task and be provided with the right equipment to keep you safe.

Risks **must** be properly assessed and work planned ahead, for example:

If a confined space has a risk of noxious fumes, you should consider how these can be ventilated or removed.

It's also really important that you have emergency arrangements in place, in case of an incident.

If someone is working in a Confined Space, think about how will you know they are ok?

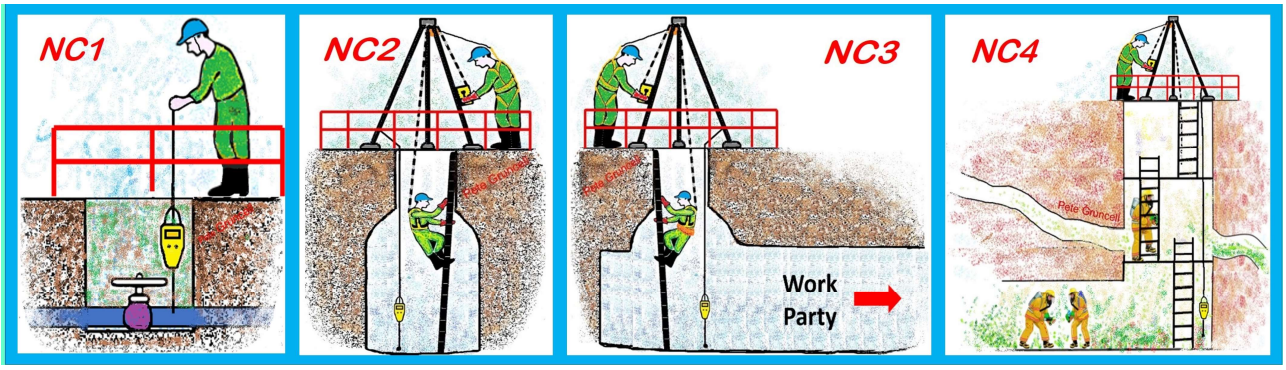
And how will you get them out if they get into trouble?

REMEMBER THESE SIMPLE DO'S AND DON'TS OF WORKING IN CONFINED SPACES:

- ✓ Do - be aware of the risks that may occur within a Confined Space.
- ✓ Do – make sure the person doing the work is capable and trained in both the work and the use of any emergency equipment.
- ✓ Do - Ensure a site specific Rescue Plan is in place
- ✗ Don't – work in a Confined Space unless it's essential to do so.
- ✗ Don't – ignore the risks – just because a confined space is safe one day, doesn't mean it always will be..... conditions can change.
- ✗ Don't – let others enter a Confined Space until you are sure it's safe to do so.

