

ISSUE DETAILS

Reference	SAF64	Issue No.	2	Issue Date:	01/12/2015
Title	Confined Space Entry and Working				
Status	Revised				
Compliance Date	Immediate				
Document Owner	Stuart Webster-Spriggs				

BRIEFING REQUIREMENTS

The following table defines how revised issues of this document are briefed to existing employees according to related specific responsibilities.

This is determined using the 'RACI' principle. Those roles identified as 'Responsible' and 'Accountable' should receive a formal awareness briefing facilitated by the Document Owner.

Role	RACI	Type of briefing
Manager	Responsible	Formal
Supervisor	Responsible	Formal
All employees that are involved with working in confined spaces	Informed	Formal

PURPOSE

The purpose of this standard is to enable VolkerRail to comply with the requirements of the 'Confined Spaces Regulations 1997' and the associated Code of practice and guidance document L101.

This standard shall therefore provide a framework for:

- Defining a confined space
- Risk assessment of confined spaces to establish the controls needed for a Safe System of Work
- Ensuring the competence of persons planning, supervising and carrying out confined space works
- Establishing a Safe System of Work Entry for Confined Spaces

SCOPE

The scope of this standard applies to all businesses within VolkerRail Group, and in particular to persons within those businesses that are involved with the potential of planning, supervising or working in confined spaces.

WHAT HAS CHANGED IN THIS LATEST ISSUE AND WHY

The standard has undergone a general review with references and job titles updated throughout but more specifically to the following forms:

- SAF/64/F/01 - Initial Work Space Assessment
- SAF/64/F/02 - Risk Assessment
- SAF/64/F/03 - Safe System of Work and Confined Space Entry Permit

ISSUE RECORD

Issue No.	Date	Summary of changes
1	14/05/2012	This standard was previously issued as SQE/64, it has been renumbered as SAF/64 and reissued in line with the VolkerRail Standards strategy and specific 'Safety' section of the catalogue. The standard has undergone a general review with references and job titles updated throughout.
2	01/12/2015	More fluent, friendly procedures of establishing the space as confined, in the use of following the SAF/64/F/01, 02, 03 Forms. Categories of a Confined Space – Low, Medium & High

IMS AUTHORISATION

Approval	Name	Role
Document Owner	Stuart Webster-Spriggs	HSQE Director
Approval for IMS	Stuart Webster-Spriggs	HSQE Director
Accepted to IMS	Emma Glenc	Assurance Manager

1. PURPOSE

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- Establishing a Safe System Of Work Entry for Confined Spaces
- The arrangements also underpin the commitments made in IMS element 9.8 Safe Systems of Work.

2. SCOPE

The scope of this standard applies to all businesses within the VolkerRail Group, and in particular to persons within those businesses that are involved with the potential of planning, supervising or working in confined spaces.

All VolkerRail staff who manage, supervise and/or carry out work activity associated with this standard have a legal obligation to comply with the specified arrangements herein.

3. REFERENCES (INPUTS) / RELATED DOCUMENTS
3.1 Legislation

- Confined Space Regulations
- COSHH Regulations
- General Personal Protective Equipment at Work Regulations
- Health and Safety at Work Act etc
- L101 - Safe Working in Confined Space ACOP and Guidance Notes
- Management of Health and Safety at Work Regulations
- Provision and Use of Work Equipment Regulations

3.2 VolkerRail Standards

- OHS/04 – Management of Employee Medical Fitness and Limitations
- SAF/25 – Worksafe Procedure
- SAF/26 – Personal Protective Equipment
- SAF/42 – Production of Work Package Plans / Method Statements

4. DEFINITIONS

Approved Competent Person	In the context of this standard a an appropriately trained person approved by VolkerRail at Supervisory level, with sufficient experience and familiarity with the relevant processes plant and equipment so that they understand the risks involved and can devise necessary precautions
Confined Space	Any space including any chamber, tank, vat, silo, pit, trench, pipe, sewer, flue, well or similar space in which, by virtue of its enclosed nature, there arises a reasonably foreseeable specified risk.
Free flowing solid	Any substance consisting of solid particles and which is of, or is capable of being in, a flowing or running consistency, and includes flour, grain, sugar, sand or similar materials.
Reasonably Practicable	Where the overall cost in money effort and time of the risk control measures are not grossly disproportionate to the risk.

