28 Confined Spaces

This chapter is split into two parts:

Part 1: Directive. This part provides direction that you **must** follow to help you comply with (keep to) health and safety law, Government policy and Defence policy.

Part 2: Guidance. This part provides the guidance and good practice that **should** be followed and will help you to keep to this policy.

Contents

Amendment record

This chapter has been reviewed by the Directorate of Defence Safety (DDS) together with relevant subject matter experts and key safety stakeholders. Any suggestions for amendments **should** in the first instance be directed to the Defence organisation's Safety Centre/Team Group Mailbox and with their approval, sent to People-DDS-GroupMailbox@mod.gov.uk.

Version No	Date of publishing	Reason for review	Authority
1.2	Oct 20	Interim update post-handover of Policy from DSA to D HS&EP.	D HS&EP
1.3	19 Dec 25	Release of two-part chapter structure. Various updates including added direction and guidance specific to operational confined space activities.	DDS

Terms and definitions

The following table sets out definitions of some of the key terms used in this chapter. The most current general safety terms and definitions are provided in the Master Glossary of Safety Terms and Definitions, which can also be accessed on GOV.UK.

Accountable Person	The person whose terms of reference state that they are responsible for making sure there are suitable and sufficient systems in place to control health and safety risks in their unit, establishment, site or platform. This term is used in place of CO, HoE, OC, Station Commander and so on, or as decreed by the Defence organisations.
Commander	This is generally a military person responsible for planning activities, supervising activities, and making sure that personnel under their area of responsibility are safe. This term refers to a role rather than the rank of Commander, and it can be a permanent or temporary role (for example, lasting for the duration of a exercise). In parts of Defence this person could be referred to as a 'responsible person.'
Competent person	A person who has the training, skills, experience, and knowledge necessary to perform a task safely, and is able to apply them. Other factors, such as attitude and physical ability, can also affect someone's competence. (See www.hse.gov.uk/competence/what-is-competence.htm for information on competence).
Confined Space	A confined space is any place, which is substantially (though not always entirely) enclosed and where there arises a reasonably foreseeable specified risk. An area that was not previously a identified as a confined space can become a confined space due to work activities or changing conditions.

Manager	A person responsible for managing or supervising staff, planning activities, and making sure that personnel under their area of responsibility are safe. This could be a permanent or temporary role, and in parts of Defence this person could be referred to as a 'line manager,' a 'responsible person' or a 'delivery manager.'
Operational Confined Space Activity	An Operational Confined Space Activity is undertaken as a part of a specific Military Operation or Campaign. These activities include but are not limited to training to attain operational readiness, search and disposal activities in a warzone, Military Assistance to Civilian Authorities and so on.
Person in Charge (PiC)	A competent person identified on the Permit to Work who is responsible for directly overseeing those undertaking the associated task / activity and making sure that the work is carried out according to the Permit to Work, risk assessment and safe systems of work.
Safe System of Work (SSW)	A method of work which puts in place control measures arising from a risk assessment, in order to eliminate identified hazards (where possible) and complete the work with minimum risk.

Must and should

Where this chapter says **must**, this means that the action is a compulsory requirement.

Where this chapter says **should**, this means that the action is not a compulsory requirement but is considered good practice.

Scope

The policy contained within this chapter:

a. applies to all those employed by Defence (military and civilian) including reservists and those under the age of 18 (for example recruits and apprentices).

b. applies to all those working on behalf of, or under the supervision of Defence (for example, contractors or visitors).

c. applies to all Defence activities carried out in any location (UK or overseas) and at all times of the year.

d. is not written for young persons in the cadet forces[1], Defence-run schools, nurseries and so on; those organisations **must** maintain their own safety policies and governance and **must** provide statutory compliant infrastructure and appropriate safe systems of work. They may use material from this chapter as a reference point, but where appropriate their respective policies **should** be adapted to meet the needs of young persons and to follow any applicable Department for Education guidelines or legislation.

[1] Guidance for cadet forces is set out in JSP 814 (Policy and Regulations for Ministry of Defence Sponsored Cadet Forces).

Assurance

The application of the policy contained within this Chapter **must** be assured (that is, its use **must** be guaranteed). As part of their overall assurance activity, the commander, manager, or accountable person **must** make sure that this policy is followed and put into practice effectively. Assurance **must** be carried out in accordance with JSP 815 (Defence Safety Management System) Element 12 – Assurance.

A chapter assurance checklist can be found at Annex C. Please note its use is not mandatory, but it can provide helpful evidence to assist in the assurance and conformance against the policy direction within this chapter.

Alternative acceptable means of compliance

This policy is mandatory across Defence and the only acceptable means of compliance (AMC) is attained by following the directive set out in this chapter. However, there may be circumstances where a small number of military units may be permanently unable to comply with (keep to) parts of the policy. In such circumstances an alternative AMC process is set out in the JSP 375 Directive and Guidance.

Equality Analysis

The policy in this Chapter has been subject to an equality analysis in accordance with the Public Sector Equality Duty and Departmental Policy.

Part 1: Directive

Introduction

1. This chapter sets out the procedures and guidance for the management of confined spaces. For MOD infrastructure, including design, construction and maintenance, specific additional requirements are specified in Chapter 6 (Confined spaces) of JSP 375, Volume 3 (which amplifies this chapter) in accordance with statutory requirements.

2. A confined space has two defining features:

   a. it is a place which is substantially (though not always entirely) enclosed; and

   b. one or more of the 'specified risks' (detailed below) **must** be present or reasonably foreseeable.

3. Within The Confined Spaces Regulations 1997, 'Specified Risk' means a risk of:

   a. serious injury to any person at work arising from a fire or explosion;

   b. without prejudice to paragraph (a):

      (1) the loss of consciousness of any person at work arising from an increase in body temperature;

      (2) the loss of consciousness, or asphyxiation of any person at work arising from gas, fume, vapour, or the lack of oxygen;

   c. the drowning of any person at work arising from an increase in the level of liquid; or

   d. 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.

