

CONFINED SPACES AND IRRESPIRABLE/NOXIOUS ATMOSPHERES



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3 CONFINED SPACES AND NOXIOUS/IRRESPIRABLE ATMOSPHERES

Intent

The intent of this Protocol is to eliminate or minimise potential fatalities, injuries and incidents arising from risks associated with personnel entering or working in a confined space or an area with the potential for an irrespirable or noxious atmosphere.

Related Life-Saving Behaviours

1. Always come to work drug and alcohol free.
2. Always use or wear critical safety equipment.
4. Only operate equipment if trained and authorised.
5. Always isolate and 'test for dead' prior to working on energy sources.
6. Never modify or over-ride critical safety equipment without approval.
8. Never enter danger zones without approval.

Key actions

1. A risk assessment is conducted to identify confined space and irrespirable / noxious atmosphere risks and an action/treatment plan is implemented to control identified risks.
2. All identified confined spaces and areas/workplaces with potential for irrespirable/noxious atmosphere are documented in a register.
3. Procedures and permits are developed and used to manage confined spaces and irrespirable/noxious atmosphere risks.
4. An audit is conducted to identify gaps against legal and international standards requirements and an action plan is developed and implemented to meet these requirements.
5. Training including refresher course are provided to all employees and contractors on relevant procedures and permit systems.
6. Provide supervisory monitoring of activities / tasks taking place in confined spaces and in areas with potential for irrespirable / noxious atmosphere commensurate to employees and contractors competency.
7. Apply advanced technical and engineering solutions wherever practical to reduce or eliminate hazards related to confined spaces and irrespirable/noxious atmosphere.

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3.1 Confined Spaces

- 3.1.1 A documented risk assessment must be conducted to identify the hazards, analyse and evaluate the risks associated with confined space entry.
- 3.1.2 All existing confined spaces must be uniquely identified, signposted and recorded in a register that must be maintained and updated as appropriate.
- 3.1.3 The specific hazards and associated risks for each confined space are to be assessed and evaluated.
- 3.1.4 A confined space procedure and a confined space entry permit must be developed, implemented and maintained.
- 3.1.5 The confined space procedure must include the following minimum requirements:
 - a) A Work Permit must be prepared and authorised prior to entering a confined space;
 - b) A documented risk assessment must be conducted and included within the Permit;
 - c) Conditions of entry must include:
 - 1. Isolation of energy sources;
 - 2. Establishment and maintenance of oxygen levels required for the duration of the task;
 - 3. Identification of contaminants, temperature extremes, concentrations of flammable substances, and any other hazards that may be harmful;
 - 4. Provision and use of multi-gas continuous monitoring detection and alarm equipment for the duration of the task/activity;
 - 5. That actual gas levels are regularly tested and recorded for the duration of the confined space activity;
 - 6. Establishment of ventilation needs, i.e. natural or forced;
 - 7. Identification of the need to use self-contained breathing apparatus;
 - 8. Provision and use of safety harnesses fitted with life lines to rescue personnel in the case of an incident. Where the life line poses an additional risk, an alternative means of rescue must be established and available at the location;
 - 9. Access to the confined space entry permit at the task/activity location;
 - 10. Sign-in and sign-out of personnel entering the confined space;
 - 11. Nomination and identification of a competent stand-by person(s), who shall be present at the entry point for the duration of the work;
 - 12. Defined communication methods to be used between the stand-by person(s) and personnel within the confined space;
 - 13. Identification of the appropriate specification for the equipment to be taken into or used within the confined space;
 - 14. Barricading and sign-posting requirements; and
 - 15. An area/task specific rescue management plan; provision and accessibility of suitable rescue equipment (including self-contained breathing apparatus) and competent rescue personnel.

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- d) That atmospheric monitoring equipment must be of an approved type, listed on a register, and be inspected, tested, calibrated and stored in accordance with the manufacturer's specifications; and
- e) That atmospheric monitoring equipment can only be used by personnel who have been trained, assessed as competent, and authorised.

