

# HEALTH & SAFETY GUIDE

## HSG0509 Fitness and Aptitude Assessment Guidelines for Working in Confined Spaces



### 1.0 SCOPE

This document applies to every examining health professional who conducts fitness and aptitude fitness assessment for Sydney Water employees working in confined spaces. Each referring manager/supervisor or equivalent must ensure that a fitness assessment be obtained in accordance with these guidelines.

Contractors to Sydney Water are responsible for certifying that their personnel have adequate fitness to work in confined spaces in accordance with these guidelines.

The issues about “unfit for work” and rehabilitation of injured or unfit workers are excluded from the scope of this document.

### 2.0 PROCESS

The process is a screening protocol and persons are assessed every 12 months unless otherwise indicated by the health professional. Table 1 below details the process for obtaining a fitness assessment and the responsibilities of the manager/supervisor, employee and examining health professional.

**Table 1 – Process and Responsibilities**

<b>Step 1:</b> Referring Manager/Supervisor	Organise a fitness health assessment appointment for their employee/s.
	Complete referral form (Appendix 1) and forward to the examining health professional before the appointment.
	Give employee a package including Employee Information Sheet, Medical History and Consent Form (Appendices 2, 3 & 4).
	DO NOT send persons restricted to “suitable duties” involving mobility or lifting restrictions to confined space fitness assessment or confined space training.
	Use the injury management process for work related injuries where necessary for “unfit to work” confined space workers.
	For on site assessment - must provide privacy for the performance of the test, a hand basin with hot and cold running water, a desk and chair, clear floor area of at least 10 sq metres, and a clear length of 4 metres for vision testing. A photocopier is also desirable.
<b>Step 2:</b> Employee/s	Read and complete the questionnaire (Appendix 4) BEFORE ATTENDING THE APPOINTMENT and take with them to the examining health professional. (The examining health professional may need to guide or assist with completion of the questionnaire if literacy a problem).
	MUST take ID, all medications or a list of medications, any relevant medical reports if applicable, reading glasses and hearing aids (if any) to the appointment.
<b>Step 3:</b> Examining Health Professional	Check referral form (Appendix 1) has been received from manager or supervisor.
	Witness and sign employee Consent Form (Appendix 3) DO NOT conduct the assessment without the appropriate documents including a signed consent form.
	Conduct required health assessment. Review medical history (Appendix 4) and complete medical examination and step tests forms (Appendices 5 & 6).
	Certify employee fit (medical certificate - Appendix 7) or unfit for confined space work and send copy of medical certificate directly to the referring manager/supervisor.
	Retain completed forms (Appendices 3, 4, 5, 6, and 7) as record of health assessment and aptitude test.

### 3.0 Typical Task Demands, Health Criteria & Relevant Tests

Table 2 below summarises typical task demands, related health criteria and outlines how fitness for those tasks may be evaluated by the examining health professional.