4. Examples of confined spaces may include, but are not limited to:

   a. storage tanks;

   b. sewers, tunnels and pipes;

   c. some machinery spaces;

   d. inspection chambers and below ground utility service ducts;

   e. cellars, walk-in freezers, roof voids and air raid shelters;

   f. trenches and pits; and

   g. ships compactors and ballast tanks.

5. Other confined spaces may be less obvious, but can be equally dangerous, for example, unventilated or poorly ventilated workspaces. Some places may become confined spaces when work is carried out, or during their construction, fabrication or subsequent modification.

6. Additionally, areas of buildings & structures which have been closed up or sealed, where fabric or other material has deteriorated, resulting in accumulation of water, organic detritus, mould, rust and so on, which could potentially lead to oxygen deficiency, and if disturbed, release of gasses such as hydrogen sulphide & methane, as well as physical entrapment, may not immediately register as confined spaces, but are areas that could potentially be a confined space.

7. The risks to health and safety are exacerbated when personnel work in a confined space and there is:

a. a lack of oxygen;

b. a build-up of poisonous gas, fumes or vapours;

c. potential for fire and / or explosion;

d. a build-up of dust in high concentrations – such as asbestos fibres;

e. hot and cold conditions leading to a dangerous increase or decrease in body temperature;

f. difficulties in effecting rescues which in normal circumstances would be routine; or

g. flooding (liquid or liquefaction of solids).

8. Some of the above conditions may already be present; however, some may arise through the work being carried out or due to nearby activities.

Key health and safety legislation

9. Employers have a general duty under the Health and Safety at Work etc. Act (HSWA) 1974, Section 2, to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all of their employees and under Section 3, anyone else who may be affected by that work activity.

10. There is also a duty on employers under the Management of Health and Safety at Work Regulations (MHSWR) 1999 to make a suitable and sufficient assessment of the risks to the health and safety of their employees whilst they are at work and to persons not in their employment who may be affected by their work activities. As such, Defence requires commanders, managers and accountable persons to make sure that suitable and sufficient risk assessments are carried out, the policy for Defence safety risk assessments is set out in Chapter 8 (Risk assessment and safe systems of work) of JSP 375, Volume 1.

11. The Secretary of State (SofS) for Defence Policy Statement on health and safety, sets out SofS's commitment for Defence to comply with all the applicable health and safety legislation when in the United Kingdom (UK). When overseas, 'we will comply with the laws of Host States, where they apply to us, and in circumstances where such requirements fall short of UK requirements, we will apply UK standards so far as is reasonably practicable to do so.'

12. The Confined Spaces Regulations 1997 places a duty on employers to make sure that work in confined spaces is avoided and where it is unavoidable that emergency arrangements are in place before the work starts. These regulations do not apply[2] to:

a. the master or crew of a sea-going ship or to the employer of such persons in respect of the normal ship-board activities carried out solely by a ship's crew under the direction of the master; or

b. any place below ground in a mine for which the Mines and Quarries Act 1954 takes precedence; or

c. any diving operation to and in relation to which The Diving at Work Regulations 1997 apply by virtue of regulation 3 of those Regulations.

Note: The Merchant Shipping and Fishing Vessels (Entry into Enclosed Spaces) Regulations 2022, places similar obligations to the Confined Spaces Regulations 1997 on ships. While Defence shipping is disapplied from these Merchant Shipping regulations, Defence maintains arrangements that produce outcomes that are, so far as is reasonably practicable, at least as good as those required by UK legislation in accordance with the Secretary of State Policy Statement.

Defence platforms and activity

13. In a Defence context, the definition and management of confined spaces **must** reflect the unique environments and operational demands of Defence platforms and activities. For example, a submarine as a whole is a confined environment, but it is designed for continuous occupancy by trained personnel and therefore may not meet the strict definition of a confined space. However, certain compartments within it can present significant hazards and may be classified as permit-required confined spaces.

14. Similarly, other Defence platforms and activities also present confined space challenges. These include the interior of Armoured Fighting Vehicles (AFVs), particularly when powered down or damaged; aircraft fuel tanks[3] and avionics bays; ship voids, bilges, and cable trunks; missile silos; and underground bunkers or tunnels used in subterranean warfare training. Even temporary structures like deployable shelters or containers used for storage or command posts can become confined spaces depending on their configuration and use. These environments often require dynamic risk assessments due to rapidly changing conditions, limited egress, due to the presence of hazardous materials or atmospheres.

[2] Regulation 2 of the Confined Spaces Regulations 1997.
[3] If working in aircraft fuel tanks, personnel **should** consult DAP 106B-0002-1 (available on DR TDOL Viewer).

Policy Statements

15. Defence has established the following policy statements, which **must** be followed.

a. **Policy Statement 1.** Accountable persons **must** make sure that all areas they are responsible for that are, or could reasonably become confined spaces are identified, recorded in a suitable register, and access to them is controlled.

b. **Policy Statement 2.** Accountable persons **must** make sure that emergency arrangements for confined spaces are in place, communicated, implemented, tested, and reviewed regularly before any activities take place within them.

c. **Policy Statement 3.** Commanders, managers and accountable persons **must** make sure that a suitable and sufficient risk assessment is carried out for all confined spaces activities under their area of responsibility. A Safe System of Work **must** be implemented and where required Permits to Work **must** be raised.

d. **Policy Statement 4.** Commanders, managers and accountable persons **must** make sure that suitable and sufficient control measures are in place, and fully utilised when personnel are required to work in confined spaces.

e. **Policy Statement 5.** All personnel **must** comply with all control of access restrictions of confined spaces at their workplace, and where applicable any relevant risk assessments and control measures for working in confined spaces.

f. **Policy Statement 6.** Confined space activities related to military training, exercises and operations **must** be proportionately planned, evaluated, risk assessed and executed. Consideration **must** be given to the possible lack of control in the confined space being worked in.

