6 Confined Spaces

Contents

Preface

1. This Chapter of JSP 375 Vol 3 was prepared under the patronage of the Ministry of Defence (MOD) Director Health Safety and Environmental Protection (DHSEP) and is to be read in conjunction with JSP 375 Vol 3 Ch 2 - Common Requirements. These safety rules and procedures are mandatory for adoption by the Commanding Officer, Chief Executive or Head of Establishment, into their site safety plans, to secure compliance with the Health and Safety at Work etc. Act and to aid the safe conduct of works activities.

2. These safety rules and procedures, in conjunction with Chapter 2 - Common Requirements and the Health and Safety Commission Approved Code of Practice L101: “Safe working in confined spaces” addresses the responsibilities of the MOD under the Confined Spaces Regulations with regard to the design, construction, operation and maintenance of facilities under the ownership, in the widest sense, of the MOD.

3. The adoption of the document into the site safety plan will influence the conduct of many organisations and personnel, including those whose responsibilities are defined in Chapter 2 - Common Requirements, as follows:

a. Site Safety Officer;

b. Establishment Works Consultant (where this duty is extant);

c. Works Service Management organisation and other Maintenance; Management Organisation, other Contractors and Sub-contractors;

d. Facilities Managers, Project Sponsors, Project Managers and contractors for projects; and

e. designers of facilities and installations.

4. Technical advice and assistance on confined space working on the Defence Estate can be obtained from:

Senior Authorising Authority (Confined Spaces) (SAA (CS))
Defence Infrastructure Organisation
Kingston Road
Sutton Coldfield
B75 7RL

5. Amendments to this publication will be advised by a Defence Instructions and Notices or a Defence Infrastructure Organisation Property Directorate Policy Instruction issued across MOD. It is the responsibility of persons using this publication on any MOD Establishment to check with the Facilities Manager or Project Sponsor to ascertain if amendments have been issued.

6. JSP 375 has been devised for the use of the MOD and its contractors in the execution of works in relation to the Defence estate. The Crown hereby excludes all liability (other than liability for death or personal injury) whatsoever and howsoever arising (including, but without limitation, negligence on the part of the Crown, its servants, or agents) for any loss or damage however caused where the Standard (JSP 375 Vol 3) is used for any other purpose.

7. Compliance with either this Chapter or Chapter 2 - Common Requirements does not of itself confer immunity from legal obligations.

8. In the case of conflict between these safety rules and procedures and a Statutory Requirement becoming evident, the Statutory Requirement takes precedence and DSA and the SAA Confined Spaces are to be informed. Contact details are given below.

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Director General
Defence Safety Authority
Level 1, Zone J
MOD Main Building
Whitehall
LONDON
W1A 2HB

SAA CS
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9. These revised safety rules and procedures have been produced by a joint Defence Infrastructure Organisation / Ministry of Defence / Industry Working Group comprising representation from the following contributing companies, organisations and individuals:

Amey Defence Services
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Defence Infrastructure Organisation
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Landmarc Support Services
Morsafe Limited
Serco
Sodexo

Glossary of Abbreviations

ACoP – Approved Code of Practice
AE – Authorising Engineer
ALR – Authority Local Representative (Project Aquatrine)
AP – Authorised Person
CAE – Co-ordinating Authorising Engineer
CS – Confined Space(s)
CSAA - Co-ordinating Senior Authorising Authority
CSOR - Confined Spaces Operations Record
DSA - Defence Safety Authority
DIN – Defence Instructions and Notices
HSE – Health and Safety Executive
JSP – Joint Services Publication
MMO - Maintenance Management Organisation
MOD – Ministry of Defence
PD – Property Directorate
PI – Policy Instruction
PiC – Person in Charge
PPE – Personal Protective Equipment
PTW – Permit to Work
RIDDOR – Reporting of Injuries, Diseases and Dangerous Occurrence Regulations
RPE – Respiratory Protective Equipment
SAA – Senior Authorising Authority
SI – Standing Instruction
UK – United Kingdom

Introduction

General

10. These safety rules and procedures provide direction on how confined space working is to be managed on sites and in work situations, which are under the control of the Ministry of Defence (MOD). They are to be read in conjunction with Chapter 2 - Common Requirements, also published by the Ministry of Defence within Volume 3 of this Joint Services Publication, JSP 375 - MOD Health and Safety Handbook.

11. Work in a confined space is governed by legislation, most particularly the Confined Spaces Regulations. In summary, these Regulations:

a. prohibit entry into a confined space to carry out work unless there is no other reasonably practicable method to carry out the work;

b. require any such work in a confined space to be carried out in accordance with a Safe System of Work; and

c. require adequate arrangements to be made for the rescue of any person in the event of an emergency.

12. Authoritative guidance on methods by which compliance with the Confined Spaces Regulations may be achieved is given in the form of an Approved Code of Practice and Guidance published by the Health and Safety Executive (HSE ACoP L101) - Safe working in confined spaces. These safety rules and procedures are to be read in conjunction with the above ACoP.

13. These safety rules and procedures are produced to enable the Ministry of Defence to fulfil the requirement of the Confined Spaces Regulations Approved Code of Practice to operate under a system of work that is safe.

Aim and Purpose

14. This document provides a system for:

a. controlling work in a confined space at facilities for which the MOD has the responsibility for managing the risk;

b. minimising the risks associated with working in a confined space;

c. the appointment of competent persons to manage, oversee and perform any such work; and

d. the documentation for use in the application of these safety rules and procedures.

Policy

15. Compliance with these safety rules and procedures is mandatory throughout all establishments for which MOD has the responsibility for managing the risk. These rules are therefore mandated on all persons working on the design, construction, commissioning, operation, maintenance and de-commissioning of facilities containing confined spaces.

16. The Defence Infrastructure Organisation's Senior Authorising Authority (Confined Spaces) (SAA (CS)) must approve, in writing, any deviations from these safety rules and procedures that might be considered for a specific MOD Establishment.

17. These safety rules and procedures mandate the appointment of key individuals with specific responsibilities for the management and / or execution of work in confined spaces. These are summarised as follows:

a. the Work Team: a team of competent individuals who may be permitted to enter and carry out work in a confined space;

b. the Person in Charge (PiC): the designated person in charge of the Work Team;

c. the Authorised Person (Confined Spaces) (AP (CS)): a member of the Maintenance Management Organisation who gives authority to the Person in Charge / Work Team to enter a confined space. Only one AP (CS) is permitted to be on duty at an establishment or geographical location at any one time; and

d. the Authorising Engineer (Confined Spaces) (AE (CS)): the person who assesses the competency of the AP (CS) and otherwise implements, administers, audits and monitors the application of these safety rules and procedures.

18. In addition to the above further appointments are made in connection with the management and control of the overall Safe System of Work for confined spaces. These are defined in JSP 375 Vol 3 Ch 2 – Common Requirements.

19. Further guidance on the roles and duties of these appointments is given in Section 5, below.

Limitations

20. These safety rules and procedures are only designed for use on MOD establishments, both in the UK and overseas.

21. These safety rules and procedures do not apply to:

a. normal shipboard activities aboard a sea-going ship, carried out solely by the ship's crew under the direction of the master;

b. confined spaces below ground in a mine, for which the Mines and Quarries Act 1954 takes precedence; or

c. diving operations to which the Diving at Work Regulations 1997 apply.

22. Where a confined space, not under the control of the Petroleum AP, contains or has contained a petroleum product, the AP (Petroleum) must be requested to carry out a risk assessment to determine if a Permit to Work (Petroleum) is required. In the event that this is deemed necessary, the rules defined in JSP 375 Vol 3 Ch 5 - Petroleum take precedence.

23. Where the confined space is at height (e.g. a water tower) the AP (Working at Height) is to be consulted over the access arrangements. However, the lead AP for the task remains the AP (CS).

Roles and Duties

General

24. This Section summarises the roles and duties of those who are involved in the management of the Safe System of Work, as identified in paragraph above and in JSP 375 Vol 3 Ch 2: Common Requirements. It also identifies the specific and / or additional roles and duties connected with the management of work in confined spaces.

Authorising Engineer (Confined Spaces)

25. The role of the AE (CS) is to implement, administer, monitor and audit the adoption of these safety rules and procedures.

26. Duties of the AE (CS) include:

a. identifying the numbers of AP (CS) necessary for a site, group of sites / establishments or geographical area(s), to allow the effective adoption and implementation of these safety rules and procedures;

b. ensuring that candidates as AP (CS) are suitably trained prior to appointment / re-appointment;

c. interviewing candidate AP (CS) and, where successful, making recommendations for appointment;

d. reviewing the operational experience of appointed AP (CS) to ensure that competency is maintained and where necessary withdrawing the Certificate of Competence;

e. where there is a contract or licence / lease between the MoD and a party other than the MMO, advise the Head of Establishment that a written agreement is required defining demarcation of responsibilities between the parties involved, for management of confined spaces;

f. determining the key storage arrangements for confined spaces access keys for each site;

g. conducting audits of the Safe System of Work;

h. reporting any deficiencies in the Safe System of Work to the Maintenance Management Organisation (MMO);

i. ensuring that any accident or Dangerous Occurrence connected with confined space working are immediately notified to the SAA (CS);

j. investigating any reported Incidents and Dangerous Occurrences;

k. ensuring that any Defence Instructions and Notices, Policy Instruction, Health and Safety Notice or similar is brought to the attention of all AP (CS) for which the AE (CS) has responsibility;

l. providing general advice to AP (CS) in the execution of their work;

m. advising the MMO that all personnel responsible for issuing or managing work tasks should have suitable confined spaces awareness training;

n. Approve High Risk / Extreme Risk Confined Spaces work submitted by the AP(CS); and

o. Approve Standing Instructions submitted by the AP(CS).

Authorised Person (Confined Spaces)

27. The role of the AP (CS) is to oversee and authorise all confined space work activity that takes place in accordance with these safety rules and procedures.

28. Duties of the AP (CS) include:

a. ensuring, so far as is reasonably practicable, that all persons on site, comply with these safety rules and procedures;

b. reviewing all prospective confined space working and determining the appropriate level of control;

c. ensuring Confined Space Hazard Assessments are produced for each confined space within their area of appointment;

d. issuing Confined Space Hazard Assessments to the PiC to enable planning for confined space entry;

e. submitting High / Extreme Risk Confined Space Work Assessments to the AE(CS) for approval;

f. submitting Standing Instructions to the AE(CS) for approval;

g. ensuring that any equipment that is required for confined space work, and for which they are responsible, is maintained and kept in calibration, with appropriate records retained;

h. in conjunction with the PiC(CS), ensure that a Confined Space Work Risk Assessment and Safety Programmes Part 1, 2 and 3 for each confined space operation requiring a PTW is prepared and agreed (details in paragraphs 94 to 100);

i. in conjunction with the PiC(CS), ensure that a Confined Space Work Risk Assessment has been completed for any Standing Instruction issued and agreed. (details in paragraphs 78 to 80);

j. satisfying themselves that prospective confined space entrants are competent to carry out the work given to them;

k. witnessing and verifying the initial peak reading monitoring of the atmosphere (gas test) of a confined space and completing the appropriate section of the Permit to Work and a that Confined Space Gas Monitoring Record is completed where required;

l. issuing Permit(s) to Work for confined spaces;

m. withdrawing Permits to Work, if an unexpected hazard becomes apparent;

n. cancelling Permits to Work on completion of task;

o. Issuing, modifying, withdrawing and cancelling Standing Instructions;

p. informing the AE (CS) of any accident or dangerous occurrence relating to confined space working that occurs; and

q. informing the AE (CS) of any difficulties or unusual circumstances encountered or discovered during the execution of a confined spaces task.

Persons in Charge (Confined Spaces)

29. The role of the PiC (Confined Spaces) is to directly control the entry into a confined space but not enter the space.