**Table 2 Typical Task Demands, Related Health Criteria and Test/s**

Task Demands	Related Health Criteria	Test/s
1. Climbing ladders up to 15m in height or climb multiple flights of stairs.	Needs adequate aerobic fitness, adequate lower limb and upper limb strength, adequate body flexibility, adequate balance.	<ul style="list-style-type: none"> <li>Step test (endurance)</li> </ul>
2. Having to lower and raise a worker into a confined space with a rope and harness. (note: rope and harness system includes ratchet to prevent slippage).	Needs adequate grip and upper limb strength to pull on a 10 mm diameter rope with a force of more than 25 kg.	<ul style="list-style-type: none"> <li>History of musculoskeletal disorders or cardiorespiratory disorders</li> <li>General mobility of spine and limbs</li> <li>Grip strength</li> </ul>
3. Having to be the worker lowered into a confined space with a rope and harness.	Worker needs to weigh less than 130 kg as when equipment is added (another 15 kg) the workers' weight becomes unmanageable for other workers. May also be an issue of safe loading of the equipment.	<ul style="list-style-type: none"> <li>Weight &lt; 130 kg</li> </ul>
4. Communicating via appropriate means	Needs adequate hearing skills	<ul style="list-style-type: none"> <li>'Whisper Test'</li> </ul>
5. Manoeuvring in cramped conditions while using self contained breathing apparatus	Needs adequate body flexibility, adequate physical size and weight, absence of claustrophobia.	<ul style="list-style-type: none"> <li>History of claustrophobia</li> <li>Spinal mobility</li> <li>Forward flexion</li> <li>Extension</li> <li>Trunk rotation</li> <li>Squat</li> </ul>
6. Wearing of respiratory protection (eg. self-contained breathing apparatus).	Must be able to maintain positive seal,	<ul style="list-style-type: none"> <li>Spirometry</li> <li>History of respiratory disorders</li> <li>General observation of beards, facial deformities</li> <li>Visual acuity without glasses</li> <li>Need for glasses for distance or near vision</li> </ul>
7. Minimisation of need for rescue because of medical reasons.	Absence of medical condition that might lead to sudden loss of consciousness.	<ul style="list-style-type: none"> <li>History of heart/lung/neurological conditions or any other medical conditions that could cause sudden incapacity</li> <li>Cardiac and stroke risk score testing only if concerns/ any abnormalities found.</li> </ul>
8. Aptitude for confined spaces	Absence of significant claustrophobia, anxiety disorders, or other significant psychiatric disorders or phobias. Absence of significant medical conditions (Ability to complete confined spaces training).	<ul style="list-style-type: none"> <li>'Depression and Anxiety test' questionnaire.</li> <li>History of psychological problems</li> <li>Evidence of any behavioural abnormalities on assessment</li> <li>Signed declaration</li> </ul>

### 4.0 Fitness and Aptitude Assessment

Assessments are to be documented on the examination forms found in Appendices 5 and 6. The examining health professional undertaking the fitness and aptitude assessment should take into account the related health criteria in table 2 as well as what has been detailed below:

Criteria 1 of table 2 has included a three-minute step test because it assesses both cardiovascular fitness and lower limb strength, and there is some correlation with the requirement to climb steps in the confined space. Prior to commencing the three-minute step test the following is required:

- The employee must be given the information sheet (Appendix 2)
- The Consent Form must be completed (Appendix 3).
- The Examining Health Professional must determine if there are possible medical contraindications to the step test.
- Results of the step test to be recorded (Appendix 5).

Criteria 2, 5 and 7 of table 2 would generally require task-specific equipment with which to perform a functional assessment. Such equipment would not usually be available to the examining health professional. Therefore an estimate must be made according to available information. Certain individuals who are likely not to be able to fulfil criteria may require further assessment.

Employee's whose fitness is borderline may require referral for final assessment by an Occupational Physician or a nominated Sydney Water Medical Practitioner familiar with the occupational requirements.

The history as given by the employee is only meant to "flag" conditions that may require further clarification by the examining health professional. Any "yes" answers do not necessarily render the employee unfit for confined spaces.

Employees, who work in sewage contact occupations, or where needle stick injury is possible, are recommended to maintain current vaccination against Tetanus, Hepatitis A and Hepatitis B.

History of angina, arrhythmia, ischaemic heart disease or acute myocardial infarction should be noted. In particular consider any cardiovascular condition, which might be aggravated by extra cardiovascular demands.

Poorly controlled angina, arrhythmia, significant hypertension or anaemia will usually preclude work in confined spaces.

Insulin dependent diabetes mellitus or poorly controlled non-insulin dependent diabetes mellitus may cause sudden incapacity. This may put the person at increased risk from hazards in the confined space and will also necessitate rescue.

History of epilepsy or any other condition involving altered states of consciousness may also cause sudden or subtle incapacity.

Reduced lung function for any reason may restrict capacity for sudden strenuous activity or impair ability to use respirators. FEV1 or FVC < 70 % predicted requires special consideration.

Poorly controlled hypertension may preclude step testing and strenuous activity or heavy lifting during work or rescues.

Employees at the extremes of weight ranges must be carefully evaluated. An extremely underweight person may not have the physical strength to work lifting tackle, wear SCBA or participate in incident management. Weight > 130 kg may put the employee at risk as the weight may exceed the Safe Working Load (SWL) of the lifting equipment. An obese person may be unable to wear a safety harness, fit through access hatches or manoeuvre in a 750 mm pipe.