Policy Statement 1
Accountable persons **must** make sure that all areas they are responsible for that are, or could reasonably become confined spaces are identified, recorded in a suitable register, and access to them is controlled.

16. Accountable persons **must** make sure that all confined spaces, and areas that could reasonably become confined spaces, within their area of responsibility are identified and recorded in a suitable register that is accessible to all interested parties. The confined spaces register is the principal source of management information for confined spaces within the site, location or geographical area.

17. Accountable persons **must** make sure the confined spaces register is maintained and reviewed regularly, and that it is included as part of any formal audit / inspection programme.

18. Accountable persons **must** make sure that any confined space register is accessible to all personnel and contractors who would reasonably need access to it. More information on confined space registers is set out in Chapter 6 (Confined Spaces) of JSP 375, Volume 3.

19. Any identified confined space **must** be included in the relevant Area Hazard Register, in accordance with Chapter 34 (4Cs System – Management of Visiting Workers / Contractors) of JSP 375, Volume 1.

20. Accountable persons **must** make sure that all confined spaces are subject to controlled access, with only authorised, competent personnel allowed to enter them. Where required, administrative control of access **must** be achieved by implementing a robust Permit to Work (PTW) system in accordance with Chapter 30 (Permit to Work) of JSP 375, Volume 1.

21. All procedures relating to the identification, registering and access of confined spaces **must** be audited regularly to make sure of compliance and action taken immediately to correct any failures.

22. Accountable persons **must** be assured that access to confined spaces and areas that could reasonably become confined spaces have suitable and sufficient controlled access – both physically (for example with a simplex lock) and procedurally (for example utilising a PTW system).

23. Areas that are not currently classified and recorded as a confined space but could reasonably become one (for example a loft space or plant room with a boiler that may become a confined space if the boiler had a leak of carbon monoxide) do not need the same access controls applied as areas that are classified and recorded as confined spaces. Accountable persons **must** carefully consider what, if any, access control requirements are required for these areas and **must** make sure that any decisions made are reasonably practicable and effectively communicated.

Policy Statement 2
Accountable persons **must** make sure that emergency arrangements for confined spaces are in place, communicated, implemented, tested, and reviewed regularly before any activities take place within them.

24. This policy statement and the following supporting paragraphs, details how Defence will comply with Regulation 5 of the Confined Spaces Regulation 1997.

25. When things go wrong, people trying to help may unwittingly expose themselves to serious and immediate danger if they are not aware of the risks and / or the safe system for extracting casualties; therefore, effective arrangements for raising the alarm and carrying out rescue operations in an emergency **must** be developed, implemented, communicated, tested and reviewed regularly.

26. The following factors **must** be considered in the emergency planning and effectively managed throughout the duration of the task or activity:

a. how can an emergency be effectively communicated from inside the confined space to people outside so that rescue procedures can start;

b. provision and maintenance of suitable rescue and resuscitation equipment will depend on the likely emergencies identified; and

c. the need for properly trained competent people, sufficiently fit to carry out their task, ready at hand and capable of using any equipment provided for rescue or resuscitation, for example, breathing apparatus, lifelines, firefighting equipment and so on. Rescuers also need to be protected against the cause of the emergency.

27. The accountable person **must** be assured that all confined spaces (and where reasonable, areas which could become a confined space) have emergency arrangements fully in place, tested and working before any activities can take place within them.

28. Any emergency arrangements and plans **must** be completed in accordance with Chapter 1 (Emergency and disaster planning) of JSP 375, Volume 1.

Policy Statement 3
Commanders, managers and accountable persons **must** make sure that a suitable and sufficient risk assessment is carried out for all confined spaces activities under their area of responsibility. A Safe System of Work **must** be implemented and where required Permits to Work **must** be raised.

29. Personnel entering and working in confined spaces **must** be avoided where possible[4], however if it cannot be avoided, commanders, managers and accountable persons **must** make sure that a suitable and sufficient risk assessment is carried out in accordance with Chapter 8 (Safety risk assessment and safe systems of work) of JSP 375, Volume 1. For work in confined spaces, this means identifying the hazards present, who will be exposed to the hazards, assessing the risks and determining so far as is reasonably practicable what control measures are required to control those risks. The risk assessment **must** include consideration of:

a. the normal hazards associated with the task or activity;

b. the working environment (lighting levels, cramped conditions, and so on);

c. if access is needed to be controlled with standing instructions or a PTW.

d. working materials and intrinsically safe tools;

e. the suitability and competence of those carrying out the task or activity;

f. communications;

g. arrangements for emergency rescue;

h. previous contents of the confined space;

i. chemical residues, scale, rust, sludge or other deposits;

j. contamination from adjacent plant, processes, gas mains, or surrounding land;

k. oxygen deficiency or enrichment;

l. physical dimensions and layout, including access and egress; and

m. hazards arising from the work itself and from outside the space.

[4] Regulation 4 of the Confined Spaces Regulations 1997.

30. If it is necessary to use lifting equipment (possibly in relation to any vertical entry points) in the confined space, then consideration **must** be taken in accordance with JSP 975: MOD Lifting Policy.

31. Work equipment is usually required when working in confined spaces. When this happens, the competent person completing the risk assessment **must** consider the requirements of Chapter 22 (Work Equipment) of JSP 375, Volume 1.