30. The duties of the PiC (Confined Spaces) are to:

a. ensure that adequate emergency arrangements are in place before commencing the works;

b. ensure that all necessary safety equipment is available, safe and suitable for use prior to entry into the confined space;

c. ensure that all members of the Work Team are adequately trained and medically fit to carry out the work required. Evidence of the fitness and training of the Work Team must be provided to the AP (CS);

d. be fully conversant with the Safety Rule Book and able to ensure compliance with the conditions set out in the Permit to Work and agreed Safety Programme;

e. ensure that the Work Team are aware of the method of work set out in the agreed Safety Programme; the means of communication; the emergency arrangements and the requirements of these Safety Rule Book;

f. carry out a peak reading ‘pre-entry’ gas test and complete Confined Space Gas Monitoring Record where agreed;

g. in conjunction with the AP(CS), ensure that a Confined Space Hazards Assessment, Confined Space Work Risk Assessment and Safety Programmes Part 1, 2 and 3 for each confined space operation requiring a PTW is prepared and agreed (details in details in paragraphs 94 to 100);

h. in conjunction with the AP(CS), ensure that a Confined Space Hazards Assessment and Confined Space Work Risk Assessment for each Standing Instruction has been prepared and agreed. (details in paragraphs 78 to 80);

i. ensure that the only work carried out is that for which a Standing Instruction or Permit to Work is valid;

j. stop work and withdraw all personnel, tools, plant and equipment from the confined space if for any reason the conditions of the Safety Programme, Permit to Work or Standing Instruction cannot be met;

k. report to the AP (CS) any accident, dangerous occurrence, defects found or other exceptional incidents occurring during occupation of the confined space; and

l. always be present at the confined space work site when any work within the confined space is being carried out.

The Work Team

31. Members of the Work Team are to:

a. work to the PiC in accordance with the safety rules and procedures and any agreed Standing Instruction or Permit to Work;

b. take reasonable care in the promotion of the health and safety of themselves and of any other person who may be affected by their actions or omissions;

c. only use equipment for which they have been trained and in the manner in which they have been trained;

d. report to the PiC any defects found in the tools, plant and equipment to be, or being, used in the works; and

e. where more than one member of a Work Team enters a confined space, one person is to be nominated by the PiC to lead the entry team and be in direct control of their activities in the confined space. This function is separate from the role of PiC role.

General Arrangements

General

32. What does or does not constitute confined space working is dictated by a combination of factors. In deciding whether to impose “confined space working” controls, it is not sufficient to rely solely on the constraints of the area in which the work is to be performed. Locally “Confined” conditions may be created by the work activity itself, by the weather or local ambient temperature or other environmental factors.

33. This section therefore examines the nature of confined spaces and provides a system for initial classification. This classification then becomes the starting point for deciding on the appropriate regime for management of confined space operations.

Defining Features of a Confined Space

34. Under the Confined Space Regulations**,** a "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.

35. Within the Regulations, “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; and

(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.

36. A confined space therefore has two defining features:

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

b. secondly, there will be a reasonably foreseeable risk of serious injury from hazardous substances or conditions in the space or nearby arising from one of the Specified Risks.

37. The features of a confined space given in paragraphs 34 to 36 above will assist in identifying locations on any one establishment that may fall within the terms of the definition.

38. Given the above definition, it follows that, if no Specified Risk is present or created by the work activity, then the area is not categorised as a confined space. Recourse to these safety rules and procedures are not therefore required. However, a safe method of working is required.

39. In a space where there is a specified risk present or created by the work activity but is controlled under normal operating conditions, then an operating procedure should be developed and agreed by the AE and implemented by any person using the space.

Categorisation - Confined Spaces

40. Confined spaces are identified as those locations in which both criteria for a confined space are met, i.e. the area is substantially enclosed AND one or more of the specified risks is reasonably foreseeable.

41. The following are considered to be examples of a confined space:

a. all foul and storm water sewerage systems;

b. all wet well pumping stations;

c. all boilers / similar vessels into which man entry is required as part of an inspection;

d. underground service tunnels / cable ducts where no element of ventilation is provided;

e. reduced oxygen (hypoxic) environments;

f. solid fuel storage areas (i.e. wood pellets, coal, etc.); or

g. areas where an automated specified risk can occur (i.e. facilities with fire deluge systems);

h. in addition, the following are examples which may, for the duration of the task, be considered confined spaces:

(1) trenches;

(2) excavations;

(3) a room during spray painting;

(4) a contained area being cleaned using solvents; and

(5) a contained area where gas fumes and vapour arise from welding.

42. Note: The above list is not exhaustive and other locations, sites and installations may also fall under this categorisation.

43. The flow chart below is provided to assist in the determination of whether the area to be entered is, or could become, a confined space.

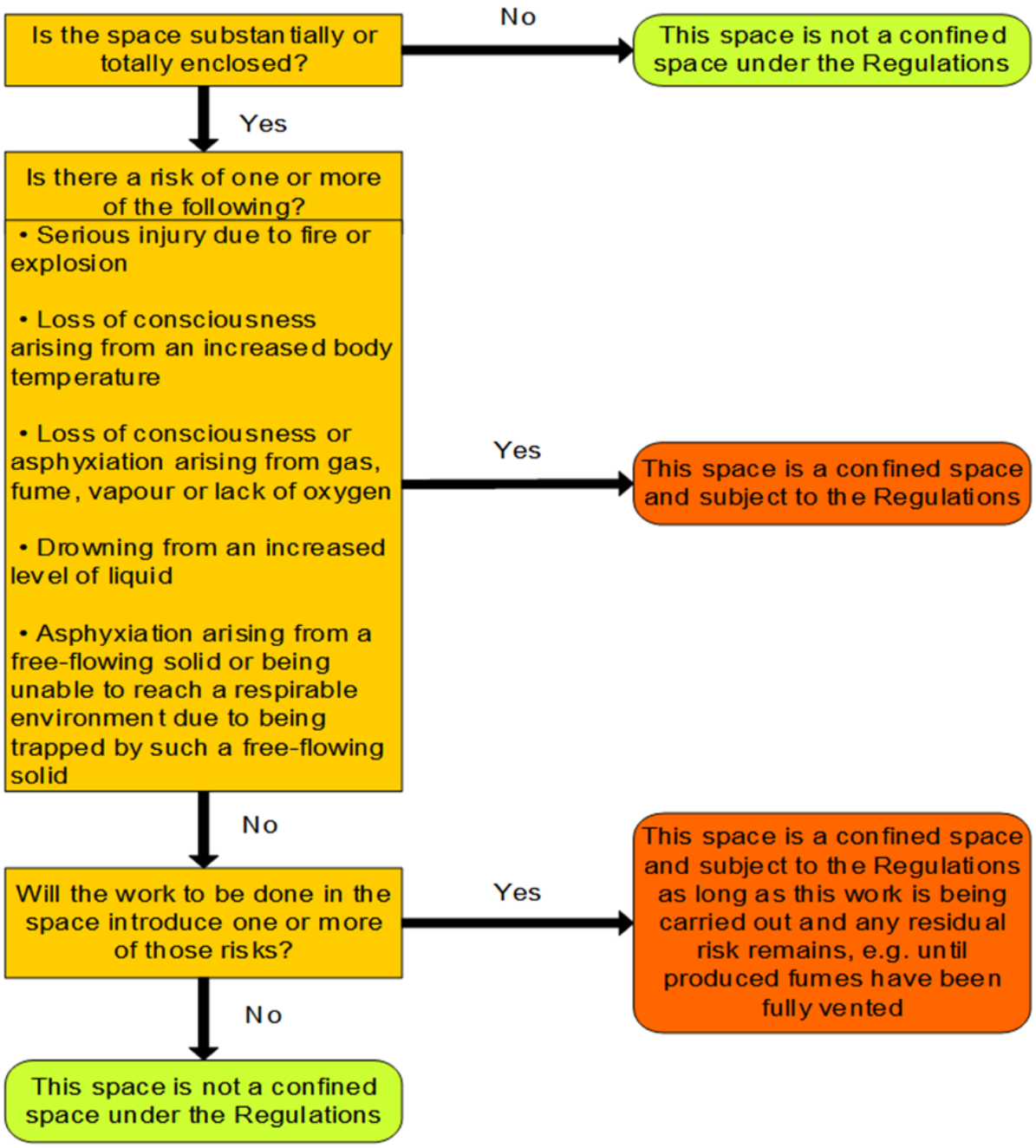


Figure 6 Is the area a confined space?

44. The Controls that cover entry into confined spaces are given in Section 8.

Safe Working Procedures

45. Guidance on the procedures to be adopted when working within a confined space is given in the Health and Safety Executive Approved Code of Practice, HSG ACoP L101, “Safe work in confined spaces”.

46. The possibility of exposure, to both employees and non-employees, in the vicinity of a confined space from vented gases must be taken into account. When carrying out purging / venting of a confined space precautions should be taken to protect those outside the confined space from exposure to toxic, flammable, irritating gases and vapours etc.

Management Arrangements

Confined Spaces Document Centre

47. For each site, location or geographical area, a Document Centre is required for the documents that support the management arrangements for confined spaces. These documents will include the following:

a. the Confined Spaces Register;

b. all CS Permit Pads;

c. Standing Instructions;

d. Safety Programmes;

e. Hazard Assessments; and

f. other standard forms.

48. The Document Centre is to be a lockable drawer, cabinet or series of cabinets which is to be kept locked when unattended.

Confined Spaces Register

49. The Confined Spaces Register is the principal source of management information for confined spaces within the site, location or geographical area. This file is to be maintained by the AP (CS).

50. The Confined Spaces Register will contain the following information:

a. an index;

b. the Confined Spaces Schedule of the confined spaces associated with each site;

c. a site plan / plans showing the reference number and location of the confined spaces;

d. the current Permit Pad;

e. copies of Risk Assessments and Safety Method Statements / Safety Programmes relating to previous confined space work;

f. written agreements defining the Demarcation between the MOD's and the Consumer's Equipment and their associated responsibilities indicating the boundaries, operation, protection and maintenance procedures for the equipment;

g. the Confined Spaces Operations Record;

h. any relevant DIO Policy Instruction, Practitioner Guides and Safety Alerts as directed by the AE (CS); and

i. any Inspection / Calibration Certificates for any equipment held on site belonging to the MOD.

51. The Confined Spaces Register, and the information contained therein is, and remains, the property of the MOD.

52. In addition to the Confined Spaces Register, the following information is also to be maintained in the Confined Spaces Document Centre. For the avoidance of doubt, this information will be provided by, and remains the property of the Maintenance Management Organisation (MMO):

a. a register of confined spaces competent persons;

b. a copy of the extant HSC ACoP L101;

c. a copy of the extant JSP 375 Vol 3 Ch 2 - Common Requirements;

d. a copy of the extant JSP 375 Vol 3 Ch 6 - Confined Spaces;

e. copies of Certificates of Competency / Appointment of AE (CS) and AP (CS);

f. copies of the AE (CS)'s Audit Reports; and

g. a copy of the Confined Spaces Safety Rule Book.

53. The Confined Spaces Register is to contain equipment inspection records and calibration certificates for confined space work equipment. Where the equipment belongs to MOD, this information remains the property of the establishment. Similarly, where the equipment belongs to the MMO or its contractors, the information belongs to the MMO.

54. On handover of contractual responsibility between MMOs, in addition to the documents covered in paragraph 51 above, copies of the most recent AE (CS)'s Audit Report including any related Action Plan are to be transferred to the incoming MMO for their use in preparing their safe system of work.

55. Guidance on the content of the documentation for inclusion in the Confined Spaces Register is given below.

Confined Spaces Schedule

56. The Confined Spaces Schedule is to record all pertinent details relating to the confined spaces where hazard assessment has identified that the use of control measures are required, at any one establishment. This will generally include information on:

a. unique reference number;

b. location;

c. general description; and

d. any known hazards related to each confined space.

57. The Schedule of Confined Spaces must be signed by the AE (CS) at each annual audit.

58. A sample format for the Confined Spaces Schedule is given in Part 2 - Model Forms and Signs; CS Form 4.1.

59. Both the Confined Spaces Schedule, and the Confined Spaces Register as a whole, will be live documents, designed to contain the best available knowledge at any one point in time. There is no requirement, in the preparation of these documents, for whole site surveys to be undertaken of each and every confined space. This information is to be added to the file on handover / takeover of major new works projects, or otherwise as discovered.

Confined Spaces Operational Record

60. For each site, location or geographical area(s), as determined by the AE (CS), a Confined Spaces Operations Record (CSOR) is to be prepared. This is to be in the form of a bound book, with pages sequentially numbered. The book is to be clearly and indelibly marked with the name of the site or group of sites to which the records relate.

61. A written entry is to be made in the CSOR of any activity undertaken in a confined space. Further guidance on the nature of entries is given in Section 8 - Confined Space Entry Procedures.