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Specified risk	<p>A risk of:</p> <p>Serious injury to any person at work arising from a fire or explosion.</p> <p>The loss of consciousness of any person at work arising from an increase in body temperature.</p> <p>The loss of consciousness or asphyxiation of any person at work arising from gas, fume, vapour or the lack of oxygen.</p> <p>The drowning of any person at work arising from an increase in the level of liquid.</p> <p>Affecting the medical condition of an individual eg Claustrophobia</p> <p>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.</p>
	<p>NB Other hazards can be found within confined spaces ie Hazards caused by narrow openings, restricted movements, biological hazards, psychological factors etc but they do not define the space as a Confined Space; However this will relate to the Rescue arrangements.</p>

5. PROCESS

5.1 Design Stage

Where VolkerRail are the designers it shall be the responsibility of the designers to avoid so far as reasonably practicable the need for persons to enter or work in any Confined Space.

5.2 Initial Work Space Assessment

Where the initial workspace assessment SAF/64/F/01 determines that work is required to be undertaken within a confined space then the hierarchy of risk controls must be applied and where it is necessary to enter a confined space appropriate safe systems of work must be established and documented within Work Package Plans / Method statements/ Construction Phase plans / Risk Assessments / task briefings

5.3 Unique Working Space Reference Number

On identification of a confined space, a unique working space number must be generated, each with its own unique number. The unique number will consist of the following: Project Number/SAF64/001 etc. The Project Manager is to assign a nominated person to receive each associated form and number each unique space identified.

5.4 Avoidance of Work in Confined Spaces

Where it can be shown that reasonably practicable measures can be adopted to enable the works to be carried out without the need for persons to enter the Confined Space the work method shall be clearly defined in the associated 'method statement' and entry into the confined space prohibited.

5.5 Categories of a Confined Space – Low, Medium & High

Every confined space should always be individually assessed in order to determine the level of hazard that the space presents to anyone who may be working near to or inside the space. It is the responsibility of an employer to ensure that a confined space is designated with a class rating of low risk, medium risk or high risk in order to identify the specialist training, instruction and equipment required to work safely within these environments.

5.6 Low Risk Confined Space

A low risk confined space is defined as a space with shallow entry with adequate natural or mechanical ventilation where access is simple and unobstructed with no likely risk of flooding. Examples include meter pits, valve chambers, booster pumping stations and PRV chambers.

Although less dangerous than medium risk and high risk spaces, a low risk confined space must also be

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treated with respect and those working in the space must be given the equipment necessary to work safely within this environment.

Equipment required for entry into these areas can include:

- Personal protective clothing such as overalls, waterproofs, gloves, hats etc
- Portable gas monitor capable of detecting low oxygen levels, explosive and toxic atmospheres
- Explosion protected lighting
- Mechanical ventilation
- These spaces pose the lowest risk to those entering them, but can still kill or injure.

5.7 Medium Risk Confined Space

Within a medium-risk confined space, there exists a much larger hazard to those within than a lower risk space does.

Whereas a low risk confined space has easy entry/exit, natural ventilation and the reduced risk of a hazard appearing, a medium-risk confined space has restricted entrances and exits and there exists a realistic expectation of a hazard appearing when working.

These hazards could be anything from sudden oxygen deprivation to the introduction of toxic fumes into the environment. Preparing for these eventualities is essential in medium-risk confined spaces; the employer and top man responsible for the team should have defined the risk the confined space posed and should have provided training/specialist equipment such as breathing apparatus for those entering the space. Qualified rescue personnel should also be on hand should something go wrong within the space.

Equipment required for entry into medium risk confined spaces can include:

- Personal protective clothing such as overalls, waterproofs and gloves
- Portable gas monitor capable of detecting low oxygen, explosive and appropriate toxic atmospheres
- Hard line for lowering tools etc.
- Mechanical full man riding winches
- Appropriate full body harnesses
- Escape breathing apparatus
- Means of contacting emergency services
- Means of communicating with team members
- Explosion-protected lighting
- Mechanical ventilation

5.8 High Risk Confined Space

As the name suggests, a high risk confined space poses massive dangers to those working in and around them. A space given high risk rating is classified as having a hazard that cannot be controlled or eliminated. Anyone entering these areas must be trained in dealing with the specified hazard and protective equipment is more important than ever.

Hazards that can be present within these environments include gas leaks, mechanical or electrical faults and danger of igniting the atmosphere. High risk confined spaces must be treated with the respect they deserve and should only be entered absolutely when necessary with the correct training and equipment.

In these spaces, there may or may not be access issues. Due to their unpredictable nature, extra caution should be taken, rescue staff should always be at hand and every possible eventuality must be considered.