32. When commencing work in a confined space, that work **must** be dynamically risk assessed by a relevant competent person involved in the activity taking place in accordance with Chapter 8 (Safety Risk Assessment and Safe Systems of Work) of JSP 375, Volume 1. The requirement to dynamically risk assess work in confined spaces is essential due to the inherently high-risk nature of this work, especially in unique military environments including, but not limited to, submarines, military diving or subterranean exercises, where unexpected changes in circumstances require a quick change of action, ultimately leading to the safe removal of anyone working in that confined space.

33. After completion of the risk assessment the commander, manager or accountable person **must** make sure that a Safe System of Work (SSW) is established (as shown in the flow diagram at Annex A of this chapter). The SSW **must** include but not be limited to the following elements:

a. Supervision, and the appointment of a Person in Charge (PiC) as part of the PTW process;

b. access arrangements;

c. likely atmospheres;

d. the task / activity to be undertaken;

e. materials, equipment, and substances to be used;

f. who is at risk;

g. use the results of the risk assessment to help identify the necessary precautions and control measures to reduce the risk of injury;

h. make sure that the SSW, including all the control measures identified, is developed and put into practice;

i. make sure everyone involved is appropriately trained and instructed to make sure they know what to do and how to do it safely;

j. additional emergency procedures and recovery techniques are in place;

k. static electricity precautions and earthing of equipment;

l. prohibition of smoking and establishment of exclusion zones;

m. limiting working time and scheduling breaks;

n. fire prevention measures and removal of flammable materials;

o. provision of adequate and suitable lighting, including emergency lighting; and

p. technical standards for access openings (for example, minimum 575 mm diameter for rescue with breathing apparatus).

34. Depending on the local arrangements as set out in Policy Statement 1 of this chapter, some confined spaces may be subject to Chapter 30 (Permit to Work) of JSP 375, Volume 1. Where this is the case, any SSW **must** also include the PTW procedures, as detailed in Defence policy and locally.

35. A PTW **must** be implemented where there is a reasonably foreseeable risk of serious injury in entering and / or working in the confined space. The PTW is an extension of the SSW, not a replacement for it.

36. Where the risk assessment requires the use of a PTW, this **must** be implemented in accordance with Chapter 30 (Permit to Work) of JSP 375, Volume 1 or by adoption of the PTW system in Chapter 6 (Confined Spaces) of JSP 375, Volume 3. A PTW allows a formal check to be undertaken to make sure all the elements of a SSW are in place before people are allowed to enter or work in the confined space. It is also a means of communication between management and those carrying out the task / activity.

37. As part of the SSW, effective communications **must** be established between people inside and outside the confined space to summon help in an emergency; this may be simple verbal contact or require the use of intrinsically safe communication equipment depending on the nature of the task or activity and the environment in which it takes place.

38. If contractors are employed to work within confined spaces on the Defence Estate or on a Defence Platform, then commanders, managers and / or accountable persons **must** adhere to Chapter 34 (4Cs System – Management of Visiting Workers / Contractors) of JSP 375, Volume 1.

39. The suitability of individuals for confined space work **must** be assessed by a competent person, considering:

a. physical build and ability to wear breathing apparatus;

b. pre-existing medical conditions (for example claustrophobia, respiratory issues and so on); and

c. fitness for the specific work and environment.

Note: Details about Confined Space Medicals can be found in Part 1, Policy Statement 4 of this policy chapter.

40. Because of the potential risks of working in confined spaces, consideration **must** be given to whether any reasonable adjustments are necessary to enable individuals to work safely in a confined space. Advice and guidance can be found on Defence's Workplace Adjustments page. This is because:

a. there is a need for robust and effective communications, and anybody with hearing or speech difficulties may increase the risk of working in confined spaces.

b. anybody with mobility impairments (either permanent or temporary), or those requiring a Personal Emergency Evacuation Plan as detailed in Chapter 1 (Emergency and Disaster Planning) of JSP 375, Volume 1, may take a longer time evacuating a confined space if speed is critical.

c. neurodivergent individuals (for example, those with ADHD or Autism Spectrum Disorder) may experience sensory issues, challenges with focus, or heightened anxiety, which can be exacerbated in confined environments. These factors may increase the overall risk to their health, safety, and wellbeing during such work.

d. some personnel may have physical limitations including size, mobility issues or other pre-existing medical conditions that may make navigating confined spaces more hazardous. The specified risks of working in confined spaces such as temperature, hazardous substance / material exposure or lack of oxygen may cause additional harm or exacerbate pre-existing conditions.

41. Physical suitability assessments **must** be sensitive to gendered health needs (for example menopause or pregnancy) and not used to exclude individuals without considering reasonable adjustments.

42. This does not mean that those who require reasonable adjustments are to be immediately excluded from confined space working. If they are competent to work in confined spaces, then where applicable and reasonably practicable, reasonable adjustments **must** be considered and implemented to enable them, and all others working in the confined space to do so safely.

43. In accordance with Chapter 19 (Young persons) of JSP 375, Volume 1, young persons (those under 18) **must** not undertake work or activities within confined spaces.

Policy Statement 4
Commanders, managers and / or accountable persons **must** make sure that suitable and sufficient control measures are in place, and fully utilised when personnel are required to work in confined spaces.

44. The control measures identified in the risk assessments **must** be considered in line with the 'hierarchy of controls', the order **must** be followed. The hierarchy of risk control measures **must** always start with elimination (avoid working in a confined space) and if this is not reasonably practicable then consideration **must** be given to substitution, engineering controls, administrative controls and finally personal protective equipment (PPE). However, PPE **must** not be used before consideration of the other control measures in the hierarchy.

45. The control measures identified against the hierarchy of controls can be applied singularly or collectively, further guidance on applying the hierarchy of controls is set out in Chapter 8 (Safety risk assessment and safe systems of work) of JSP 375, Volume 1.