62. Entries in the CSOR are to be made in chronological order, each entry being ruled off with a horizontal line across the page. A sample format for the CSOR is given in Part 2 - Model Forms and Signs; CS Form 4.2.

Equipment Register

63. The maintenance of safety equipment is governed by various pieces of legislation (e.g. Provision and Use of Work Equipment Regulations; Personal Protective Equipment Regulations; Lifting Operations and Lifting Equipment Regulations). In summary these require employers to ensure that all such equipment is maintained, inspected and examined on a periodic basis.

64. Where the MMO keeps its own holding of safety equipment, it is to operate and maintain an appropriate inspection regime. Records of examinations will be retained for at least six years, or otherwise as directed by the contract. Records may be in any suitable format but shall be readily available for inspection and auditing.

65. A sample format for an equipment inspection register is given in Part 2 - Model Forms and Signs; CS Forms 4.3 and 4.4.

Key Register

66. Where Access Keys are held under the control of the AP (CS) 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. When issuing or returning a key, Authorised Key Signatories must enter in the Register:

a. details of the key;

b. name and signature of the person receiving or returning the key;

c. date and time of issue;

d. signature of the Authorised Key Signatory; and

e. date and time of return.

67. Key Lists and Key Issue Registers are to be kept in the Confined Spaces Document Centre. A sample format for a key list and key register is given in Part 2 - Model Forms and Signs; CS Form 4.5 and 4.5A.

Key Tallies

68. Keys to all confined spaces are to have a Confined Spaces Key Tally attached to them, advising of the confined space hazard, and directing the recipient to consult with the AP (CS) prior to attempting any entry. A sample format for a Confined Spaces Key Tally is given at Part 2 - Model Forms and Signs; CS Form 4.6 i).

Management of Remote Sites

69. Where sites do not have a resident AP (CS), the AE (CS) is to determine suitable arrangements for the management of any confined space working at that site. This will include the appointment of an AP (CS) for the remote site. The AE (CS) is also to determine the arrangements for custody of the documents relating to the remote site.

70. The Authorised Person(s) (Confined Spaces) appointed for the remote site is to draw up and maintain the following information:

a. a schedule of the confined spaces associated with the remote site;

b. a site plan / plans showing the reference number and location of the confined spaces at the remote site; and

c. a log of confined space entries effected at the remote site.

71. Other aspects of the Confined Spaces Register (e.g. Equipment Inspection Registers; Registers of Competent Persons) may contain information common to more than one site, where such resources are shared. Where this is not the case, separate, site specific Registers are to be maintained.

Safety Signs

72. Under the Health and Safety (Safety Signs and Signals) Regulations there is a requirement for an appropriate Safety Sign to be displayed, where a “significant risk” identified under a risk assessment cannot effectively be controlled by any other means.

73. Within the context of the management of confined spaces, Safety Signs play an important part. The most useful deployment will be on the door / entry hatch into the area affected, thus giving the necessary information to any would-be entrants.

74. The system of Key Tallies, discussed in paragraph 64 above may be deemed to satisfy the requirement, where access to a confined space is controlled by an Access Key.

75. Where adequate general instructions are given to all personnel who may gain access to manholes, warning notices at the entry points may be omitted, provided that access is controlled by suitable covers.

76. A sample format for Confined Spaces' Safety Signs is given in Part 2- Model Forms and Signs; CS Form 4.6 i) and 4.6 ii).

Safety Rule Book

77. The Confined Spaces Safety Rule Book has been prepared for the benefit of all persons involved in confined spaces work for which the MOD is responsible.

78. All persons issued with the Safety Rule Book are to have completed a short test on the contents. The AP(CS) is then to complete the front page which forms a certificate of issue. The Safety Rule Book is to be available for reference whilst undertaking confined space activities.

Confined Space Entry Procedures

General

79. This section describes the documents to be used and the procedures to be adopted when controlling entry into a confined space.

80. Entry into a confined space requires thorough preparation and may require the use of specialist equipment not available on the site concerned. It is therefore essential that planning for a confined space should be undertaken well in advance of the date of entry.

Hazard and Work Risk Assessment

81. Prior to any entry into a confined space, an assessment of the risk(s) is to be undertaken. This will consider both the existing known hazards associated with confined space and the nature of the work to be undertaken, including any materials to be used.

82. Further guidance on the conduct of risk assessment is given in the HSE Approved Code of Practice L101: “Safe work in confined spaces”.

83. A Model form to record the conduct and findings of the Hazard Assessment together with a Model form for the Work Risk Assessment are given in Part 2 - Model Forms and Signs; CS Form 5.1.

Determining the Level of Control

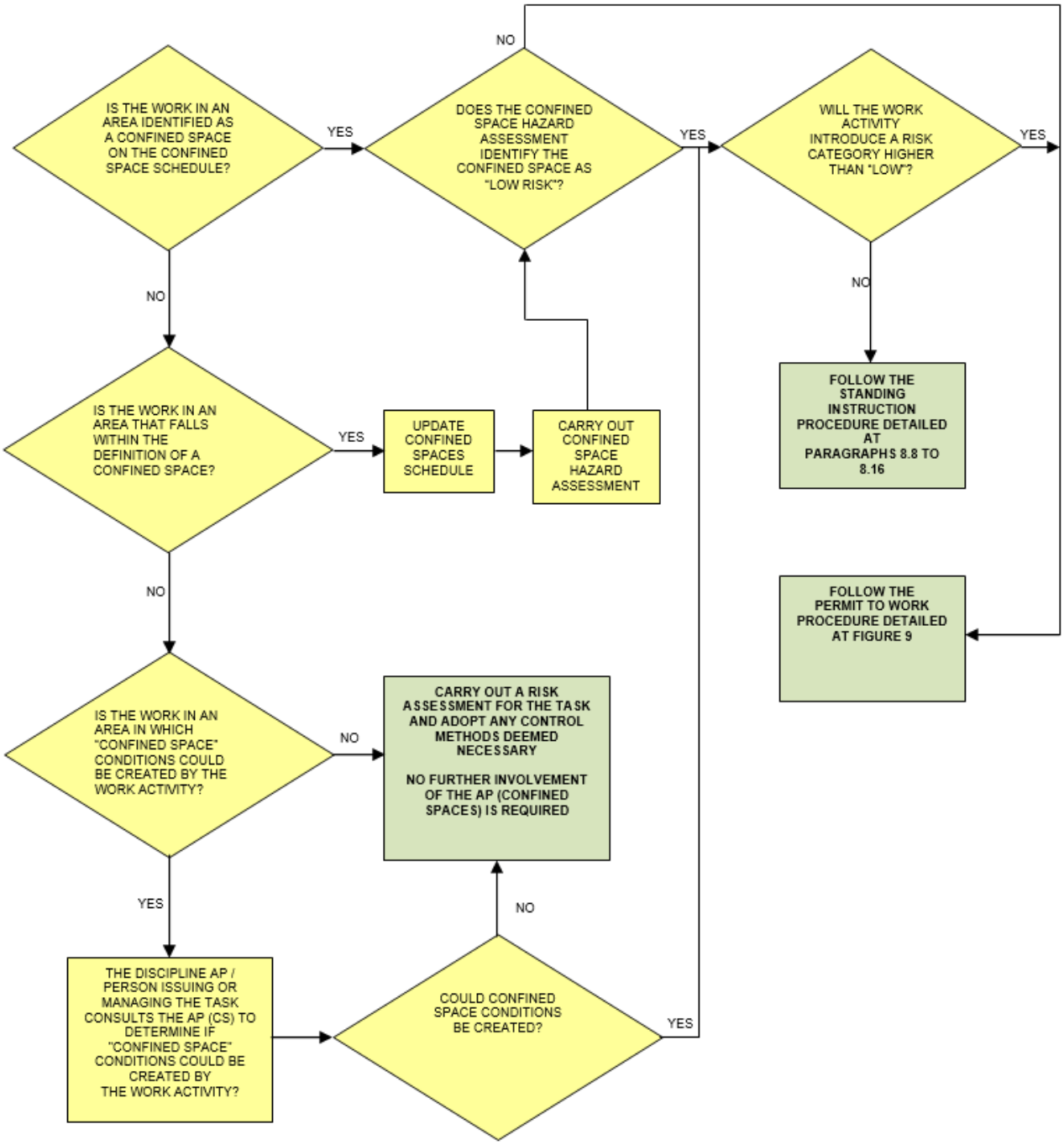
84. The Level of Control to be exercised by an AP (CS) over entry into a confined space will be determined by the findings of the Hazard Assessment and Work Risk Assessment and will be in the form of either:

a. Standing Instruction – To be used for low risk tasks (one off or repeat) having been approved by the AE(CS); or

b. Permit to Work and accompanying Safety Programme– used for all other confined space entries where a Standing Instruction is not an appropriate control measure with High / Extreme risk work being approved by the AE(CS)

85. Guidance on the appropriate level of control to be exercised is given below in Figure 8.

Figure 8. Determining the level of control for a Confined Space Entry



Standing Instruction (SI)

86. A Standing Instruction (SI) can be used for a one off task or repeat tasks and can be issued for a period of up to 12 months after which point it will be reviewed by the AP(CS) and reaffirmed by the AE(CS).

87. The AP(CS) is to complete a Hazard Assessment for the space and issue it to the PiC. Upon receipt the PiC is to complete a Work Risk Assessment and submit it for review to the AP(CS).

88. The AP(CS) is to confirm with the AE(CS) that a SI is the appropriate level of control for the proposed location and task and complete and submit a SI for approval.

89. If satisfied, the AE(CS) will approve the SI for issue by the AP(CS) to the PiC and Work Team who are to receive a brief / toolbox talk from the AP(CS) on the contents and sign the appropriate section to state they will abide by the contents of the SI.

90. The AP(CS) will indicate if the recipient is to be nominated as a PiC or not by completing the Yes / No box accordingly.

91. Modifications can be made to the recipients (i.e. additions or removal) of the SI by the AP(CS) without reference to the AE(CS) but, not the remaining contents.

92. On receipt of a SI, the PiC can complete the work identified in it as agreed without further recourse to the AP(CS) unless a problem is encountered.

93. Under a SI and based on the assessed risks, there may be a requirement to carry out confirmatory gas testing prior to each entry. For a one-off task, this can be recorded on the SI, but for multiple entries over a period of up to 12 months, a Confined Space Gas Monitoring Record is to be completed each time the space is entered. A sample format for a Confined Space Gas Monitoring Record is given in Part 2- Model Forms and Signs; CS Form 5.5 .

94. If work not identified in the SI is to be completed, the PiC is to liaise with the AP(CS) and determine if the proposed work can be included in the SI. This will need to be ratified by the AE(CS) who is to be consulted for any changes with respect to the limitations on a SI. Once agreed a new SI is to be issued.

Safety Programme

95. A Safety Programme is to be prepared for each entry into a confined space under a Permit to Work.

96. The Safety Programme differs from a Work Method Statement for a task or activity, in that it is concerned only with the safety measures that are required in order to allow the work to proceed.

97. Where the Safety Programme PART 2 is prepared by a Contractor / Company / Agency, it is to be checked, approved and countersigned by the AP (CS) before the issue of any Permit to Work.

98. Where the AP (CS) prepares a Safety Programme PART 2 it is to be checked and countersigned by the PiC.

99. The Safety Programme is to indicate:

a. a description of the confined space;

b. precise site details and access;

c. a description of the work to be carried out;

d. plant and equipment to be taken out of service (where applicable);

e. arrangements for isolation from gases, liquids and flowing materials (if applicable);

f. arrangements for isolation from mechanical and electrical equipment (if applicable);

g. the minimum number of personnel in the Work Team and competencies required including any specialist training requirements;

h. any Personal Protective Equipment (PPE), Respiratory Protective Equipment (RPE), or other equipment;

i. methods of ventilation, cleaning, and purging of the confined space;

j. the expected date on which the work is to commence and the proposed duration of the task;

k. a schematic diagram of the isolation, venting and testing arrangements (if applicable);

l. the method of communication;

m. the emergency procedures and rescue arrangements;

n. any other special instructions and / or safety measures; and

o. the name and signature of both the author and the AP (CS) reviewing the Safety Programme.