History or evidence of significant psychiatric disorder, in particular claustrophobia, which may impair the examinee's ability to cope with small enclosed spaces or face masks, or may alter judgement, concentration and reliability, will require special consideration.

Beards may also prevent adequate seal when using a mask, therefore the presence of beards should be noted.

Employees who require glasses to correct visual acuity defects may have difficulty obtaining adequate seal with a mask when using a respirator, therefore the use of glasses should be noted. The examinee should have adequate uncorrected visual acuity to enable them to perform their designated tasks and to exit the confined space in an emergency.

Hearing aids may be an ignition risk in certain situations therefore the use of hearing aids should also be noted.

Significant hearing, cognitive or speech impairment may impair the ability to communicate. Inability to do step test for any reason and any other condition or reason which may impair the ability to work in confined spaces or use respirators should be carefully assessed.

Persons with reduced immune status should obtain specialist medical advice prior to starting, or returning to, work involving contact with sewage.

## 5. DEFINITIONS

<b>Confined Spaces</b>	<p><i>Confined space, in relation to a place of work, means an enclosed or partially enclosed space that:</i></p> <ul style="list-style-type: none"> <li><i>a) is not intended or designed primarily as a place of work, and</i></li> <li><i>b) is at atmospheric pressure while persons are in it, and</i></li> <li><i>c) may have an atmosphere with potentially harmful contaminants, an unsafe level of oxygen or stored substances that may cause engulfment, and</i></li> <li><i>d) may (but need not) have restricted means of entry and exit.</i></li> </ul> <p><b>Examples of confined spaces include storage tanks, pits, trenches sewers, traversable water mains, tunnels, shafts, sewer wet wells, covered stormwater drains and pipes.</b></p>
<b>Examining Health Professional</b>	The term “ <b>examining health professional</b> ” is used to indicate that the examination may be by a health professional such as a medical practitioner or an occupational health nurse under the supervision of a medical practitioner.
<b>Aptitude</b>	Ability, skill, talent, gift, capacity, fitness, propensity.

## 6. REFERENCES

<ul style="list-style-type: none"> <li>• NSW OHS Regulation 2001, chapter 4, Work premises &amp; work environment, Div.9, Working in confined spaces.</li> <li>• Australian Standard 2865-2001 Safe working in a confined space</li> <li>• HSP-001 Safe Entry &amp; Working in Confined Spaces</li> </ul>
---

## 7. DOCUMENT CONTROL

<b>Document Number</b>	HSG0509
<b>Version</b>	Version 1
<b>Issue Date</b>	27 July 2010
<b>Review Date</b>	27 July 2015
<b>Document Controller:</b>	Health & Safety Document Controller Ph (02) 8849 5389
<b>Computer Filename:</b>	HSG0509 Fitness and Aptitude Assessment Guidelines for Working in Confined Spaces version 1
<b>Approved by:</b>	Manager Health & Safety
<b>Date of approval:</b>	17 July 2010
<b>History:</b>	<p>27 July 2010: (version 1 on BMIS) Revised and reissued as HSG0509 Confined Space Fitness and Aptitude Guidelines, based on consultation within Sydney Water and with health professionals.</p> <p>Previous history: Revised in November 2008 and 2006, and originally issued in 2004 as Confined Space Fitness And Aptitude Guidelines June 2004.</p>

**APPENDICES**

Appendix 1	Referral Employer to Complete
Appendix 2	Employee Information Sheet
Appendix 3	Consent Form
Appendix 4	Medical History
Appendix 5	Examination
Appendix 6	Step Test
Appendix 7	Medical Certificate
Appendix 8	Confined Spaces Fitness Request for Information

**APPENDIX 1 REFERRAL – EMPLOYER TO COMPLETE**

Note: Please do not send persons restricted to "suitable duties" involving mobility or lifting restrictions.