46. The commander, manager or accountable person **must** make sure that the control measures that have been identified in the risk assessment are implemented, communicated and followed.

47. The commander, manager or accountable person **must** make sure that suitable and sufficient training is provided where necessary to all personnel to make sure that the control measures are implemented effectively.

48. Typical forms of control measures (non-exhaustive) for working in confined spaces are as follows:

Avoiding Confined Space Working

49. Following the hierarchy of controls (as identified in Chapter 8 (Safety risk assessment and safe systems of work) of JSP 375, Volume 1) elimination of the hazard **must** be the first consideration, therefore entry or work in confined spaces **must** be avoided unless it has been determined that there is no reasonably practicable alternative. Reasonably practicable alternatives may include:

a. modification of the confined space so that entry is not necessary;

b. conducting the work done from outside, for example, inspection; sampling and cleaning operations can sometimes be done from outside the space using appropriate intrinsically safe equipment and tools;

c. intrinsically safe remote operated vehicles utilising cameras may be used for internal inspection of confined spaces, although these **must** only be operated by competent persons; or

d. modifying working practices to eliminate the need for entry.

50. Alternative ways of working **must** be evaluated and documented before entry is authorised into confined spaces.

Confined space medicals

51. Where a suitable and sufficient risk assessment identifies that personnel are or will be required to enter confined spaces regularly, commanders and / or managers **must** arrange for regular health surveillance in the form of confined spaces medicals. An initial full medical examination **must** take place before a person starts work in confined spaces. Following this initial assessment, personnel who continue to be at risk **must** have:

a. an annual inspection (level 2) by an occupational health trained nurse or doctor;

b. a full medical examination by a doctor every 5 years;

c. a full medical examination **must** take place annually for personnel aged 50 years or over; or

d. a medical inspection (level 2) by an occupational health trained nurse or doctor on return from sickness absence to confirm ongoing fitness for work in confined spaces.

52. Confined space medicals can be arranged:

a. For Service personnel, through their medical centre. Locations who regularly perform confined space medicals **should** refer to local policy / SOPs, however if there is none, the practice detailed in AP1269A – RAF Manual of Medical Fitness (Leaflet 3-04 Annex K) provides recommended guidance[5].

b. For civilian staff, their line manager **must** request an occupational health referral for a confined space medical through the Optima Health contract (see the policy and procedures on the CivHR People Portal).

53. Personnel with the following conditions, will be deemed unfit to work in confined spaces:

[5] As advised by DMS Med Pol.

a. Central Nervous System. Psychiatric disturbance (other than uncomplicated reactive depression), claustrophobia, epilepsy or fainting attacks.

b. Skin. Chronic or recurrent skin disease, particularly eczema or contact dermatitis.

c. Respiratory System. Asthma, severe hay fever or any respiratory conditions which prevent the safe use of respiratory protective equipment.

d. Cardiovascular System. Untreated hypertension (>160/100 mmHg) and hypotensive medication.

e. Musculoskeletal System. Limitation of movement of limbs or spine and amputations affecting mobility or ability to wear personal protective equipment.

f. Anthropometry. Obesity or excessively large frame that could restrict entry or egress from the confined space.

g. Speech and Hearing. Defects that could impair safety and communication.

h. Endocrine System. Diabetes mellitus requiring hypoglycaemia-inducing therapy.

i. Genito-urinary System. Proteinuria, haematuria and glycosuria **must** be investigated. Some potential exposures are nephrotoxic.

j. Reproductive System. Pregnancy.

Control access and competent persons

54. Physical access to confined spaces can be controlled by making sure they are locked with key controlled access. Where key controlled access is in place the access keys **must** be held under the control of the accountable person and details of these keys **must** be entered onto a Key List. Additionally, issue and receipt of these keys **must** be controlled under a Key Issue Register (signed out and signed back in).

55. Where required, repairs to damaged access points **must** be reported to the relevant personnel / organisation as per local procedures (this could be a Maintenance Management Organisation) and additional controls to control access considered where needed.

56. Where required, administrative control of access **must** be achieved by implementing a robust PTW system in accordance with Chapter 30 (Permit to work) of JSP 375, Volume 1.

57. While Defence personnel are in a confined space, there **must** be a competent person stationed outside who can take appropriate action (for example raising the alarm or liaison with emergency services). In the event of an emergency, under no circumstances **should** that competent person enter the confined space.

58. The competent person **must** remain outside the confined space until relieved, the work within the confined space has finished or otherwise instructed by the emergency services.

Safety Signs

59. In accordance with Chapter 6 (Safety signs) of JSP 375, Volume 1, appropriate safety signage **must** be displayed where a significant risk to health and safety remains and cannot be adequately controlled by other means identified through the risk assessment.

60. If working in an area where there are groups of workers who do not speak English as a first language (for example, some overseas areas or in UK regions with bilingual or multilingual communities) consideration **must** be given to including languages other than English on any safety signs related to confined spaces, so the likelihood of accidental entry is reduced.

61. On unoccupied units, establishments, sites or platforms with foreseeable incursion potential, the Accountable Person **must** consider enhanced levels of securing the entrances to confined spaces and enhancing the warning signage in order to deter trespassers, especially young persons who will likely have a limited perception of the risks associated with confined spaces.

Personal Protective Equipment (PPE) / Respiratory Protective Equipment (RPE)

62. PPE and / or RPE **must** be used where risks cannot otherwise be adequately controlled and **must** be suitable and sufficient to provide the required levels of protection, further detail of which can be found in Chapter 15 (Personal protective equipment (PPE) and Respiratory Protective Equipment (RPE)) of JSP 375, Volume 1. When working in confined spaces, the selection of suitable PPE **must** take into consideration the environment in which it is to be worn to make sure that it does not introduce new risks, for example bulky clothing used to protect workers from extremes of temperature may restrict movement and limit effective rescue.