100. The Safety Programme is also to detail the sequence of operations to be undertaken that are necessary to safeguard the work. This will include the:

a. location at which each operation is to be performed;

b. identity of each valve or component part to be operated;

c. operation to be performed (e.g. testing of the atmosphere; fitting of locks, signs, or securing of keys);

d. need for any other Permit to Work, or Certificate of Isolation;

e. steps required for re-commissioning, where equipment and facilities have been isolated / made safe; and

f. steps necessary to restore the site to a safe operating condition on completion of the work activity.

101. The Confined Spaces Safety Programme is split into three Parts, 1, 2 and 3:

a. PART 1 – This is completed by the AP (CS) and details all aspects to be undertaken to facilitate safe entry into the confined space e.g. any isolations, control measures, etc.;

b. PART 2– This is completed by the individual or organisation requiring the confined space access and will detail the entry safety precautions and the equipment that will be used to carry out the entry safely. It will take full account of the Confined Space Hazard Assessment provided by the AP (CS) and the risk assessment covering the work to be undertaken in the confined space produce by the individual or organisation carrying out the work; and

c. PART 3 – This is to be completed by the AP(CS) on receipt of Part 2 and the Work Risk Assessment and is a sequence of how the work will be carried out safely.

102. All three parts to the Safety programme are to be completed and agreed by both the AP(CS) and the PiC. A sample format for a Safety Programme is given at Part 2 - Model Forms and Signs; CS Form 5.2.

Permit to Work

103. The Permit to Work procedure is the formalisation of the Safety Programme, not a replacement for it. The Permit to Work system does not, by itself, make a task safe.

104. A Permit to Work is to be used for control of entry into all confined spaces and for those tasks which introduce the possibility of a Specified Risk by the nature of the work carried out and thus create a confined space unless, the AE and AP have agreed it can be controlled by a SI.

105. A Permit to Work (Confined Spaces) is not to be issued for any areas of work for which another Permit to Work (Confined Spaces) remains in force.

106. Details on the method of issuing Permits to Work are given in Section 9, below.

107. A sample format for a Permit to Work is given at Part 2 - Model Forms and Signs; CS Form 5.3. To comply with these safety rules and procedures, the Permit used must provide a means of recording all the information specified on the Model Form.

Procedures for Entry Under Permit to Work

Preparatory Work

108. Prior to issuing a Permit to Work, the AP (CS) is to ensure that:

a. a suitable and sufficient Hazard Assessment and Work Risk Assessment is in place;

b. permission for the intended task has been obtained from the Property Manager / Facilities Manager and any other person responsible for the day to day operation of the facility affected by the intended work;

c. the proposed Work Team is suitably trained in confined space working and members are considered competent to carry out the allotted task;

d. the work team's employer has confirmed that they are medically and physically fit to carry out the confined space activity; and

e. other Authorised Persons and Responsible Persons etc. in other disciplines are advised of the works where applicable.

109. When the sequence of operations detailed in Part 3 of the Safety Programme is being carried out, the AP(CS) is to note the date and time of each operation and keep a record on file with the approved Safety Programme.

110. Where Safety Locks have been applied to protect / isolate a confined space, the AP (CS) is to place the keys to the Safety Locks in the appropriate Safety Key Box and secure both the locks. The Authorised Person of the appropriate discipline is to retain the Authorised Person's key and issue the Person in Charge's key to the Person in Charge. The Person in Charge is to retain the Person in Charge's key until the permit is cancelled.

111. Each Safety Key Box is to contain the Safety Keys associated with one permit only.

Assessment of Competence

112. The assessment of competence of the Work Team by the AP (CS) will come from a combination of the following:

a. being presented with evidence of suitable training of the Work Team members;

b. demonstrated capability and familiarity with the equipment to be used (e.g. the ability to carry out functional tests on any atmosphere monitoring equipment to be used);

c. satisfactory responses to questions on the general nature of confined space hazards; and

d. a professional approach and demeanour.

113. Where the AP (CS) is not satisfied that the Work Team is suitably competent, the work will not proceed further and a Permit to Work will not be issued.

Issue of Permit to Work

114. A Permit to Work is to be issued only at the point of entry and at the time of the work. A Permit to Work is not to be issued for a period longer than eight hours or beyond the end of the working shift, whichever is the shorter.

115. Before signing Part 1 of the Permit to Work the AP (CS) is to confirm the following with the designated Person in Charge:

a. the extent of the work to be carried out;

b. the confined space has been isolated and any associated Permit(s) to Work (and where necessary any Certificates of Isolation) have been obtained;

c. the safety arrangements at the area of work and at the points of isolation;

d. any special instructions and / or safety measures;

e. that the area of work is vented and purged and that it is safe for the work to proceed;

f. the peak gas readings within the confined space are within permissible limits; and

g. the “Standard Caution to Entrants” as written on the Permit to Work is understood by the PiC and Work Team.

116. The Authorised Person is also to deliver the “Standard Caution to Entrants”, as printed on the Permit, prior to signing and issuing the Permit to Work.

117. The designated Person in Charge is to be issued with a completed and signed copy of the Safety Programme, along with the Permit to Work. The purpose of this is to ensure that the work identified is carried out in accordance with the agreed safe method of working.

118. The AP (CS) is to use the original copy of the Safety Programme for the purpose of checking the isolation arrangements and that the agreed safe method of working is being followed.

119. The issue of every Permit to Work is to be recorded in the Confined Spaces Operations Record specific to the site.

Receipt of Permit to Work

120. Before accepting the Permit to Work the designated Person in Charge is to:

a. read the Safety Programme and associated Permit to Work;

b. understand the extent of the work;

c. understand the safety precautions;

d. understand the “Caution to Entrants”;

e. ensure that the Work Team members are able and capable of undertaking the

work;

f. demonstrate to the AP (CS) that the pre-entry, peak gas readings within the confined space are within permissible limits and continuous monitoring will take place whilst work is being undertaken; and

g. be prepared to undertake the work.

121. The designated Person in Charge is to sign Part 2 of the Permit to Work. The signatures on Parts 1 and 2 of the Permit to Work are to appear on both the original and duplicate pages. The acceptance of a Permit to Work makes the Person in Charge personally responsible for supervising the defined work.

122. Prior to issue of the PTW the AP (CS) and the PiC are to agree under what circumstances the PiC may suspend the work (i.e. toilet breaks, lunch break, etc.). Where any other reasons arise, the PiC are to contact and inform the AP(CS) the reason why.

123. The AP (CS) issues the original copy of the Permit to Work to the Person in Charge. The duplicate copy remains in the Permit Pad.

124. While the work is in progress, the Person in Charge is not permitted to leave the area of work, or to undertake any other work or tests. If there is a need for the Person in Charge to carry out any other unrelated duties, or leave the area of work, the procedure for Closure of the Permit to Work is to be followed or, for those situations previously agreed with the AP, suspend the works in accordance with paragraph 125.

125. If there are any adverse changes to the conditions in the confined space or the time limit on the Permit to Work has expired, the work is to be stopped and the reasons reported to the AP (CS). A note of any such instance is to be made in the Confined Spaces Operations Record.

126. When in receipt of a PTW, should the PiC need to leave the work area for any reason, they are to extract all operatives from within the space and either, leave a competent operative on watch to ensure safety is maintained in the work area or, if necessary and where practicable, secure the space suitably allowing for ventilation where necessary. NO further entry is allowed until authorised by the PiC.

127. In all instances where the PiC suspends the work, on return to the work area, they must confirm with the AP(CS) that the area remains safe to work in and they have carried out and recorded, on the Confined Space Gas Monitoring Record, another “pre entry” gas test. This can be repeated over the working day up to 8 hours and as agreed by the AP(CS).

128. A sample format for a Confined Space Gas Monitoring Record is given in Part 2-Model Forms and Signs; CS Form 5.5.

Closure of Permit to Work

129. On completion of the work, the PiC is to:

a. withdraw all persons, equipment, tools and instruments from the work area;

b. advise all persons under their control that they are no longer permitted to enter the confined space;

c. ensure, in conjunction with the AP (CS), that all facilities and equipment made safe / taken out of service are re-commissioned in the sequence agreed in the Safety Programme;

d. complete and sign Part 3 of the AP (CS)'s (Duplicate) copy of the Permit recording that the work has been completed; and

e. return the Original Permit to Work to the AP (CS).

130. The AP (CS) is to satisfy them self that the confined space entry has been completed satisfactorily in accordance with the Safety Programme.

Cancellation of Permit to Work and Filing of Records

131. The AP (CS) is to cancel the Permit to Work by completing Part 4 on the duplicate copy. The AP (CS) is also to transfer any supplementary information from the (surrendered) original copy onto the duplicate copy (such as the reason the work was stopped).

132. The AP (CS) is to arrange for the removal of any keys, locks, signs or other safety equipment used for the work. Where the associated Permits to Work, sanctions or other documentation (e.g. Certificates of Isolation) have been issued, the AP (CS) is to liaise with the Issuing Officer for the re-commissioning of any plant and equipment withdrawn from service.

133. The cancellation of the Permit by the AP (CS) signifies that they are satisfied that the site has been returned to a safe condition and, where appropriate, is safe to operate.

134. The original copy of the Permit is to be defaced with the word, "CANCELLED" written in large print, diagonally across the face of the document. Alternatively, a rubber stamp may also be used for the same purpose.

135. The cancellation of every Permit to Work is to be recorded in the Confined Spaces Operations Record specific to the site. The defaced original is to be filed in the Confined Spaces Register, along with the original Safety Programme and the Risk Assessment for the task. Any difficulties or unusual circumstances encountered or discovered during the execution of the task are also to be recorded in the Confined Spaces Operations Record specific to the site.

136. The Procedure for entry under a Permit to Work is summarised in Figure 9 - "Procedure for management of an entry into a confined space".

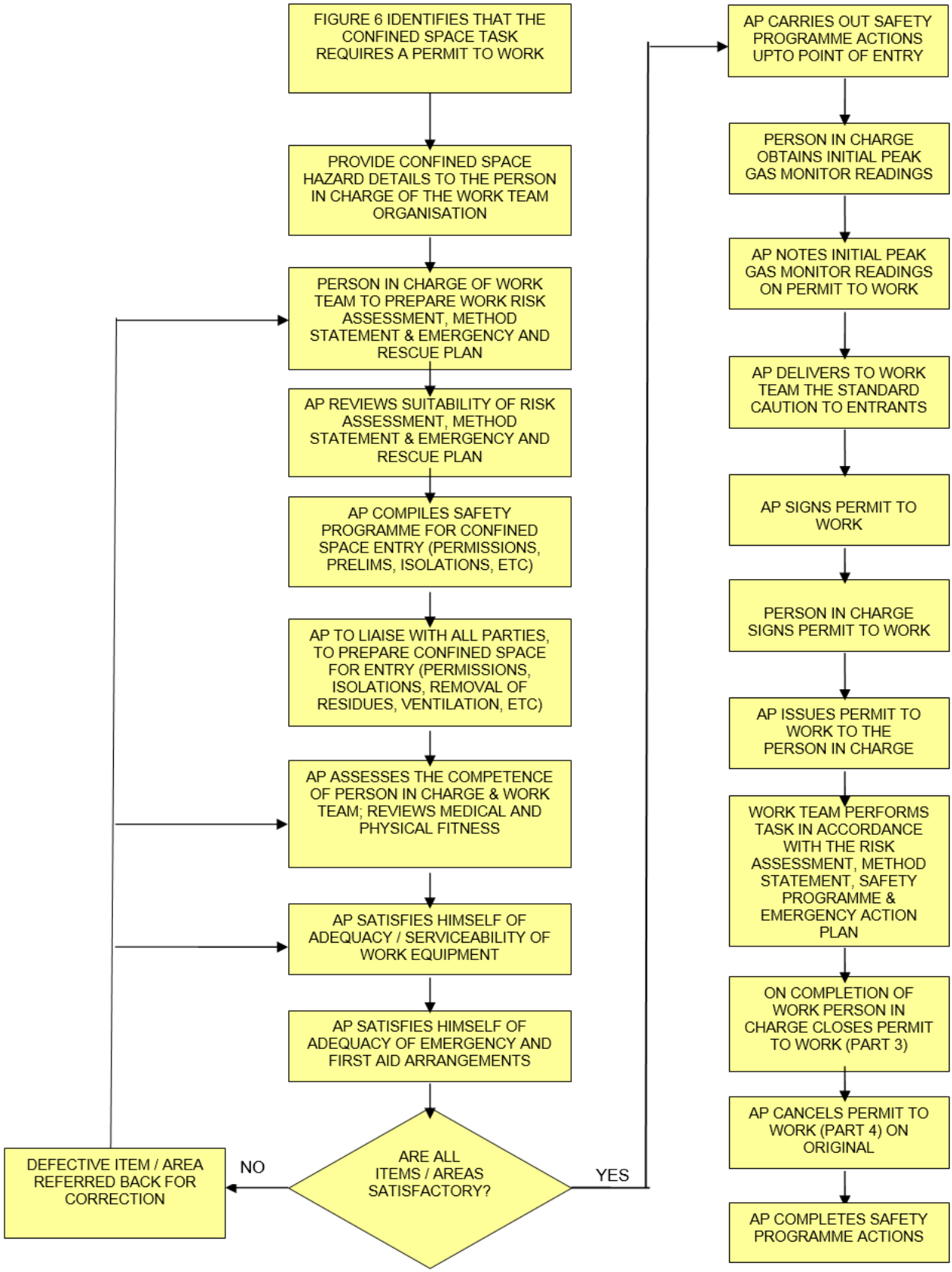


Figure 9 - **Procedure for management of an entry into a confined space**

Action on loss of documentation

137. If the PiC loses either the original Permit to Work, or their copy of the Safety Programme, a new Permit to Work and / or copy of the agreed Safety Programme is to be issued as soon as possible after discovery of the loss. Re-issue of a Permit to Work is to follow the procedures outlined in paragraphs 113 to 118 above.