5. Classification of Confined Spaces

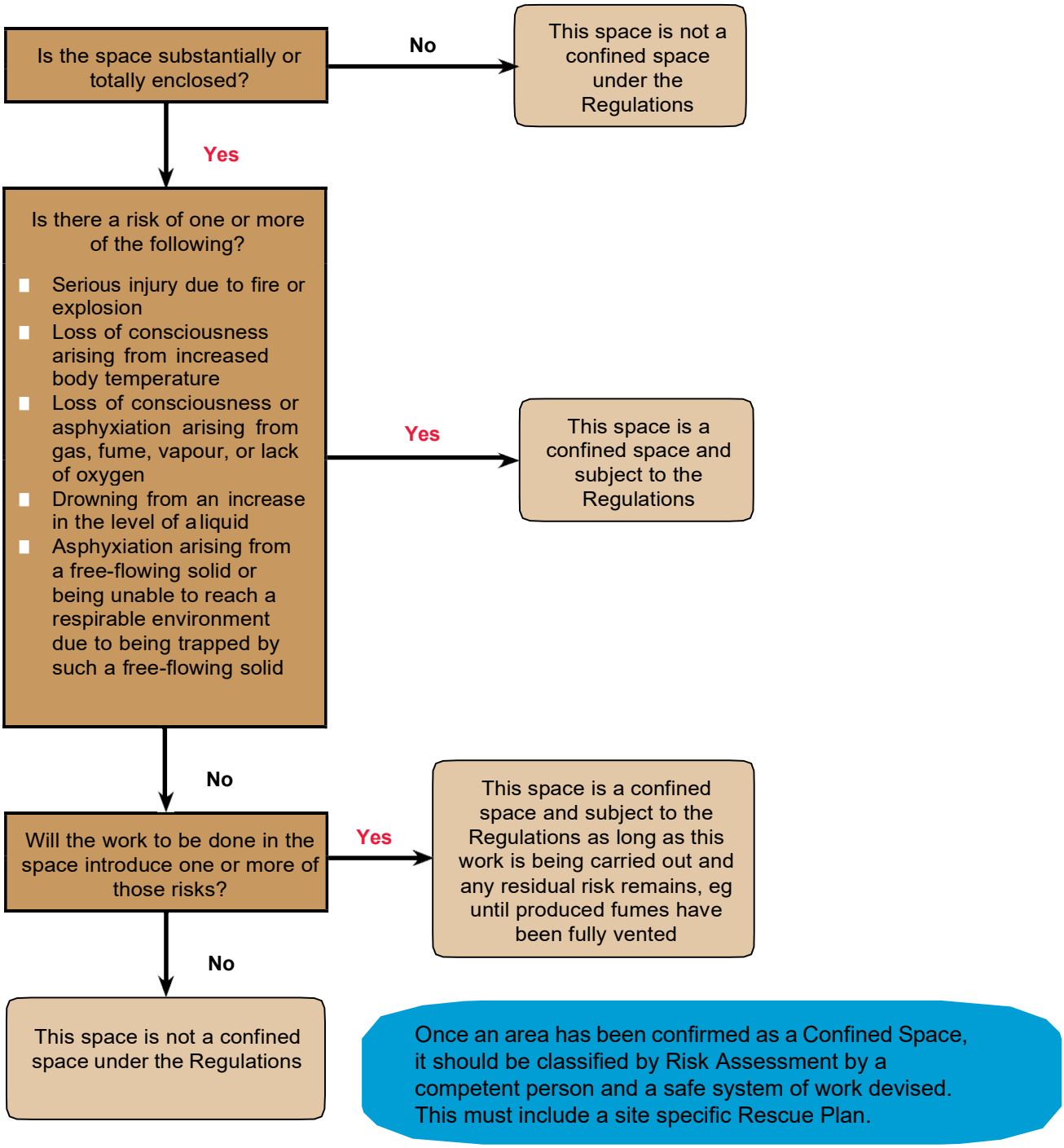
The National Classification system (NC) established by Water UK for Confined Space entries made by contractors to water companies identifies 4 entry categories designated NC1, NC2, NC3 and NC4. However, Water Companies may have their own classifications.



Bridges normally only operate in NC1 or NC2 areas, all other work is subcontracted to specialist contractors who hold the appropriate training and competence.

NC2 Areas - Top Man to be Bag Valve Mask Resuscitator trained and Resuscitator to be available.

So is it a Confined space? The flow chart below can help you with the decision-making process. It describes the specified risks – there must be at least one of these present or reasonably foreseeable to make any enclosed space a confined space within the Regulations.



	Definition
NC1	Low risk, shallow entry with adequate natural or mechanical ventilation, where access is simple and unobstructed and there is no likely risk of flooding, e.g. meter pits, valve chambers, booster-pumping stations, PRV chambers etc.
NC2	Vertical, direct, unobstructed access with continuous attachment to a man riding hoist or similar mechanical rescue device
NC3	When it is not possible to have persons permanently attached to a safety line. Usually, it will be a team entry which moves away from the entry point e.g. man entry sewers, utility service subway tunnels, aqueducts and complex wet wells. Working without an attached rescue line includes working away from the point of entry.
NC4	Non-standard entries involving complex organisations which introduce additional risks and require specific controls and rescue arrangements e.g. mechanical hazards, physical complexity of system introduced hazards, enhanced specific intrinsic hazards

6. Categorisation & Requirements

(Minimum Requirements, use Risk Assessment to add any additional controls)
(Note C&G Qualifications are changing - both are referenced below)