Equipment used within these areas includes:

- Personal protective clothing; overalls, waterproofs and gloves etc
- Portable gas monitor capable of detecting low oxygen, explosive and appropriate toxic atmospheres
- Hand line for lowering tools etc.
- Mechanical full man riding winch. For NC3 the operative can disconnect from the winch line and there can be multiple entrants

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- Appropriate full body harness.
- Full breathing apparatus sets for all who enter (a minimum of 2 personnel to be catered for).
- Means of calling for emergency services
- Means of communication with team members
- Explosion protected lighting if required.
- Mechanical ventilation if required this may need to explosion protected

5.9 Confined Space Risk Assessment

The Confined Space Risk Assessment shall allow the Hazards and Risks associated with working in the Confined Space to be established and to allow the controls of those risks to be embedded within the Confined Space Safe System of Work.

Factors to be considered, although not limited to, when undertaking the Confined Space Risk Assessment using Form SAF/64/F/02 are:

- Activities to be conducted – Processes / equipment and tools to be used
- Describe Depth / length of chamber – do you need a mechanical hoist to lower person into chamber or is it a crawl in?
- Duration of works, period of time individuals exposed. Potential need to rotate personnel exposed to confined conditions
- Previous contents of the Confined Space
- Residues / Biological hazards (sharps/leptospirosis/vermin / mould spores) – water build up
- Contamination
- Dust / noxious fumes
- Oxygen deficiency and oxygen enrichment
- Physical dimensions of the Confined Space
- Temperature and humidity of the workplace
- Presence of radiated heat
- Electrical & mechanical hazards
- Process isolation requirements
- Personal physical and mental fitness / suitability
- Fire / explosion
- Provision of intrinsic illumination
- Presence of any protected species
- Method of rescue – designated rescue positions, competencies and equipment

5.10 Establishment of Safe System of Work and Permit to Work

On completion of the Confined Space Risk Assessment Form SAF/64/F/02, a ‘Safe System of Work’ permit detailing the control measures and authorisations required for the works to take place within the confined space Form SAF/64/F/03. These controls will include, but are not limited to:

- Controls of Risks highlighted by the Confined Space Risk Assessment
- Establishment of a Permit to Work system, accounting for all personnel accessing and egressing the works
- Access / egress details – the establishment of top man, hoist equipment and pre checks of harness and other task specific PPE before access
- Isolation details (and need for associated permits)
- Provision of signage/barriers – segregate these works from others
- Authorisations required
- The level of supervision
- Level of competencies/specific physiological requirements of workmen
- Means of communication
- Air quality testing
- Breathing Apparatus requirements
- Other task specific PPE requirements (Harnesses if lifted in - knee protection if crawling / goggles if spores/ structure fabric crumbling – wet gear if a water trickle)

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The requirement for job rotation to limit exposure to confined space working (cramped positions/ air quality)
Emergency plan and details of rescue to be effected, including:

- Provision of a Rescue team – top man in control.
- Provision of rescue equipment – include persons wearing harness, the provision of mechanical lift frame
- Provision of First Aid and competent person
- Type of resuscitation to be provided
- Details of the emergency services, designated A&E hospital and route directions

The Approved Competent Person shall specify the duration of the permit: This shall last for the duration of the works or for one shift whichever is the less. Where the works extend beyond the original duration of the permit, but with the same personnel, the permit may be extended with the agreement of the Approved Competent Person.

The Approved Competent Person shall supervise the Confined Space Works at all times.

5.11 Competence Requirements

Approved Competent Person – An appropriately trained person of Supervisory level, will be someone with sufficient experience and familiarity with the relevant processes plant and equipment so that they understand the risks involved and can devise necessary precautions.

Top Man – Person in charge of entry into a Confined Space and the emergency rescue of persons into and from the Confined Space: Is requires to hold a current ‘Top Man’ competency from an approved training establishment.

Bottom Man – Person competent to work within a Confined Space and to wear emergency breathing apparatus if required: Is required to hold a current ‘Bottom Man’ (confined space entry including escape breathing apparatus) competency from an approved training establishment.

The competence of all persons working in the Confined Space or as part of the Rescue Team regarding physical size, fitting of equipment, claustrophobic problems shall be assessed by the Top Man.

6. DOCUMENTATION (OUTPUTS)

- SAF/64/F01 – Initial Work Place Assessment
- SAF/64/F02 – Confined Space Risk Assessment Template
- SAF/64/F03 – Safe System of Work and Confined Space Entry Permit

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