Working Equipment

63. Consideration of non-sparking tools and specially protected lighting (intrinsically safe) **must** be given where flammable or potentially explosive atmospheres are likely. In certain confined spaces (for example inside metal tanks) suitable precautions to prevent electric shock will need to be assessed; suitable control measures may include use of extra low voltage equipment and / or residual current devices. More information on working in explosive atmospheres can be found in Chapter 9 (Dangerous Substances and Explosive Atmospheres Regulations) of JSP 375, Volume 1.

Emergency arrangements

64. There **must** be suitable and sufficient arrangements in place for the rescue of persons in the event of an emergency (in accordance with Policy Statement 2), and these **must** be included within the SSW as a necessary control measure.

Note[6]: 'A major cause of death and injury in confined spaces incidents is due to ill-conceived attempts to save others who have collapsed or ceased to respond. You **should** not enter a confined space without ensuring you will not also be affected.'

65. As a part of the emergency arrangements, where the requirement to wear safety harnesses has been identified, all persons working within the confined space **must** be attached to an appropriate lifeline that feeds back to a staffed point outside the confined space.

[6] From Health and Safety Executive's Approved Code of Practice "Safe work in confined spaces", L101.

Communication

66. Effective primary and secondary means of communications **must** be part of the SSW.

67. Commanders and / or managers **must** make sure that all persons who may be affected by the work or whose actions may affect the work, are informed and all necessary control measures are identified, put in place and the effectiveness monitored.

Breaks

68. When assessing the activity to take place inside confined spaces, consideration **must** be taken for the length of time any individuals might be within the confined space, and therefore scheduling of appropriate breaks **must** also be considered. This could be for rest, food / water or even religious observance.

Policy Statement 5
All personnel **must** comply with all control of access restrictions of confined spaces at their workplace, and where applicable any relevant risk assessments and control measures for working in confined spaces.

69. Defence personnel **must** co-operate with commanders, managers and accountable persons in respect to work in and / or around confined spaces.

70. Defence personnel **must** comply with all administrative control measures put in place for the safe access and undertaking of tasks or activities within confined spaces, including any SSWs or PTWs and so on.

71. Defence personnel **must** correctly use or follow all implemented control measures, including the correct use of work equipment, PPE / RPE, communication tools, and so on.

72. Defence personnel **must** inform the relevant commander, manager and accountable person if they identify any changes to the risk assessment or if they consider that the risk assessment fails to identify appropriate control measures for a task or activity which requires access to a confined space.

Policy Statement 6
Confined space activities related to military training, exercises and operations **must** be proportionately planned, evaluated, risk assessed and executed. Consideration **must** be given to the possible lack of control in the confined space being worked in.

Operational Confined Spaces Training

73. Training for operational confined space working is essential and **must** be completed prior to conducting confined space activities in operational settings. For example, training that is provided by the Defence Explosive Ordnance Disposal (EOD), Munitions and Search (DEMS) Training Regiment.

74. Confined space training (such as the subterranean environment as one of eight urban terrain zones) may take place in areas that are not recognised MOD training areas such as the London Underground. These are areas that are not controlled by Defence, and those conducting the planning and ultimately the executing of the training **must** make sure to identify any gaps in knowledge, skills and experience of working in confined spaces and seek to fill this gap by working with relevant competent persons to make sure the training can be undertaken safely.

75. Operational activities in confined spaces, such as those conducted by Explosive Ordnance Disposal and Search (EOD&S) teams, **must** be conducted in accordance with any training received, and in accordance with any risk assessments and operational safe systems of work (OSSW).

76. It is possible that some operational confined space activities have to be undertaken without the benefit of effective planning or risk assessing prior to commencement (for example, if there is a credible risk to life by not undertaking the activity). In these instances, any training received on confined spaces working **must** be followed closely and all reasonable efforts made to keep the risk to those entering the confined space as low as reasonably practicable. If the risk is higher than the level of risk the commander, manager or accountable person is authorised to accept, the risk **must** be elevated through their Defence organisation's risk elevation process.

Risk Assessing Operational Activities in Confined Spaces

77. When risk assessing operational confined space activities, consideration **must** be given to the fact that this kind of activity may present many abnormal risk factors that operating in areas affected by conflict present, including explosive ordnance, remnants of war, enemy activity and so on. As such, risk assessments based on the available information may prove to be ineffective once work in a confined space affected by conflict commences.

Note: Further information on operational risks including where the Operational Commander requires Force Elements to operate outside their defined operating envelope can be found in Annex C (Duty of Care on Deployments) of JSP 815 – Defence Safety Management System.

78. Policy Statement 6 in Chapter 8 (Safety risk assessment and safe systems of work) of JSP 375, Volume 1 contains detailed information regarding OSSW's, risk assessments and safe working for operational activities, and **must** be followed when risk assessing and creating OSSW's for operational confined spaces activities.

79. It is likely that the military will, at times, be required to conduct search operations in confined spaces, in locations within the UK that are not under the control of Defence, but the Health and Safety at Work etc. Act 1974 and the Confined Spaces Regulations 1997 still apply[7]. In circumstances such as this, the activity **must** be proportionately planned and risk assessed, and advice from all relevant parties **must** be considered and where reasonable, implemented to make the activity as safe as possible.

[7] For example, as was required on the Diamond Bulker in 2000.

80. All operational confined space working **must** be dynamically risk assessed and recorded in accordance with Chapter 8 (Safety risk assessment and safe systems of work) and recorded following the activity, in order to effectively log and learn lessons from how the activity took place.

Operational Activities in Confined Spaces

81. As with occupational confined space working, operational confined space working **must** have a nominated Person in Charge (PiC) to supervise and control the work from outside the confined space.