138. If the circumstances so warrant, the AP (CS) may direct that work is to be stopped as soon as the loss is noticed, until such time as a new Permit to Work and, where necessary, a new Safety Programme is issued.

139. When the work has been stopped due to loss of documentation, the loss is to be recorded by the AP (CS) in the Confined Spaces Operating Record. Parts 3 and 4 of the duplicate copy are to be defaced with the words, “ORIGINAL COPY OF PERMIT LOST” written in large print, diagonally across the face of the document. Parts 3 and 4 of the duplicate copy are also to be signed by the Person in Charge and the AP (CS) respectively, to acknowledge the loss.

Ordering cessation of work

140. The AP (CS), or Person in Charge, may stop the work if for any reason he considers it necessary. When the work is stopped by the AP (CS), or Person in Charge, the Permit to Work is to be withdrawn and cancelled.

141. In circumstances where the AP (CS), or Person in Charge, stops the work, the Person in Charge is to:

a. withdraw all persons and, if safe to do so, all equipment, tools and instruments from the confined space;

b. advise all persons under their control that they are no longer permitted to enter the confined space;

c. take steps to prevent further access to the confined space and otherwise make the site safe;

d. report to the AP (CS) and complete Part 3 of the duplicate copy of the Permit to Work recording that the work has been stopped and that the point of work has been made safe; and

e. return the original Permit to Work to the AP (CS).

142. In the above circumstances, the AP (CS) is to:

a. complete Part 4 on the duplicate copy recording that work has been stopped;

b. record the reasons for the stoppage;

c. state what actions have been taken to make the site safe;

d. deface the original copy of the permit to work as described in paragraph 138 above; and

e. record the circumstances in the Confined Spaces Operations Record.

143. No work may recommence without production of a new Risk Assessment, Safety Programme and Permit to Work.

Training

Introduction

144. This Section deals with the technical training requirements for those involved in the conduct or management of work in confined spaces.

145. The requirements for other AP (CS) and AE (CS) training is given in JSP 375 Vol 3 Chapter 2 - Common Requirements and are not discussed further within this document.

Requirement

146. It is a pre-requisite for both the AP (CS) and AE (CS) candidates to have undertaken on-site familiarisation training and to be in possession of an up-to-date personal Logbook prior to attending the training stipulated below. In addition, they should be familiar with:

a. the concept of Risk Assessments, Safety Programmes and other safety documentation;

b. behavioural interviewing techniques; and

c. the safety documents held on the sites for which they are to be appointed.

Authorising Engineer (Confined Spaces)

147. An AE (CS) must achieve the same technical training standards as given in paragraph 144, below, for an AP (CS).

Authorised Person (Confined Spaces)

148. The AP (CS) training aims to ensure that, on completion, participants can demonstrate a thorough and practical understanding of the Safe Systems of Work and associated procedures contained within this Chapter of JSP 375 Vol 3.

Training Content

149. The training will cover, as a minimum:

a. a review of the definition of a confined space and types and nature of hazards associated with confined space operations and work within confined spaces;

b. practical and procedural aspects of the work of an AP (CS);

c. an explanation and demonstration of the use and the checking of gas detection equipment, including pre-entry peak readings;

d. an explanation and demonstration of the checking and use of a harness, safety lines, man-riding and fall-arrestor winches and tripod. Be aware of suspension trauma and the methods of treatment;

e. an explanation, demonstration and the practical of use of various types of escape and working / rescue breathing apparatus;

f. conduct of a series of Risk Assessments and preparation of Safety Programmes based on a simulated scenario. This will include the issue and cancellation of a Confined Spaces Permit to Work;

g. an exercise involving a vertical entry and exit of a manhole chamber or tunnel wearing Escape Breathing Apparatus and the appropriate personal protective equipment; and

h. an exercise involving an entry, traverse and exit of a confined space wearing Self Contained Breathing Apparatus (SCBA) and appropriate PPE. The exercise should involve a simulated rescue from a confined space.

150. In the case of refresher training, this shall be suitable and sufficient for the relevant AE / AP.

Learning outcomes

151. On completion of the training, candidates will be able to:

a. state and interpret the definition of a confined space;

b. describe the legislation governing entry into confined spaces;

c. describe the potential hazards and precautions to be taken to allow safe entry and occupation of a confined space;

d. recognise and classify confined spaces in accordance with these safety rules and procedures;

e. demonstrate familiarity with these safety rules and procedures and other relevant associated publications relating to confined spaces;

f. conduct risk assessments for typical tasks in confined spaces;

g. demonstrate the ability to assess and instruct the Person in Charge and Work Team and also to act as the Person in Charge;

h. prepare a Permit to Work, Safety Programme and other written documentation in accordance with these safety rules and procedures;

i. describe the roles, duties and relationships between those parties with operational appointments listed in Chapter 2 - Common Requirements and other disciplines covered by safety rules and procedures;

j. recognise the importance of familiarity with site installations any site-specific procedures and the site rescue services;

k. describe the operation, calibration and use of gas monitoring and detecting equipment;

l. describe the types, use and condition under which various categories of breathing apparatus and personal protective equipment is to be worn;

m. demonstrate a basic familiarity with various categories of breathing apparatus;

n. operate the recording and information systems listed in these safety rules and procedures and state how these are to be distributed and maintained and by whom;

o. describe the necessary hygiene procedures related to confined space working and a suitable standard for personal protective clothing;

p. describe what action to take when there are conflicting requirements listed in Statutory Regulations, these safety rules and procedures and any local rules;

q. describe the requirements for regular and effective maintenance on safety equipment use for confined space entry; and

r. risk assess and identify suitable arrangements, procedures and rescue equipment for typical confined space work situations.

Confined Spaces Work Team (including Person in Charge)

152. All members of a Confined Spaces Work Team are required to have received suitable and sufficient information, instruction and training to enable them to carry out their duties. In addition, those likely to be involved in an emergency rescue within a confined space should also be trained for that purpose Guidance on the content of such training is given in the Health and Safety Executive Approved Code of Practice, HSG ACoP L101.

153. The above training requirements may be satisfied by a combination of attendance on formal training, on-the-job training and on-site briefings and exercises.

154. As a guide, the table below may be used in assessing the adequacy of the training received in relation to the assessed task. Refresher training for all persons required to work in Confined Spaces is essential to avoid skill fade and shall be undertaken at least every three years in accordance with industry best practice.

TASK	TRAINING STANDARD
Work in an area requiring control	1 Day Confined Space Entry without Escape Breathing Apparatus Course covering: • Health & Safety Legislation • Identifying & Classifying Confined Spaces • Hazards & Risks Associated with Confined Space Working • Problem Atmospheres (Gases & Gas Monitoring) • Roles & Duties • First Aid, Medical & Training Requirements • Generic Safe Systems of Work • Introduction to Confined Space Equipment • Use of Confined Space Equipment & Practical Entry
Work in a confined space that warrants provision of Escape Breathing Apparatus	2 Day Confined Space Entry with Escape Breathing Apparatus Course (1 Day Refresher) covering: • Health & Safety Legislation • Identifying & Classifying Confined Spaces • Hazards & Risks Associated with Confined Space Working • Problem Atmospheres (Gases & Gas Monitoring) • Roles & Duties • First Aid, Medical & Training Requirements • Generic Safe Systems of Work • Introduction to Confined Space Equipment • Introduction to Escape Breathing Apparatus (EBA) • Practical Entry and Exit with EBA and Equipment
Work in a confined space that warrants provision of Self-Contained Breathing Apparatus	3 Day Confined Space Entry with Escape & Self-Contained Breathing Apparatus Course (1 Day Refresher) covering: • Health & Safety Legislation • Identifying & Classifying Confined Spaces • Hazards & Risks Associated with Confined Space Working • Problem Atmospheres (Gases & Gas Monitoring) • Roles & Duties • First Aid, Medical & Training Requirements • Generic Safe Systems of Work • Introduction to Confined Space Equipment • Introduction to Escape Breathing Apparatus (EBA) • Practical Entry and Exit with EBA and Equipment • Introduction to Self-Contained Breathing Apparatus (SCBA) • Practical Entry and Exit with SCBA and Equipment
Emergency rescue and recovery of casualties from confined spaces	3 Day Confined Space Rescue & Recovery Course covering: • Requirements for a Rescue Team Roles & Duties • Rescue Equipment & Checks • Setting up Site & Preparation • Introduction to Self-Contained Breathing Apparatus (SCBA) • Practical use of SCBA • SCBA Practical Rescue & Recovery Exercise (Side Entry) • SCBA Practical Rescue & Recovery Exercise (Top Entry) • First Aid Appointed Person Training • The use of Mechanical Resuscitation

Figure 10 - Person in Charge and Work Team Training Standards

Management Training

155. Any person who has duties connected with the management of work should possess a level of training commensurate with their role and responsibilities. As a guide, the IOSH "Managing Safely" course, or equivalent, may be reckoned to be an adequate level of training for the non-specialist manager.

156. For those whose duties particularly involve the management of work in or around confined spaces (e.g. Line Managers of Authorised Persons; Defence Infrastructure Organisation Facilities Managers; Authority Local Representatives for Project Aquatrine; Building Custodians / Officers and other personnel) training in "Confined Space Awareness for Managers" is considered essential. Line Managers are responsible for ensuring that staff and contractors under their control are equally made aware of the hazards presented by confined spaces.

Health Requirements

General

157. All workers who may have cause to enter a confined space are expected to have a reasonable standard of physical fitness. The level of fitness will depend upon the task to be performed.

158. For work in the close confines of a confined space, consideration must be given to the physical build of such workers.

159. A person, who is required to enter or work in a confined space, must be deemed capable to do so by their employer. If the employer is aware of any medical concerns about an individual, then medical advice should be sought before a decision is made about their suitability for work in a confined space.

160. The AP is to review the risk assessment for the work to ensure the employer has considered the physical aspects of the work.

Advisory Information

161. The following information is provided as advice to the employer, when considering an entrant's physical demeanour, prior to allowing entry to the Confined Space.

162. As a guide, an operative who regularly work in confined spaces and / or wears breathing apparatus should be free from:

a. history of fits and blackouts;

b. heart disease;

c. deafness and / or perforated eardrums;

d. Meniere's disease involving loss of balance;

e. tendency to claustrophobia;

f. severe or recurrent back pain;

g. severe visual impairment;

h. lack of sense of smell; or

i. any temporary disability which may restrict normal duties.

163. Any person, who is likely to come into contact with sewage and / or wastewater, must consider having inoculations against the bacterial and viral infections associated with this work. This may include:

a. Typhoid;

b. Tetanus;

c. Poliomyelitis; or

d. Hepatitis A.

164. Any person likely to come into contact with sewage, contaminated water, soil or infected animals must be made aware of the symptoms of Weil's disease (Leptospirosis) and be issued with a pocket-sized information card by the employer. The text for such an information card is given in Part 2 - Model Forms and Signs; CS Form 7.1.