**REQUEST FOR SERVICES FORM**

**Service Requested** – please tick the appropriate box

- Confined Space Fitness Assessment       Pre-placement Health Assessment
- Hearing (Audiometry Screening)       Vaccinations - type of vaccination .....
- Hazardous Substances Assessment

Preferred date for assessment(s) ..... Number of assessments required.....  
(subject to availability)

**Assessments to be conducted at QOH** – please indicate preference for site (subject to availability)

- Merrylands    Minchinbury    Broadway

Name of person attending for appointment: .....

Employee number ..... Contact phone number .....

**Assessments to be conducted at Sydney Water site** – please complete information below  
(list of names and appointment times to be provided prior to commencement of assessments)

Site Address .....

Nearest cross street to site ..... Map Reference .....

Name and mobile phone number of contact person on site on day of assessments  
.....

Alternate contact (name and mobile).....

Onsite induction required for QOH staff prior to assessments     **Yes**  **No**

If yes – how long is required for induction process .....

Service authorised by .....  
(must be level 5 manager or above) **PLEASE PRINT CLEARLY**

Position title ..... Email.....

Phone Number ..... Mobile .....

Fax..... Date .....

Please fax this form to Karima Sansoni to arrange appointments  
Fax 02 9897 7390 Phone 02 9897 7699 or 02 9897 2541 (direct)

Distribution: to be retained by examining health professional

## APPENDIX 2 EMPLOYEE INFORMATION SHEET

(To be given to Employee before test is conducted)

### Employee Information Sheet Three Minute Step Test

#### Participant selection and purpose of the fitness assessment

You are required to attend an appointment with an examining health professional because you work in confined spaces and participate in confined space training. Work in confined spaces and participating in confined spaces training require good physical and psychological fitness because you may be required to be lowered into a confined space by means of a rope and harness, climb ladders up to 15m in height or climb multiple stairs, wear respiratory apparatus, and perform rescue operations.

The aim of the fitness assessment is to determine your fitness for working in confined spaces and participate in confined space training.

#### What does the test involve?

Before commencing you will be assessed to make sure that you do not have any medical problems such as heart, lung or any medical problems, which may put you at, increased risk of serious injury or death in certain types of confined spaces. If you qualify for the assessment and have given your written consent to participate you will then undertake the Three Minute Step Test. The test involves climbing up and down a step for three minutes as well as assessing both your cardiovascular fitness and lower limb strength.

#### Who is organising the assessment?

Your manager or supervisor on behalf of Sydney Water will organise your assessment. A referral form will be completed and sent by your manager to the examining health professional conducting the test.

#### What if I choose not to take part or want to stop during the test?

If you choose not to participate in the fitness assessment, you must notify your manager or supervisor. If you have any major medical problems before the test, you will be asked to see your doctor before a step test is attempted. You must stop and tell the examiner if you have any problems during the test, such as chest pain, nausea, difficulty in breathing, joint or muscle pain.

#### What are the possible risks associated with the assessment?

There are certain changes that may occur during the exercise test. These may include raised blood pressure and a fast pulse. There is also a slight risk of fainting, disorders of heartbeat or heart attack/stroke in people with underlying medical problems.

#### Confidentiality and disclosure of information

Any information that is obtained in connection with this assessment will remain confidential and will be disclosed only with your permission except as required by law. You will be asked permission to allow restricted access to your medical records. Authorised people from Sydney Water, referring you for an assessment and managing your records, your treating medical practitioner and Injury Management Coordinators managing your health in relation to your work, may inspect them. Any information taken away by these officials will be strictly confidential.

**APPENDIX 3 CONSENT FORM****Consent Form to Participate in a Fitness/Aptitude Assessment**

I, \_\_\_\_\_

(name of employee)

of \_\_\_\_\_

(street)

(suburb/town)

have been required to attend an appointment with an Examining Health Professional to determine my physical fitness for working in confined spaces and participate in confined space training.