82. Prior to the operational confined space activity taking place, the personnel undertaking the work **must** be effectively briefed by the nominated Person in Charge, with those working in the confined space to acknowledge what has been briefed.

83. During operational work in confined spaces, there may be a need for the activity / task to continue without pausing, stopping, applying further control measure or elevating the risk. Examples may include combat operations and other instances where any of these actions could cause a greater risk to life than continuing and it is not possible or proportionate to follow their Defence organisation's elevation process. When this is the case, then decisions made related to these circumstances **must** be reported at the earliest opportunity in line with the relevant Defence organisation's elevation process.

Overseas Operational Activities in Confined Spaces

84. When planning any operational confined space activities that will take place overseas, a suitable and sufficient med plan, that is proportionate to the level of risk that the activity poses, **must** be completed in accordance with Chapter 43 (Force Health Protection Aspects of Medical Planning), of JSP 375, Volume 1.

85. During deployed operations overseas, there may be several areas which have either been confirmed as a confined space, or suspected to be, but deemed to be a lower mission priority and as such, personnel will not be immediately available to control or operate (for example Search and Clear) within these areas. In instances such as this, those confined spaces (or suspected confined spaces) **must** be identified, recorded, and suitably cordoned off, including suitable signage (in all applicable languages if working with foreign forces), in order to place the area out of bounds, inform and restrict access to personnel.

Part 2: Guidance

This part provides the guidance and good practice that **should** be followed to help you comply with this policy.

Confined spaces management

Policy Statement 1
Accountable persons **must** make sure that all areas they are responsible for that are, or could reasonably become confined spaces are identified, recorded in a suitable register, and access to them is controlled.

1. Any identified confined spaces, or areas that could reasonably become confined spaces, **should** be included on any Establishment, Unit, Site or Platform Risk Register.

2. In accordance with Chapter 34 (4Cs System: Management of Contractors / Visiting Workers) of JSP 375, Volume 1, any confined space **should** also be identified on 4Cs Hazard Registers.

Policy Statement 2
Accountable persons **must** make sure that emergency arrangements for confined spaces are in place, communicated, implemented, tested, and reviewed regularly before any activities take place within them.

3. All emergency arrangements **should** be specific for each task or activity depending on the nature of the confined space, the risks identified and consequently the likely nature of an emergency rescue.

4. If it is intended as part of the emergency arrangements to involve the use of external agencies such as local Fire and Rescue Services and or specialist rescue groups to effect a rescue, they **should** be involved in the planning and provided with a copy of the plan. Where there is to be an involvement of outside agencies, the following issues **should** be included in the risk assessment:

   a. the time delay between contacting the emergency service and attendance at site;

   b. the effectiveness of contact arrangements;

   c. the ability of the emergency services to effect a rescue, for example, they may only have access to self-contained breathing apparatus which may limit accessibility; and

   d. levels of support and assistance required by the emergency services.

Risk assessment

Policy Statement 3
Commanders, managers and accountable persons **must** make sure that a suitable and sufficient risk assessment is carried out for all confined spaces activities under their area of responsibility. A Safe System of Work **must** be implemented and where required Permits to Work **must** be raised.

Suitability of Persons to do the Work

5. Persons conducting the work **must** be competent. Competence is generally attained by gaining practical experience of the type of work within confined spaces and can be aided with a suitable and sufficient level of training. Where risk assessment highlights constraints as a result of the physical layout, the suitability of the individuals build and / or fitness may need to be considered. The Person in Charge (PiC) **should** consider other factors – for example, claustrophobia or fitness to wear breathing apparatus – and medical advice on an individual's suitability may be needed.

6. In order to gain competency, the PiC **should** be suitably trained for working safely in and around confined spaces. There is training such as City & Guild courses[8] for confined space working that may be suitable, but any external training **must** be sourced and procured in line with specific Defence organisation policies.

Policy Statement 4
Commanders, managers and / or accountable persons **must** make sure that suitable and sufficient control measures are in place, and fully utilised when personnel are required to work in confined spaces.

Accessibility

7. An assessment **should** be made to make sure entrances and exits are big enough to allow workers wearing all the necessary equipment and PPE, and provide ready access and egress in an emergency, for example, the size of the opening may mean choosing air-line breathing apparatus in place of self-contained equipment which is more bulky and therefore likely to restrict ready passage. The assessment **should** consider the types of equipment used by emergency teams, especially local Fire and Rescue Services as it may impact on the minimum sizes of entrances and exits that they can operate in.

Testing the Air

8. Where the requirement to test the air is identified in the risk assessment, confined spaces **should** be checked by a competent person, before entry, to make sure that they are free from flammable and toxic gases or vapours, and that the atmosphere is fit to breathe. Testing **should** be carried out by a competent person using a suitable gas detector which is correctly calibrated. Records of the tests **should** be formally recorded, and the results passed to the PiC. Where the risk assessment indicates that conditions may change, or as a further precaution, continuous monitoring of the air will be necessary.

[8] City & Guilds 6160 Series of Training - Confined Spaces qualifications and training courses | City & Guilds

9. Testing for toxic or flammable atmospheres will not indicate oxygen deficient atmospheres, therefore testing regimes **should** include checking for suitable levels of oxygen. Atmospheres that are toxic, flammable or oxygen deficient may vary in different levels within the confined space; therefore, the testing regime adopted **should** take this into consideration and appropriate readings taken.

Provision of Ventilation

10. When assessing the levels of ventilation required, consideration **should** be given to the work activity to be performed and the equipment used, as they will have an impact on the rate of oxygen usage and possible build-up of toxic atmospheres. If it is not possible to increase the number of openings and therefore improve ventilation, mechanical ventilation may be necessary to make sure an adequate supply of fresh air. This is essential where portable gas cylinders and diesel fuelled equipment are used inside the space because of the dangers from build-up of engine exhaust. Carbon monoxide in the exhaust from petrol-fuelled engines is so dangerous that use of such equipment in confined spaces **should** never be allowed.