165. A number of substances have been proved to cause dermatitis including: mineral oils (e.g. diesel and other fuels), certain industrial chemicals (e.g. alkalis, nickel salts, mercury compounds), insecticides, formaldehydes, synthetic resins, glass fibre, solvents and de-greasers (e.g. paraffin or turpentine), tar pitch or other coal tar products. Therefore, any person expected to work in a confined space must be made aware that personal hygiene measures, skin care and cleanliness greatly reduce the risk of bacterial and viral infections and industrial dermatitis.

Model Forms and Signs

Context

166. The following Model Forms and Signs have been developed for use with these safety rules and procedures as an aid to compliance.

167. Each of the Model Forms and Signs may be freely copied or otherwise reproduced in electronic or other printed format. However, where this is done, acknowledgement must be given to the Ministry of Defence as the source. The exception to this is Model Form CS 7.1 (Leptospirosis Information Card), where acknowledgement must be given to the Health and Safety Executive as the source.

168. Use of the Model Forms and Signs is not mandatory, in the implementation and operation of these safety rules and procedures. Companies, organisations and individuals who adopt these safety rules and procedures are therefore free to develop their own systems and method of compliance. However, where a company, organisation or individual chooses to adopt their own system, the information content of any documentation produced must not be less than that provided for in these Model Forms and Signs.

CONFINED SPACES SCHEDULE[1]			**Establishment:**			
CS Ref No	**Building No. / Location**	**General Description**	**Reasonably Foreseeable Specified Risks[2]**	**Other Hazards / Remarks**	**Access Key No.**	**Controlling Authority[3]**
A23	***EXAMPLE:*** *Behind 25m range*	*Septic tank*	*Ex – Methane; Tox – Hydrogen Sulphide; Drown – Variable levels*	*Leptospirosis; Hepatitis*	*N / A*	*Aquatrine IPT*

Notes:
1. For the definition and examples of Confined Spaces, refer to Section 3.3 of the text
2. Ex – Explosive; Tox – Toxic; Ox – Oxygen deficient / asphyxiant; Drown – Risk of drowning; Solid – Free flowing solid; Heat – High temperature, all followed by short description of the hazard
3. e.g. DIO Scotland Regional Prime IPT; DIO South West Regional Prime IPT; Project Aquatrine IPT; AP of another Discipline (i.e. AP Petroleum)

CONFINED SPACES OPERATIONS RECORD

for

Site / Establishment / Area:

This Confined Spaces Operations Record is to be kept in the Confined Spaces Document Cabinet

RULES FOR THE UPKEEP OF THE CONFINED SPACES OPERATIONS RECORD

1. Only one Confined Spaces Operations Record (CSOR) is to be in use for each site, location or geographical area, as determined by the AE (CS).

2. Entries are to be made in chronological order and are to be ruled off after each entry. Entries are to include:

- The issue and cancellation of each Permit to Work
- The loss of a Permit to Work
- The change in conditions inside a Confined Space, whilst a Permit is open
- The withdrawal of a Permit to Work
- Details of any Dangerous Occurrence connected with Confined Space working
- On arrival, the name of the person assuming AP (CS)'s duties, arrival and departure times and the reason for the visit
- On departure, an accurate record of the operations that have been undertaken, and a record of any important points that may be useful to other Authorised Persons who may be called to complete a programme of work.

This Operations Record remains the property of the Ministry of Defence and is to be retained for six years after the date of the last entry.

Date and Time of Operation	Event or Operation and Reason	Name, Signature & Designation

RULE OFF AFTER EACH ENTRY **Page No …… of ……**

EQUIPMENT REGISTER OF: (General nature of equipment)	

Item Description	Identification No.	Serial No.	How Marked

EQUIPMENT INSPECTION RECORD FOR: (Item Description)	
Serial / Identification No / Marking	
Inspection frequency	

N.B.: This form may not be used as a substitute for a Certificate of Calibration from a NAMAS accredited laboratory

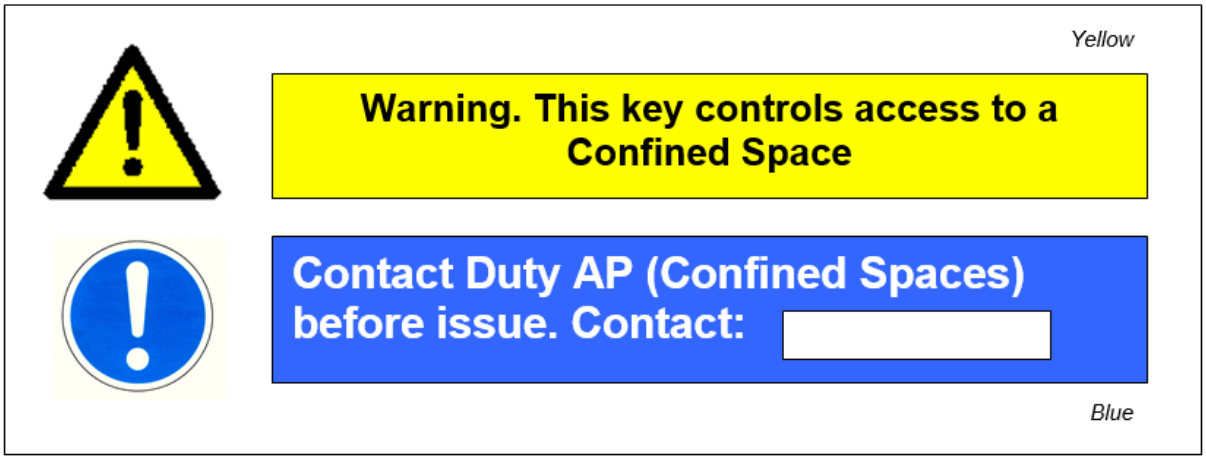
Date Examined	Name & Signature of examiner	Remarks	Next due

CONFINED SPACE KEY LIST FOR (Establishment)	

Key No.	Key Type	Quantity	To give entry into (location)	Date Received by AP	AP(CS) initials

KEY ISSUE REGISTER FOR (Establishment)	

Date & Time of issue	Key No.	To give entry into (location)	Name of person drawing key (Capitals)	Signature	Contact Tel. No	Date & Time of return	AP(CS) initials



i) Confined Space Key Tally

ii) Safety Sign to be posted (where practicable) at entrances to confined spaces

Table 1 Consequence Score (C) - Work along the columns to assess the severity of the risk on the scale of 1 to 5 to determine the Consequence score, which is the number given at the top of the column.

	Consequence score (severity levels) and examples of descriptors				
	1	**2**	**3**	**4**	**5**
	Negligible	**Minor**	**Moderate**	**Major**	**Catastrophic**
Impact on the safety of staff, public or subcontractors	Minimal injury requiring no/minimal intervention or treatment. No time off work	Minor injury or illness, requiring minor intervention Requiring time off work for >3 days	Moderate injury requiring professional intervention Requiring time off work for 4-14 days Increase in length of hospital stay by 4-15 days RIDDOR/agency reportable incident	Major injury leading to long-term incapacity/disability Requiring time off work for >14 days Increase in length of hospital stay by >15 days	Incident leading to death Multiple permanent injuries or irreversible health effects

Table 2 Likelihood Score (L) - What is the Likelihood of the consequence occurring?

Likelihood score	**1**	**2**	**3**	**4**	**5**
Descriptor	**Rare**	**Unlikely**	**Possible**	**Likely**	**Almost certain**
Frequency How often might it/does it happen	This will probably never happen/recur	Do not expect it to happen/recur but it is possible it may do so	Might happen or recur occasionally	Will probably happen/recur but it is not a persisting issue	Will undoubtedly happen/recur possibly frequently

Table 3 Risk scoring = Consequence x Likelihood (C x L)

	Likelihood				
Likelihood score	**1**	**2**	**3**	**4**	**5**
	Rare	**Unlikely**	**Possible**	**Likely**	**Almost certain**
5 Catastrophic	5	10	15	20	25
4 Major	4	8	12	16	20
3 Moderate	3	6	9	12	15
2 Minor	2	4	6	8	10
1 Negligible	1	2	3	4	5

For grading risk, the scores obtained from the risk matrix are assigned grades as follows

1 - 3	Low risk
4 - 6	Moderate risk
8 - 12	High risk
15 - 25	Extreme risk

Revised Risk Scoring is determined when control measures have been applied and are shown in column RR

CONFINED SPACE HAZARD ASSESSMENT			
CS Reference No:		**Extg Hazard No:**	
Date of Assessment:		**Work RA No:**	
Assessors Name:		**SI No (if applicable):**	
CS Location & General Description:		**SP No (if applicable:**	

The following is an assessment of the <u>EXISTING</u> Confined Space Hazards: **(not a definitive list – GUIDE ONLY)**	**Caused by /Source?**	**Likelihood (L)** (a)	**Consequence (C)** (b)	**Risk Scoring (R)** (a) x (b)	**Possible Control Measures**
Is there a risk of **Fire or an Explosion** from the presence of flammable substances?					
Is there a risk of **Toxic Gas, Fumes or Vapours** from the contents, residues or nearby processes (contamination)?					
Is there a risk of **Oxygen Deficiency** from the contents, residues or nearby processes (contamination)?					
Is there a risk of **Drowning** in liquids?					
Is there a risk of Entrapment or Asphyxiation in **Free Flowing Solids**?					

Is there a risk from the presence of **Excessive Heat** that can cause loss of consciousness?					
Are any mechanical isolations required prior to entry?					
Are any electrical isolations required prior to entry?					
Are the physical dimensions within permitted limits for access and egress?					
Could the space become contaminated by external influences?					
Will purging of the space be required prior to entry?					
Is there sufficient natural or mechanical means of ventilation?					
Is there a means of removing any contents of the space?					
Will gas monitoring be required prior to entry or during entry?					
Will PPE be required during entry?					
Will RPE be required during entry?					
Is there sufficient natural or artificial lighting?					

Are slips trips and fall considered a hazard?					
Are there any obstructions within the space?					
Are there any time limitations on entry to the site or the space?					
Is leptospirosis (weil's disease) prevalent?					
Are there any existing fire safety measures in place?					
Does any nearby plant or equipment affect the space?					
Are there any sharp objects or edges that may affect entry?					
Does entry involve Work at Height?					
Does entry involve Manual Handling?					
Any others…….					

This Existing Hazard Assessment has been reviewed and remains valid:						
Authorised Person (Confined Spaces)	**Name:**		**Signature:**		**Date:**	
Authorising Engineer (HIGH & EXTREME RISK ONLY)	**Name:**		**Signature:**		**Date:**	

CONFINED SPACE HAZARD ASSESSMENT			
CS Reference No:		**Extg Hazard No:**	
Date of Assessment:		**Work RA No:**	
Assessors Name:		**SI No (if applicable):**	
CS Location & General Description:		**SP No (if applicable:**	

Assessment of the WORK Hazards within the Confined Space are to be considered. Will the WORK introduce or create: **(not a definitive list – GUIDE ONLY).**	**Hazard and Source?**	Likelihood (L) **(a)**	Consequence (C) **(b)**	Risk Scoring (R) **(a) x (b)**	**Control Measures to be adopted**	Likelihood (L) **(a)**	Consequence (C) **(b)**	**Revised** Risk Scoring (RR) **(a) x (b)**	**Equipment to be used to implement control measures**
A risk of **Fire or an Explosion** from the presence of flammable substances?									
A risk of **Toxic Gas, Fumes or Vapours** from the contents, residues or nearby processes (contamination)?									
A risk of **Oxygen Deficiency** from the contents, residues or nearby processes (contamination)?									
A risk of **Drowning** in liquids?									

A risk of Entrapment or Asphyxiation in **Free Flowing Solids**?									
A risk from the presence of **Excessive Heat** that can cause loss of consciousness?									
Use of mechanical equipment?									
Use of electrical equipment?									
Access and egress restrictions into and within the space?									
Involve Working at Height?									
Involve Manual Handling?									
Involve specialist work equipment?									
Involve specialist PPE?									
Involve specialist RPE?									
Involve the use of COSHH substances?									
Affect the natural or mechanical means of ventilation?									

Affect the natural or artificial lighting?									
Slips trips and fall hazard?									
Time limitations in the space?									
The need for fire safety measures?									
Affect any nearby plant or equipment affect the space?									
Sources of ignition (hot works)?									
Any other…….?									