NC1 Low Risk	NC2 Medium Risk	NC3 High Risk	NC4 High Risk inc Rescue
Appropriate RAMS written/reviewed by subject matter expert C&G 6150-02 / 6160-02	Appropriate RAMS written/reviewed by subject matter expert C&G 6150-02 / 6160-02	Appropriate RAMS written/reviewed by Appointed Person C&G 6150-03 / 6160-05	Appropriate RAMS written/reviewed by Appointed Person C&G 6150-03 / 6160-05
Suitable emergency rescue plan in place	Suitable emergency rescue plan in place	Suitable emergency rescue plan in place, which may include on site rescue team	High level emergency rescue plan in place. Site rescue team must be provided
Personal Gas Monitor Worn	Personal Gas Monitor Worn	Personal Gas Monitor Worn	Personal Gas Monitor Worn
No Top Man required provided those entering are provided with suitable means of communication and easy access/egress	Top Man present at point of entry / outside of CS	Entrant Controller present at point of entry / outside of Confined Space	Entrant Controller present at point of entry / outside of Confined Space. Bottom person is required
No requirement for a safety critical medical for operatives accessing NC1 only	Operatives Health assessed to safety critical worker standard, where escape BA is to be worn.	Operatives Health assessed to safety critical worker standard.	Operatives Health assessed to compressed air breathing apparatus standard
Safety briefing required for those entering – to be delivered on site by a competent person who has a minimum Low Risk C&G 6150-01 or 6160-01 qualification	Level 2 Medium Risk training required for both those entering and the Topman a C&G 6150-02 or 6160-02 qualification	Level 2 High Risk training required for those entering C&G 6150-03 / 6160-03 and Entrant Controller L3 C&G 6160-04 qualification. Risk assess if High Risk Rescue training is needed	Level 3 High Risk training required for those entering C&G 6150-03 / 6160-03 and Entrant Controller L3 C&G 6160-04 qualification. High risk rescue training needed Level 3 C&G 6160-07 / 6160-08
Level 2 Emergency First Aid at Work Training	Level 2 Emergency First Aid at Work Training	Level 3 First Aid at Work Training	Level 3 First Aid at Work Training
Good access/egress provided	10-minute escape set may be required subject to possible atmosphere risk assessment.	10-minute escape set worn by all within confined space as determined by risk assessment	Full Breathing Apparatus worn by all within confined space
Good lighting and communications as required	Suitable means of access/egress provided (if not already available)	Forced air ventilation as required	Forced Air Ventilation
A site specific Rescue Plan	Safety Harness & Line worn by those entering	Safety Harness & Line worn by those entering	Safety Harness & Line worn by those entering
	Provision of suitable task lighting and clear sight communications is required.	Suitable means of access/egress to be provided (if not already available)	Suitable means of access/ egress to be provided (if not already available)
	Confined space permit to be issued	Provision of suitable task lighting and communications as required.	Provision of suitable task lighting and communications as required
	Bag Valve Mask resuscitator Single use and appropriately trained staff	Permit to Work/ enter/ confined space	Permit to Work/ enter/ confined space
	Bridges standard level of CS training is 6150-02 / 6160-02 Medium Risk Only	Oxygen Therapy and appropriately trained staff	Oxygen Therapy and appropriately trained staff
	A site specific Rescue Plan	A site specific Rescue Plan	A site specific Rescue Plan

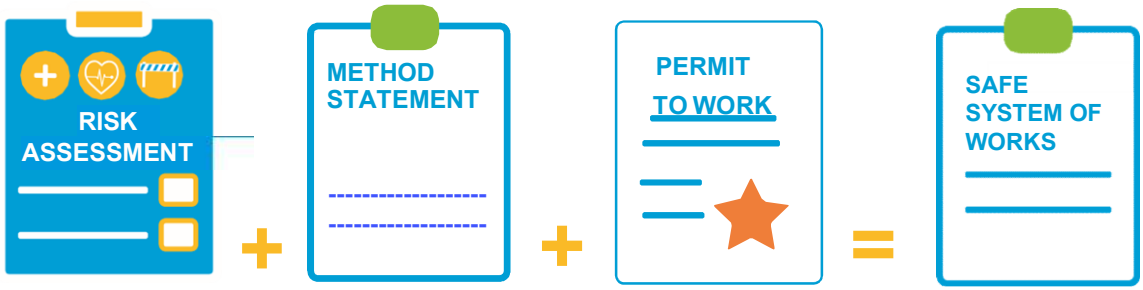
7 Resource Levels

Resource levels for Confined Space working should always be set by **Risk Assessment,** however, the table below sets the **minimum** staffing required for each classification of Confined Space entry.