In relation to this assessment, I have read the Employee Information Sheet and have been informed of the following points:

1. The aim of the assessment is to determine my physical fitness level required to work in confined spaces and training.
2. The assessment will involve a Three Minute Step Test (fitness test) and movements simulating work in a confined space.
3. There are certain changes that may occur during the exercise test. These include the possible adverse effects or risks related to the exercise:
  - raised blood pressure
  - fast pulse
  - fainting
  - disorders of heartbeat
4. Should I develop any problems (chest pain, nausea, difficulty in breathing, joint muscle) that may have resulted during the test, I am aware that I have to stop and contact the examining health professional.
5. My involvement in this fitness assessment may be terminated if I have any major medical problems. I may be asked to see a doctor before attempting the test.
6. If my fitness is borderline I may require a referral for a final assessment by an Occupational Physician or a nominated Sydney Water medical practitioner familiar with the occupational requirements.
7. In giving my consent, I acknowledge that the examining health professional, doctors, Sydney Water referral businesses, health & safety and injury management coordinators directly involved with my medical and fitness assessments, may examine my medical records only as they relate to this assessment.
8. Disclosure of my health information to any person or organisation will be done with my written consent, except where:
  - a notifiable disease is diagnosed which must by law, be reported to the authorities
  - a report is subpoenaed by a court of law; or
  - an investigation is conducted into a confined spaces incident.

After considering these points, I accept the requirement to attend an appointment with the Examiner Officer for a fitness assessment.

Signature \_\_\_\_\_

Date \_\_\_\_\_

Witness \_\_\_\_\_

Date \_\_\_\_\_

Distribution: to be retained by examining health professional



## APPENDIX 4 MEDICAL HISTORY

To be completed by employee, with assistance from examining health professional if necessary

Have you EVER had any of the following health problems?	YES	NO	Comments
<b>Respiratory</b>			
Shortness of breath, chronic cough or wheeze			
Tuberculosis			
Pneumonia			
Bronchitis, asthma or emphysema			
Any other lung problem			
<b>Cardiovascular</b>			
Heart problems			
Angina or heart attack			
Chest pains			
High blood pressure not controlled by medication			
Rheumatic fever			
Pains or cramps in legs			
Ankle swelling			
<b>Senses</b>			
Hearing problems, ear disease			
Problems with vision (seeing), eye disease			
Do you use glasses?			
Do you use contact lenses?			
Do you use hearing aids?			
<b>Neurological</b>			
Stroke			
Epilepsy, fits, convulsions			
Blackouts, dizzy spells, vertigo			
Paralysis or weakness of arms/legs			
Severe or frequent headaches or migraines			
<b>Musculoskeletal</b>			
Back or neck problems			
Leg problems			
Arm problems			
Bone or joint problems or arthritis			
Problems walking, squatting, climbing stairs or ladders			
<b>Psychological</b>			
Have you ever had any major problems with nervous disorders, psychiatric illness, anxiety or depression?			
Do you have any problems when you go into small enclosed spaces (claustrophobia)?			
Do you have any problems working at heights?			
Do you have any problems with fear of spiders, rats, etc?			
<b>Miscellaneous</b>			
Diabetes			
Contagious disease			
Bladder or kidney problems			
Severe anaemia			
Bleeding problems			
Do you have any allergies?			
Do you have any other significant medical problems that have not been mentioned?			
Have you had any major operations?			
Is there any reason why you would not be able to wear a face mask?			
Is your immunisation for tetanus, Hepatitis A & B up to date?			

I hereby certify that the answers I have given are true and accurate. I also hereby authorise Quality Occupational Health to obtain and release information to/from my doctor or other health professionals and my employer. This information shall be used to determine my fitness to work in a confined space.

Name: \_\_\_\_\_

Position: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Distribution: to be retained by examining health professional

**APPENDIX 5 EXAMINATION**

	Medical Assessment	Fit for confined space entry Y = Yes, N = No	If <b>No</b> state details of abnormalities
Step test (See Appendix 1)		YES NO	
History of musculoskeletal disorders or cardiorespiratory disorders		YES NO	
General mobility of spine and limbs		YES NO	
Upper limbs grip strength L R Power Range of Movement Coordination			
Weight for Confined Space Entry (to be less than 130kg)	_____ kg	YES NO	
Whisper Test		YES NO	
Squat Test (see Appendix 6)		YES NO	
Spirometry (attach results)		YES NO	
History of respiratory disorders		YES NO	
General observation of beards, facial deformities, dentures		YES NO	
Visual acuity L R 6/ uncorrected 6/ Bi 6/ 6/ corrected 6/ Bi 6/	<b>Specify:</b> Glasses Contacts	YES NO	(note: please note on medical certificate if correction required)
History or evidence of endocrine disease		YES NO	
History of claustrophobia		YES NO	
History or evidence of neurological disorders		YES NO	
Evidence of any behavioural abnormalities on assessment		YES NO	
Also consider outcomes of: • depression and anxiety testing and • cardiac and stroke testing (if required).			