This Work Hazard Risk Assessment has been reviewed and remains valid:						
Authorised Person (Confined Spaces)	**Name :**		**Signature :**		**Date:**	
Person in Charge (Confined Spaces)	**Name :**		**Signature :**		**Date:**	
Authorising Engineer (HIGH RISK & EXTREME RISK ONLY)	**Name :**		**Signature :**		**Date:**	

CONFINED SPACE SAFETY PROGRAMME PART 1 - AP(CS)			
CS Reference No:		**Extg Hazard No:**	
Date Produced:		**Work RA No:**	
AP(CS) Name:		**SP No:**	
CS Location & General Description:			

Safety Programme Part 1 is to be completed by the Authorised Person (Confined Spaces) and provided to the individual or organisation proposing to enter the confined space to carry out the works. It is to be read and implemented in conjunction with Safety Programme Parts 2 & 3.	
DESCRIPTION & CONTENTS OF THE CONFINED SPACE:	
ROUTE & ACCESS TO THE CONFINED SPACE: **(identify any gates / doors / access covers to be released to gain access)**	
PRECISE WORK TO BE CARRIED OUT: **No other work is permitted without prior agreement with the AP(CS)**	
ISOLATIONS:	
Isolation measures 1: Inundation risks The following upstream, downstream and other sources of gas, liquid or free flowing solid are to be isolated for the duration of this task: (To include piped supplies of gas, liquid, fire drench systems etc. The precise point of isolation is also to be determined on a schematic sketch to be appended to this Safety Programme)	
Isolation measures 2: Energy system risks The following sources of electrical energy, stored pressure and potential energy are to be isolated for the duration of this task: (The precise point of isolation is also to be determined on a schematic sketch to be appended to this Safety Programme)	
SPECIFIC TO TASK & SITE SAFETY PRECAUTIONS: **(see also Safety Programme Part 2)**	

SKETCH OF CONFINED SPACE: **(To include: access points, isolations, venting arrangements and all other pertinent locations identified in the Safety Programme)**

This Safety Programme Part 1 has been reviewed and remains valid:						
AP(CS)	**Name:**		**Signature:**		**Date:**	
PinC(CS)	**Name:**		**Signature:**		**Date:**	
AE(CS) High & Extreme Risk only	**Name:**		**Signature:**		**Date:**	

CONFINED SPACE SAFETY PROGRAMME PART 2 - PiC			
CS Reference No:		**Extg Hazard No:**	
Date of Assessment:		**Work RA No:**	
Assessors Name:		**SP No:**	
CS Location & General Description:			

Safety Programme Part 2 is to be completed by the individual or organisation proposing to enter the confined space to carry out the works and is to be submitted to the AP(CS) for review. It is to be read and implemented in conjunction with Safety Programme Parts 1 & 3.		
DURATION & DATE OF THE TASK:	**Duration:**	**Proposed Date:**
(Max 8 hours):		

WORK TEAM REQUIRED:

(State the name of operative, any particular role in the Work Team and safety equipment to be used or carried)

Person in Charge: (may not enter the space)	

Name of Work Team Members:	**Indicate which roles they will fulfil & any specific RPE/PPE or specialist equipment they will require**											
	Safety Attendant	Winch operator	CS Entrant	First Aider	Fire Trained	Gas Monitor	IS Torch	CS Harness	Tripod & winch	Air Mover	EBA	SCBA

Identify any other PPE & RPE specialist equipment required for the task by the Work Teams not indicated above:	**Equipment**	**Qty**	**Provided For**

CONFINED SPACE SAFETY PROGRAMME PART 2 - PiC						
METHOD OF PURGING (IF APPLICABLE):						
METHOD OF VENTILATION:						
SPECIFIC TO TASK & SITE SAFETY PRECAUTIONS: **(see also Safety Programme Part 1)**						
COMMUNICATIONS:						
Communications to be used for task: (proven before work commences)						
Frequency of communications from PinC to Work Team:						
Emergency Evacuation Signal:						
RESCUE ARRANGEMENTS:						
Primary Method of Escape:						
Primary Method of Rescue:						
Means of contacting the Emergency Services:						
Telephone number for the Emergency Services:						
Rendezvous point for Emergency Services:						
Additional Equipment Required for Rescue:	**Equipment**			**Qty**	**Provided For**	
This Safety Programme Part 2 has been reviewed and remains valid:						
AP(CS)	**Name:**		**Signature:**		**Date:**	
PiC(CS)	**Name:**		**Signature:**		**Date:**	
AE(CS) High & Extreme Risk only	**Name:**		**Signature:**		**Date:**	

CONFINED SPACE SAFETY PROGRAMME PART 3 AP(CS)			
CS Reference No:		**Extg Hazard No:**	
Date of Assessment:		**Work RA No:**	
Assessors Name:		**SP No:**	
CS Location & General Description:			

SEQUENCE OF OPERATIONS

Safety Programme Part 3 is to be drafted by AP(CS) and completed accordingly by both the AP(CS) and the PiC(CS) and is to be read and implemented in conjunction Safety Programme Parts 1 & 2.				
Serial	**Location**	**Operation**	**Equipment required**	**Date / Time completed**

This Safety Programme Part 3 has been reviewed and remains valid:						
AP(CS)	**Name:**		**Signature:**		**Date:**	
PiC(CS)	**Name:**		**Signature:**		**Date:**	
AE(CS) High & Extreme Risk only	**Name:**		**Signature:**		**Date:**	

PERMIT TO WORK (CONFINED SPACES)

THIS PERMIT IS NOT VALID UNTIL PARTS 1 AND 2 HAVE BEEN SIGNED

Establishment:	Permit Serial No.
Serial No of Safety Programme (to be attached to both the Original and Duplicate of this Permit)	No.
GENERAL DESCRIPTION	
Identity and location of the Confined Space:	
Reason for Entry and Task to be performed:	

Name of Person in Charge of the Work Team:	Names of members of the Work Team authorised by this Permit	
Date & time Permit EXPIRES: (not > 8 hrs from time of issue)	Date:	Time:

SAFETY CHECK LIST: (to be completed by the Authorised Person (Confined Spaces))	AP CS Initials	Date
Appropriate hazard information on site hazards has been issued to the Work Team.		
A Risk Assessment and Safety Programme for the Task been produced.		
The Risk Assessment and Safety Programme are assessed as being adequate.		
The Person in Charge and Work Team are assessed as being suitably trained and competent for the Task.		
I am satisfied as to the suitability / serviceability of the work equipment.		
The Emergency Arrangements are assessed as satisfactory & communication links have been proven.		
The Duty Holder and my line manager have been informed of the intent to enter the Confined Space.		

RECORD OF INITIAL <u>PEAK GAS READINGS</u>		Oxygen (%)	Flammable (%)	H_2S (ppm)	Other
Serial No of gas Monitor:					

PART 1: ISSUE – To be completed by the Authorised Person (Confined Spaces)
I have witnessed the above test and declare that it is safe to work in the above confined space which has been isolated, purged and ventilated in accordance with the attached Safety Programme. I have explained the Safety Programme, demonstrated the extent of the work and the safety arrangements at the points of isolation and other places affecting the work to the Person in Charge. I have noted the above pre-entry Peak Gas Readings, as taken by the Person in Charge.

Signed:		Authorised Person (CS)	Time & Date:	**: hrs**
Name:		(Capitals)	Contact Telephone No.	
CAUTION TO ENTRANTS		**At the first sign of dizziness, eye irritation, headache, pulsating at the temples or nausea, vacate the Confined Space at once**		
CAUTION TO WORK TEAM MEMBERS OUTSIDE THE CONFINED SPACE		**If you suspect that an entrant has been overcome, do not attempt to enter unless you are trained and equipped. Initiate the Emergency Plan in the Safety Programme**		

PART 2: RECEIPT– To be completed by the Person in Charge:
I have carried out the above test and declare that all persons listed on this Permit are familiar with the safety and emergency arrangements; the above Cautions and are properly equipped. I am satisfied that the confined space has been isolated and is safe to work in. I accept responsibility for carrying out / supervising the work identified in this Permit in accordance with the Safety Programme and Confined Spaces Safety Rules & Procedures.

Signed:		Person in Charge	Time & Date:	**: hrs**
Name:		(Capitals)	Contact Telephone No.	

PART 3: COMPLETION – To be completed by the Person in Charge:
I declare that the work described in this Permit has been satisfactorily **completed* / stopped*.** That all persons, equipment, tools and instruments under my control have been withdrawn and the site has been made safe. I have recorded overleaf any changes that have occurred in the confined space, reasons for stopping the work (if applicable) and the action taken.

Signed:		Person in Charge	Time & Date:	**: hrs**

PART 4: CANCELLATION – To be completed by the Authorised Person (Confined Spaces) :
I declare that the work described in this Permit has been satisfactorily **completed* / stopped*;** that all actions on the Safety Programme are complete and that this Permit is cancelled. I have noted any changes reported overleaf and will take any necessary follow up action. I am satisfied that the site has been returned to a safe condition and is safe to operate.

Signed:		Authorised Person (CS)	Time & Date:	**: hrs**

Delete as appropriate

PERMIT TO WORK (CONFINED SPACES)
(Reverse Side of Duplicate)

Reasons for stopping the work (if applicable) and the action taken

CONFINED SPACE STANDING INSTRUCTION			
CS Reference No.:		**SI No.:**	
CS Location:		**Hazard Assessment No.:**	
General Description:		**Work RA No.:**	
Start Date:		**Expiry Date: (max 12 mths)**	

Statement:
The above identified location has been assessed as a Low Risk Confined Space where the working environment has adequate ventilation. Access into and egress from the space appears simple and unobstructed and there is no likely risk of flooding and the area remains safe under normal working conditions. Gas monitoring may be required to ensure the atmospheric conditions prior to and during the work and/or entry remain acceptable. It is to be read in conjunction with the Existing Hazard Assessment and the Work Hazard Risk Assessment.

Limitations on work activity (only the following activities are permitted):	

No other activity may take place without further reference to the Authorised Person (Confined Spaces)

Task Schedule (sequence of how the above are to be carried out safely including access/egress point/s):	

Record of initial <u>PEAK</u> Gas Reading (if monitoring is used as part of the assessed control measures - also refer to separate Confined Space Gas monitoring Record where applicable):

		Oxygen (%)	**Flammable (LEL%)**	**H2S (ppm)**	**Other**
Serial No of gas Monitor:					
PiC Name:		**Signature:**			
Company:		**Date:**		**Time:**	

Produced by AP(CS) Name		**Signature**		**Date**	
Countersigning (agreement) by all other Site Authorised Persons (Confined Spaces) on site (if applicable) I have reviewed the above Standing Instruction and consider it valid and fit for purpose:					
Reviewed by AP (CS) Name		**Signature**		**Date**	
Reviewed by AP (CS) Name		**Signature**		**Date**	
I have reviewed the content of this Standing Instruction and consider it valid and fit for purpose where the risks are low and the Standing Instruction is an appropriate control measure for the tasks identified:					
Reviewed by AE (CS) Name		**Signature**		**Date**	

I acknowledge the contents of this Standing Instruction, agree to abide by its contents and have received a brief/toolbox talk from the AP (CS) explaining the limitations and sequence of operations listed above. Any problems encountered will be reported to the AP(CS). I have carried out the above confirmatory atmospheric gas test (as indicated in the RA) and declare that I am medically and physically fit; not under the influence of alcohol or drugs; familiar with the safety and emergency arrangements and are properly equipped. I am satisfied that the space is safe to work in and I accept responsibility for carrying out/supervising the work identified in this Standing Instruction:

Name	**Signature**	**Date**	**PiC**		**Date Cancelled (by AP(CS))**
			Yes	**No**	

CONFINED SPACE GAS MONITORING RECORD

This monitoring record is to be used on the issue of a Permit to Work where further gas monitoring is required (following a suspension of the work) additional to the initial testing indicated on the Permit to Work. This monitoring record is also to be used where a Standing Instruction (SI) is to be issued for a period of time (up to 12 months) and gas monitor readings are to be taken prior to entry as a precautionary measure based on the assessed risk, this monitoring record is to be used as evidence that monitoring has taken place and is to be handed to the issuing AP(CS) when full or on cancellation of the SI.