Classification	Minimum Staffing Requirements (subject to Risk Assessment)
NC1	2 Persons
NC2	2 Persons
NC3	As NC2 + Rescue Team (Normally 4 Persons)
NC4	As NC2 + Rescue Team (Normally 4 Persons)
Note - It is acceptable for the rescue team Top Man to undertake Top Man duties for both the confined spaces work and the rescue team. NC2 - Top Man to be trained in the use of Bag and Valve Mask Resuscitator For NC3 or NC4 confined spaces, one member of the team must be appointed as the Authorised Person.	

8. Carrying out of Tasks

Supplement the risk assessment with a method statement and confined space permit (others may be required)



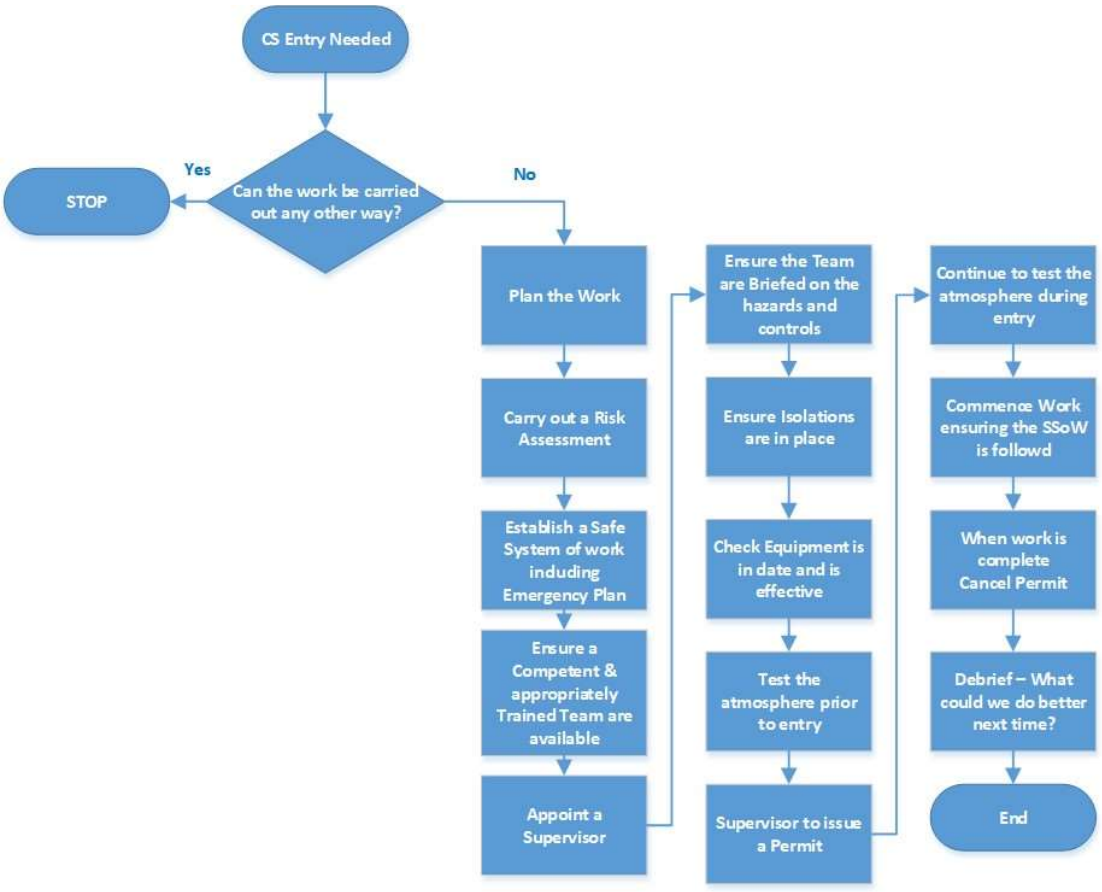
Plan how the information in a method statement will be communicated to the person undertaking the work. Consider how much information they can reasonably be expected to retain. Method statements must therefore be concise, specific and focus on the key requirements needed to ensure that the work activity can be carried out safely and without risk to health.

9. Communication and Instruction

Everyone involved in the activity must be briefed on the findings of the risk assessment in a clear and concise manner so that they understand the key risks and controls. The person providing the briefing must as a minimum describe the following:

- The key risks to health & safety
- What control measures have been put in place for worker protection
- What is required of them?

10. Process



Further information and guidance is available in Bridges `Planning, Entering and Working Safely in a Confined Space` - BHS HSI 141 & HSE Document INDG258 - www.hse.gov.uk/pubns/indg258.pdf