Provision of Breathing Apparatus

11. If the air inside the confined space cannot be made fit to breathe because of lack of oxygen or the presence of gas, fumes or vapours; positive pressure air fed masks **should** be used (see Chapter 15 (Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE)) of JSP 375, Volume 1).

Isolation of Equipment and Services

12. If there is the potential for gas, fumes, liquid or vapour and so on to be released into the confined space, the physical isolation of services (including electricity and water where appropriate) and so on **should** be a requirement of the PTW. In all cases a check **should** be made to make sure isolation is effective and does not compromise any safety critical systems.

Cleaning Confined Spaces Before Entry

If the risk assessment identifies that there is a risk of, for example, flammable / toxic gases or vapours being released in a confined space by the disturbance of residues and so on, while a task or activity is being undertaken, the confined space **should** where practicable, be cleaned prior to any person entering into it.

Policy Statement 5
All personnel **must** comply with all control of access restrictions of confined spaces at their workplace, and where applicable any relevant risk assessments and control measures for working in confined spaces.

13. When working in or around confined spaces Defence personnel have a duty to:

a. Take reasonable care for their own health and safety and that of others;

b. Fully co-operate with their commander, manager, and accountable person, and comply with any control measures that have been put in place;

c. Use all equipment such as tools, PPE and RPE safely and in accordance with instructions and training;

d. Report any hazards, defects with equipment or anything that they consider might lead to unsafe conditions;

e. Inform their commander, manager and accountable person if they identify any changes to the risk assessment or if they consider that the risk assessment fails to identify appropriate control measures; and

f. Not enter a confined space unless specifically requested to do so with a Permit to Work (PTW), where this is the case, they **must** follow the PTW procedures.

Operational confined spaces

Policy Statement 6
Confined space activities related to military training, exercises and operations **must** be proportionately planned, evaluated, risk assessed and executed. Consideration **must** be given to the possible lack of control in the confined space being worked in.

14. Standard Operating Procedures (SOPs) may serve as Operational Safe Systems of Work (OSSW) for confined spaces. Current examples include:

a. Cooking in tents in the Arctic. This activity is governed by specific instructions, is actively monitored, and both the cooking equipment and tents are assessed holistically to reduce risk to As Low As Reasonably Practicable (ALARP).

b. Routine activities on submarines. These are subject to the Regulations for Atmosphere Control in Submarines, which provide a structured framework for managing confined environments risks in such environments.

15. In both cases, the SOPs were designed to make sure that hazards are identified, risks are assessed, and appropriate control measures are implemented and maintained. These procedures are and similar SOPs **should** be:

a. Documented;

b. Communicated to all relevant personnel;

c. Regularly reviewed and updated;

d. Supported by training and supervision;

e. Meet the requirements of the confined space ACOP, JSPs and STANAGs; and

f. Reviewed for equality impacts and inclusive access, especially in training environments.

16. Any lessons learned from the dynamic risk assessments that are conducted during operational confined spaces activities **should** be used to help inform operational confined spaces training as appropriate.

17. Annex B provides a flowchart for operational confined spaces activities that may prove useful.

Retention of records

18. All records **must** be kept in accordance with Chapter 39 (Retention of Records) of JSP 375, Volume 1.

Related documents

19. The following documents **should** be consulted in conjunction with this chapter:

a. JSP 375, Volume 1;

(1) Chapter 1 - Emergency and Disaster Planning;

(2) Chapter 2 - Military and civilian workplace safety;

(3) Chapter 4 - Workplace Inspections;

(4) Chapter 8 - Safety Risk Assessment and Safe Systems of Work;

(5) Chapter 9 - Dangerous Substances and Explosive Atmospheres Regulations;

(6) Chapter 15 - Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE);

(7) Chapter 16 - Safety Occurrence Reporting and Investigation;

(8) Chapter 22 - Work Equipment;

(9) Chapter 30 - Permit to Work;

(10) Chapter 33 - Maintenance, Construction and Excavation;

(11) Chapter 34 - 4C System – Management of Visiting Workers/Contractors;

(12) Chapter 39 - Retention of Records;

(13) Chapter 41 – Heat Illness Prevention; and

(14) Chapter 43 – Force Health Protection Aspects of Medical Planning.

b. JSP 375, Volume 3;

(1) Chapter 2 – Common Requirements;

(2) Chapter 6 – Confined Spaces; and

(3) SRB – Confined Spaces

c. JSP 815 - Defence Safety Management System (Framework)

d. Other MOD Publications:

(1) JSP 364 – Joint Service EOD and Search Manual;

(2) JSP 850 – Infrastructure and Estate Policy, Standards and Guidance;

(3) JSP 975 – MOD Lifting Policy;

(4) BRd 875 (For use by the Royal Fleet Auxiliary); and

(5) DAP 106B-0002-1: Safety Precautions for the Maintenance of Aircraft Fuel Tanks – General and Technical Information (-1) (Available on DR TDOL Viewer).

c. Legislation and Guidance:

(1) Health and Safety at Work etc. Act 1974

(2) Mines and Quarries Act 1954

(3) Management of Health and Safety at Work Regulations 1999

(4) Confined Spaces Regulations 1997

(5) Dangerous Substances and Explosive Atmospheres Regulations 2002

(6) The Merchant Shipping (Entry into Dangerous Spaces) Regulations 1998

(7) The Diving at Work Regulations 1997

(8) HSE INDG 258 - Safe Working in Confined Spaces

(9) HSE L101 - Safe Working in Confined Spaces Approved Code of Practice