**Notes:** \_\_\_\_\_

Distribution: to be retained by Examining Health Professional

## APPENDIX 6 STEP TEST

**Do not perform the step test if there are medical problems.**

Examinee steps up and down a 12-inch step 24 times per minute for 3 minutes. Stop if examinee becomes distressed or pulse exceeds  $(220 - \text{age} \times 0.8)$ . Take pulse manually for 15 seconds and multiply by 4. Use meter for maximum pulse while stepping.

BP before starting	/
Pulse before starting:	/ minute
Pulse immediately after stepping:	/ minute
Maximum pulse while stepping:	/ minute
Pulse 3 minutes after stepping	/ minute
Blood pressure 3 minutes after stepping:	/
Able to maintain 24 steps/minute:	YES / NO
Able to complete 3 minutes:	YES / NO
Details:	

Distribution: to be retained by examining health professional

**APPENDIX 7**

**MEDICAL CERTIFICATE**

I certify that I have examined \_\_\_\_\_

and, taking into account the requirements of these confined space fitness guidelines, I declare that –

- The examinee is **FIT** for work in confined spaces, OR
- The examinee is **NOT FIT /Temporarily unfit** for work in confined spaces because

\_\_\_\_\_

\_\_\_\_\_

**Relevant restrictions include:**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**Recommended follow up action/s is:** \_\_\_\_\_

\_\_\_\_\_

If the worker wishes to provide further medical evidence to Quality Occupational Health they must use the “Confined Spaces Fitness Request for Information” form in the assessment guidelines (Appendix 8).

It is recommended that a reassessment occur if the examinee’s health changes, or after a period not less than \_\_\_\_\_

<input type="checkbox"/> I have advised the worker of the results.  <b>Name of examiner:</b> _____  <b>Qualifications:</b> _____  <b>Date of examination:</b> _____  <b>Signature:</b> _____	<input type="checkbox"/> I have been advised of these results.  <b>Name of worker:</b> _____  <b>Signature:</b> _____
--	---

Distribution:

Original to be retained by examining health professional

Copy to be given to employee

Copy to be forwarded to manager / supervisor that referred employee for assessment

**APPENDIX 8****CONFINED SPACES FITNESS REQUEST FOR INFORMATION  
CONFIDENTIAL****Name:****SITE:****Date of examination:**

During your confined spaces assessment we noted the following issues that may have an impact on your fitness or safety to work in a confined space. Please take this to your doctor or other treating health professional so that we can provide advice on your fitness to your employer. Please send this information as soon as possible to us so that we can finalise our reporting.

We noted:

- 1.
- 2.
- 3.
- 4.

Regarding these conditions above we need a report from your treating:

 General Practitioner: Specialist: Other:with all the following details for *each* of the conditions listed:

1. Medical diagnoses for each condition
2. Medical history including:
  - a. date of onset
  - b. duration of symptoms and signs
  - c. any ongoing symptoms
  - d. results of any tests done such as xrays, scans, etc
  - e. details of any restrictions or time off work
3. All treatments you have had including:
  - a. surgery and the results of that
  - b. injections and the results of that
4. Any ongoing treatment and medications
5. Any specialist advice that has been given
6. All restrictions on activities that apply
7. Prognosis
8. What the availability of the doctor/health professional is for telephone calls including:
  - a. Dates and times
  - b. Phone number with area code
  - c. Email address

**PLEASE ENSURE THAT ALL THESE POINTS ARE COVERED IN DETAIL. IF THERE IS MISSING INFORMATION, YOUR FINAL REPORT MAY BE DELAYED.**

**NOTE:** Any fees from your medical professionals for obtaining this information are your responsibility. We will reply as soon as possible after receiving this information.

Thank you.

---