3.2 Irrespirable/Noxious Atmospheres

- 3.2.1 Determine suitable types, fit test requirements and locations where breathing apparatus wearing or carrying is mandatory
- 3.2.2 Routine access to operational areas with the potential to generate irrespirable/noxious atmospheres must be subject to a scheduled atmospheric inspection/monitoring program.
- 3.2.3 Areas that have not been classified as confined spaces and that are not part of any scheduled inspection/monitoring programme but where an irrespirable/noxious atmosphere can potentially occur, must be identified.
- 3.2.4 Before entering any such areas, a documented risk assessment must be conducted and controls identified and implemented.
- 3.2.5 If personnel are required to enter an area where a risk of irrespirable/noxious atmosphere occurrence exists, the asset must:
 - a) Develop and apply a procedure and/or permit systems to access and conduct any task/activity in such an area;
 - b) Provide for barricading and signposting to prevent inadvertent access to these areas;
 - c) Develop and apply procedures that minimise the risk of exposure to personnel, e.g. ventilation requirements
 - d) Provide a process to determine atmospheric conditions prior to entry of the area;
 - e) Provide continuous monitoring for the presence of atmospheric contaminants including multi-gas detection and alarm equipment;
 - f) Provide sufficient stationary monitors in areas with process equipment that transport or could produce noxious gas;
 - g) Develop withdrawal conditions (Trigger Action Response Plans - TARPs) for the presence of atmospheric contaminants;
 - h) Provide emergency equipment (including suitable breathing apparatus and communication) for personnel who may be exposed to the irrespirable or noxious atmosphere;
 - i) Develop, maintain and implement an area/task/activity specific rescue plan including suitable and easily accessible rescue equipment and competent personnel.

3.3 Training and Assessment Requirements

- 3.3.1 Identification of training needs, competency requirements, and maintenance of competency requirements of relevant persons in relation to confined space entry and recovery, irrespirable and noxious atmosphere and use of atmospheric monitoring equipment.

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- 3.3.2 Provide regular chemical awareness training related to chemicals/gases process safety and related occupational health and safety hazards.
- 3.3.3 Training needs are to be inclusive of relevant competency standards, legislation, codes of practice and site or regional protocols, procedures and permit systems; and
- 3.3.4 Provision of adequate training, and competency assessment using practical and/or simulated methods.

3.4 Additional Requirements for Catastrophic Risk (PMC 5) Situations

- 3.4.1 Where the risk of widespread exposure to irrespirable/noxious gas releases is possible:
 - a) Consider the need for fresh air refuge bays; and
 - b) Prepare emergency alarm, communication and evacuation plans.

3.5 Definitions

Hazardous zone

A hazardous zone typically means any work site or other designated site in which a health and safety risk exists.

Lifeline

A rope or other material attached to a harness and of sufficient length used to recover an unresponsive person to safety, from a position of safety

Permit system

Formal system required for specific tasks or activities i.e. working in confined space, whereby a permit has to be issued to an operator prior to commencing work.

Procedure

Documented process detailing the requirements for conducting an activity or task.

Training

Refers to the initial training to verify competence and subsequent refresher training to verify that the competencies have been retained.

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Tools (See Glencore HSEC Intranet)

Tools provided includes

- Confined Space Entry Permit
- Self-Assessment Spreadsheet
- Audit Workbook

Note: Application of this Protocol must also comply with the General Mandatory Requirements outlined in Section II of the Glencore Life-Saving Behaviours and Fatal Hazard Protocols publication.

3.6 References

None

3.7 Accountabilities

Team	Accountabilities
Glencore Corporate	<ul style="list-style-type: none"> • Maintain and update this protocol. • Use this protocol for audit purposes.
Department	<ul style="list-style-type: none"> • Oversee the implementation of this protocol within department and apply assurance processes.
Asset management	<ul style="list-style-type: none"> • Apply the requirements of this protocol.
All employees/contractors	<ul style="list-style-type: none"> • Comply with relevant requirements of the protocol. • Report hazards and incidents related to this protocol.

3.8 Control and Revision History**3.8.1 Document Information**

Property	Value
Approved by:	Lucy Roberts
Document owner:	David Mellows
Effective date:	01/01/2020

3.8.2 Revision

Version	Date Reviewed	Review Team	Nature of Amendment(s)
1-0	29/10/2013	HSEC Leads	First published version.
2-0	01/12/2019	D. Mellows and HSEC Leads	Combination of 3 stages into one, and some minor adjustments as suggested by Departments.

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