Related Standing Instruction or Permit to Work No:	

Record of initial PEAK Gas Reading (if monitoring is used as part of the assessed control measures):						
		Oxygen (%)	**Flammable (LEL%)**		**H_2S (ppm)**	**Other**
Serial No of gas Monitor:						
PiC Name:		**Signature:**				
Company:		**Date:**		**Time:**		

Record of initial PEAK Gas Reading (if monitoring is used as part of the assessed control measures):						
		Oxygen (%)	**Flammable (LEL%)**		**H_2S (ppm)**	**Other**
Serial No of gas Monitor:						
PiC Name:		**Signature:**				
Company:		**Date:**		**Time:**		

Record of initial PEAK Gas Reading (if monitoring is used as part of the assessed control measures):						
		Oxygen (%)	**Flammable (LEL%)**		**H_2S (ppm)**	**Other**
Serial No of gas Monitor:						
PiC Name:		**Signature:**				
Company:		**Date:**		**Time:**		

Record of initial PEAK Gas Reading (if monitoring is used as part of the assessed control measures):						
		Oxygen (%)	**Flammable (LEL%)**		**H_2S (ppm)**	**Other**
Serial No of gas Monitor:						
PiC Name:		**Signature:**				
Company:		**Date:**		**Time:**		

Record of initial PEAK Gas Reading (if monitoring is used as part of the assessed control measures):

		Oxygen (%)	Flammable (LEL%)	H_2S (ppm)	Other
Serial No of gas Monitor:					
PiC Name:			Signature:		
Company:			Date:	Time:	

Record of initial PEAK Gas Reading (if monitoring is used as part of the assessed control measures):

		Oxygen (%)	Flammable (LEL%)	H_2S (ppm)	Other
Serial No of gas Monitor:					
PiC Name:			Signature:		
Company:			Date:	Time:	

Record of initial PEAK Gas Reading (if monitoring is used as part of the assessed control measures):

		Oxygen (%)	Flammable (LEL%)	H_2S (ppm)	Other
Serial No of gas Monitor:					
PiC Name:			Signature:		
Company:			Date:	Time:	

Record of initial PEAK Gas Reading (if monitoring is used as part of the assessed control measures):

		Oxygen (%)	Flammable (LEL%)	H_2S (ppm)	Other
Serial No of gas Monitor:					
PiC Name:			Signature:		
Company:			Date:	Time:	

Record of initial PEAK Gas Reading (if monitoring is used as part of the assessed control measures):

		Oxygen (%)	Flammable (LEL%)	H_2S (ppm)	Other
Serial No of gas Monitor:					
PiC Name:			Signature:		
Company:			Date:	Time:	

Introduction

1. Military Training Tunnels (MTTs) exist within OBUA and FIBUA at five locations in the UK; Salisbury Plain, Longmoor, Sennybridge, Catterick, and Stanford. These OBUA and FIBUA sites are in place to provide military personnel with realistic military training in preparation for operations.

2. Whilst each tunnel would be classified as a Confined Space in accordance with JSP 375 Vol 3 Ch 6 (Confined Spaces), if they were to be located other than in military training areas, it can be argued that due to their purpose built or adapted nature, "dry" condition and usage, so long as adequate control measures are in place in order to maintain safe use as a training facility the full rigours of JSP375 Vol 3 Chapter 6 need not apply.

3. Trials have established that the introduction of forced ventilation for the duration of the use of the MTT during a training exercise will provide a minimum of 15 air changes per hour, this is deemed to provide an "as far as reasonably practicable" mitigation to the Confined Space risks inherent with the MTT whilst being used for military training exercises.

4. To assist with the management of the training tunnels, this Annex has been prepared and should be read in conjunction with JSP 375 Pt 2 Vol 1 Chapter 40 (Safety in Military Training and Exercises).

ROLES AND RESPONSIBILITIES – OUTLINE SUMMARY

5. DIO Ops Trg - The Head of Establishment remains the Duty Holder, their roles and responsibilities are:

a. provide a safe environment in which training activity may be conducted;

b. inform End Users of the hazards that may be encountered whilst undertaking training activity;

c. establish the constraints within which training is to be conducted (Standing Orders); and

d. provide a Person in Charge of the facility.

6. End User - The End User remains responsible for the safe conduct of the training activity, their roles and responsibilities are:

1. assess the risks of carrying out the training activity in the knowledge the hazards present on site and the overall activity to be conducted;

2. draw up and implement an Exercise Action Safety Plan (EASP);

3. provide a safety pre-briefing to all exercise participants;

4. conduct Gas monitoring immediately prior to the entry;

5. provide a rescue team;

6. conduct training in accordance with the EASP; and

7. report any incidents or accidents that occur when facility is in use

7. Industry Partner (IP) - The IP will assist the Head of Establishment in the creation of a safe environment in which the military training will take place, their roles and responsibilities are:

a. maintain the training facility in a safe condition;

b. provide an Authorised Person (Confined Spaces) (AP(CS)) to carry out the specific tasks listed in this document;

c. provide a Facility Custodian (Range Warden) to carry out the day-to day tasks in preparing the facility for use and demonstrating the associated safety and rescue equipment;

d. ventilation / purging prior to the training activity;

e. handover to Exercise Director (MoD Form 906); and

f. receive back and making safe after the training activity.

GENERAL ARRANGEMENTS AND PROCEDURES

8. Safe use - The safe use of the training tunnels requires each of the above parties to carry out their respective roles and responsibilities and liaise with each other throughout the preparation for and conduct of a training exercise.

9. Sequence of operations - The following paragraphs outline the sequence of operations to be adopted for safe use for such facilities.

Preparatory Activity

10. The IP AP(CS) for the Establishment is to ensure that they have and maintain a detailed schematic of the training tunnel facility including, a plan identifying its location within the OBUA / FIBUA.

11. The AP (CS) is to ensure that all access / egress points to the training tunnel are secured with locks or have covers that can only be opened with proprietary keys.

12. Due to the nature of the facilities, and provided a General Instruction is in place stating that unsupervised entry is prohibited, it is considered that the requirement for Confined Space signage is not necessary.

13. DIO staff responsible for the training facility are to ensure that:

a. A copy of the schematic and location plan is included within the OBUA / FIBUA Standing Orders / Briefing Pack and that this Briefing Pack is issued to all prospective Military Units that request use of the facility. The provision of the schematic and plan will enable the Exercise Conducting Officer organising the

training activity to accurately assess the risks of the activity to be undertaken in the training tunnels and include them within his EASP;

b. the Standing Orders / Briefing Pack clearly articulates that the use of the training tunnels is to be limited to entry, crawl through and exit and that no incendiary or smoke making devices are permitted to be used. Additionally, it is to be clearly articulated that the training tunnels are not to be intentionally flooded;

c. the Standing Orders / Briefing Pack clearly articulates that unsupervised access is prohibited; and

d. the Standing Orders / Briefing Pack clearly articulates that no vehicles are to be left with their engines running within 50 metres of any training tunnel access points whilst the access points are open.

14. Having received a copy of the Standing Orders / Briefing Pack the Exercise Conducting Officer is to produce a risk assessment for the activities to be undertaken in the training tunnels and ensure that it allows for:

a. sufficient supervisory staff to monitor each access / egress point on the training tunnel;

b. counting in and out the participants undertaking the activity in the training tunnel;

c. suitable and sufficient emergency arrangements are in place for the period the training tunnel is in use including medical cover and a rescue party; and

d. the day before the training activity the Exercise Conducting Officer is to obtain the weather forecast for the training tunnel location. The forecast should be checked for heavy rainfall and hot weather, and / or any other factors, which may affect the conditions within the training tunnel, and review the risk assessment to ensure that these factors are sufficiently mitigated.

Operational activity

15. On the day of the training activity, the IP Facility Custodian is to ensure that the training tunnel access / egress points are opened, and the tunnels are vented using the fans, at least 30 minutes before the proposed time of the first entry and appropriate guarding is in place. The period of ventilation should be extended following prolonged periods of non-use of the training tunnels.

16. Prior to formal hand over of the training tunnel, to the Exercise Conducting Officer, the Facility Custodian or AP (CS) is to:

a. deliver a period of familiarisation training to the appointed OIC rescue party covering all aspects of the use of the rescue equipment; and

b. deliver familiarisation training to the Exercise Conducting Officer on the use of the gas monitor.

17. On handover, the Exercise Conducting Officer is to ensure Peak Gas Monitor tests are undertaken at each access / egress point of the training tunnel to establish that the

tunnel atmosphere does not contain; flammable gas, toxic gas, oxygen deficiency / enrichment, carbon monoxide and carbon dioxide.

18. These peak gas readings are to be entered into the facility diary[1] with the time readings were taken together with the signature of the person who has taken the reading. Following the taking of readings, the gas monitor is to be suspended within the training tunnel at the mid-point of the exercise activity.

19. If during the activity the training tunnels are left unused for greater than one hour, the Exercise Conducting Officer is to advise the Facility Custodian and further venting and Peak Gas Monitor reading tests are to be taken at all access / egress points to the training tunnel. These peak readings are to be recorded in the facility diary together with the time taken and the signature of the person taking the readings.

20. On completion of the training activity within the training tunnel the Exercise Conducting Officer is to:

a. ensure the training tunnel is clear of personnel and equipment;

b. inform the Facility Custodian that they no longer require the training tunnels and that they are formally handing them back; and

c. Inform the Facility Custodian of any faults, incidents or unusual occurrences that have arisen during the use of the training tunnel.

21. Upon notification of hand back, the Facility Custodian is to:

a. ensure that the access / egress points to the training tunnels are closed and secured and that the guarding is removed and stored;

b. record, in the facility diary, the time the training tunnel was handed back;

c. record any faults, incidents or unusual occurrences within the facility diary; and

d. raise any corrective action paperwork to the relevant party.

ARRANGEMENTS FOR USE BY THIRD PARTIES

Non-Military Use of Training Tunnels

22. The training tunnels on the Estate offer a realistic yet reasonably benign environment in which other non-Military organisations may wish to carry out training. This may include other authorised user such as police search teams; fire services and emergency / rescue organisations.

23. The conditions under which such facilities are let out for use are covered by JSP 907 –Use of Defence Training Estate The following paragraphs confine themselves to setting out the safety arrangements and procedures for such use.

[1] The Facility Diary may take the form of MOD FORM 906.

24. The principal to be observed in considering any such request, is that the proposed user organisation must be able to demonstrate an operational need to carry out activity in a confined space.

25. Due Diligence Review - Where a third-party organisation approaches the Facility Custodian for use of the training tunnel they are to request:

a. details of the organisation requesting use of the training tunnel.

b. details of the proposed activity to be undertaken in the training tunnel and the number of participants in the activity.

c. details of the organisation's experience and management of Confined Spaces and the procedures they intend to adopt whilst using the facility.

d. a risk assessment covering the proposed activity to be undertaken. (To expedite the request the Facility Custodian may wish to send a standard Confined Spaces risk assessment template to the organisation).

26. Assessment - Upon return of the above documentation the Facility Custodian, together with the Authorised Person Confined Spaces, are to review this and assess:

a. the competence / standing of the organisation requesting the use of the training tunnel;

b. the proposed activity to be undertaken in the training tunnel and whether it can be safely accommodated;

c. the numbers of participants that will be using the training tunnel and whether are sufficient supervisory members in the proposed party; and

d. the suitability of the management and risk assessment provided given the above factors.

27. Where the Facility Custodian and Authorised Person Confined Spaces agree that the requesting party have provided adequate documentation and are sufficiently competent, they may pass responsibility for the safe use of the facility over to the organisation for the duration of the third-party use.

28. The use of the facility is to be licensed by DIO staff using a DIO licence. This document may be taken as a temporary demarcation agreement between the establishment and the third-party user. Documentation issued with the licence is to clearly articulate that the responsibility for the confined space (Training Tunnel) rests with the Third Party for the duration of their activity.

29. Where the Facility Custodian and Authorised Person Confined Spaces agree that the requesting party have not provided sufficiently robust documentation and are not sufficiently competent, they are to decline the request for the use of the training tunnel.

30. Arrangements for use by the maintenance management organisation**.** For any inspection or maintenance activity undertaken by the IP, the AP (CS) is to control entry into the training tunnel by means of a Permit to Work using the procedures laid down in JSP 375; Vol 3; Ch 6 (Confined Spaces).