

MEMORANDUM

QUESTION 1

1.1 Mine Health and Safety Act 29 of 1996 regulation 17.19, Mine Ventilation and Rescue Plan

A square grid lettered horizontally and numbered vertically.

- a) Drawn to suitable scale must be shown on the plan contemplated in regulation 17.19
- b) Updated hard copy of the plan must be immediately available at the mine for rescue operations. In case of Coal Mines the plan must be submitted to the PI at intervals not exceeding 3 months.

Should depict the following:

Ventilation districts,

Direction of airflow,

Quantity of air circulating in such ventilation district,

Position of each permanent fan,

Doors,

Regulators,

Crossing,

Stopping,

Telephone,

Refuge bay,

Rope- aided or normal escape routes,

Safe place,

First aid room,

Main water valve,

Firefighting equipment site,

Emergency power source,

Any sealed off area for fire or spontaneous combustion.

1.2 Persons not to be exposed to fumes from a conveyor belt.

(MHSA Reg.8.9 (3)):

The employer must take reasonably practicable measures to prevent persons being exposed to flames, fumes or smoke arising from a conveyor belt installation catching fire, including instituting measures to prevent, detect and combat such fires.

1.3 SCSR Monitoring Programme regulation 16.4

(1) Have representative samples of the self-contained self-rescuers at the mine tested by an organisation accredited to do so in terms of SANAS for assessment of the structural integrity and functional performance.

Such representative sample must not be less than 1% of SCSR at the mine and must be representative of the age and deployment of the SCSR.

(2) Record Keeping- Keep the following records:

- a) Total number and make of SCSR in service at the mine,
- b) Number and make of SCSR purchased by the mine at that period.
- c) Number and make of SCSR withdrawn from use at the mine at that period.
- d) Number of shifts worked per day (1,2 or 3).
- e) Number of SCSR in daily use (average for each month).
- f) Number of employees underground (average per shift).
- g) Number of spare SCSR available (average for each month).
- h) Tabulation type of defects found.
- i) Number of SCSR repaired/refurbished.
- j) Number of SCSR tested as per 16.4 (1)

QUESTION 2**2.1 Employer must appoint:**

- a) Manager under MHSA section 3 (1) (a) to be responsible for day-to-day management and operation of the mine.
- b) Employer may entrust functions to another person under MHSA section 4 (1), employer appoint any person except the manager to perform functions entrusted to the employer.
- c) Employer to appoint part-time or full-time services of person qualified in occupational hygiene techniques.
- d) Employer to appoint part-time or full-time services of an occupational medical practitioner.

2.2 To provide and maintain ablution and change house facilities.

MHSA regulation 9.2

- a) Change houses to enable employees who perform work involving hazardous substances to change into work clothes at start of the shift, wash themselves and change clothes at end of the shift.
- b) Facilities to enable employees work involving hazardous substances to wash their hands and face before eating any meal at work.
- c) Readily available latrines within a reasonable distance from each working place.

2.3 Inspector has powers to deal with dangerous conditions:

MHSA section 54

If an inspector has reason to believe that any occurrence, practice, or condition at the mine endangers the health and safety of employees may give an instruction like:

- a) Operations at a mine or part of mine may be halted.
- b) Suspend the performance of any act or practice at a mine.
- c) Employer to take steps set out in the instruction, within a specified time, to rectify the occurrence, practice, or
- d) All affected employees to be moved to a safe place except those who assist in rectifying the condition.
- e) An instruction must be given to the employer or designated person, in absence of the most senior person at the mine.
- f) If not given to the employer, the inspector must give copy to the employer at the earliest opportunity.
- g) An instruction issued must be set aside by the CIOM as soon as practicable.
- h) An instruction is effective from time fixed by IOM and remains in force until set aside or complied with.

2.4 The Mine Health and Safety Act 29 of 1996 objectives

MHSA Chapter 1: Object of the Act

- a) To protect health and safety of people at the mine.
- b) Employer and employees to identify hazards, and eliminate, control, and minimise the risk relating to health and safety at a mine.
- c) To give effect to public international law obligations of the Republic that concern health and safety at mines.
- d) To provide for employees' participation in the health and safety through health and safety representatives and the health and safety committee.
- e) To provide for effective monitoring of health and safety conditions at a mine.
- f) To provide for enforcement of health and safety measures at mines.
- g) To provide for investigations and inquiries to improve health and safety at a mine.
- h) To promote culture of health and safety, training in health and safety, cooperation and consultation on health and safety between state, employer, employees, and their representatives.

QUESTION 3**3.1 Requirements regarding second outlets /escape ways**

Regulation 13

- a) Employer must prevent employees from being trapped by providing two exits, each of which is connected to separate means of egress to surface.
- b) If not possible for two exits, employer must implement other reasonable, practicable measures, determined by the mine risk assessment to prevent employees from being trapped in any underground excavation.
- c) Except in a case of emergency, no person may enter or leave the underground workings of a mine except by means of ingress or egress especially provided or set as part of that purpose by the employer, except being authorised by the employer to do so.

3.2 The occupational health programme for Noise as per Guideline for Mandatory Code of Practice on Occupational Health Programme for Noise – Ref DMRE 16/3/2/4-B7 dated 11 February 2022.

Risk Assessment (Determine if risk is significant or non-significant).

Measure exposure and compare to the OEL (85dBA), significant if $\geq 82\text{dBA}$.

$\geq 85\text{dBA}$ establish Hearing conservation programme which includes the following:

Monitoring programme,

Medical surveillance, and

Hierarchy of controls.

Ensure use of (instruction, information, training)

Controls (to be maintained, inspected and tested)

Review programme if (significant changes, new information as per MHSA)

3.3 Medical the exit procedure requirement

MHSA section 17

- a) Must be held within 30 days after the termination of employment.
- b) The employee must attend the examination.
- c) The Occupational Medical Practitioner conducting the examination must:

- I. Produce exit certificate indicating all results of all medical surveillance, and the presence or absence of any occupational disease, and
- II. Enter a copy of the exit certificate into the employee record of medical surveillance.

QUESTION 4

Mandatory Code of Practice for the Management of Work in Confined Space - Ref: DMR 16/3/2/4-B4

4.1 Definitions

- 4.1.1 Confined Space means an enclosed or partially enclosed space that is not intended or designed primarily as place of work.
- 4.1.2 Bump Test means a brief exposure of gas monitor to gas to verify that the sensors respond and the instrument alarms function accordingly.
- 4.1.3 Permit means an official document giving someone authorization to do something.
- 4.1.4 Standby person/control attendant means a person located outside the permit space who controls and records Confined Space entry and performs other duties as defined by the COP
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- 4.1.5 MOHAC means Mining Occupational Health Advisory Committee.

4.2 Key aspects to be addressed in Confined Space COP

4.2.1. Identification and register of confined spaces

Confined spaces are identified by a competent person through the mine's risk management process and access into the confined space shall be physically restricted using barriers to prevent unauthorised entry whenever possible. All confined spaces are recorded in a register.

4.2.2 Appointments, roles, and responsibilities

- a) A manager is appointed in writing to take accountabilities for all confined space entry or work on the mine
- b) A supervisor is appointed in writing to oversee specific confined space entry or work.

- c) A person qualified in occupational hygiene techniques to measure levels of exposure to hazards is appointed in writing to test the atmosphere before and during confined space entry or work
- d) A confined space attendant/standby person shall be appointed in writing for every confined space entry or work; and

The COP should ensure that all the roles and responsibilities are clearly defined in relation to confined space/s.

4.2.3 Control measures

Whenever management discretion exists, the key principles guiding the application of the hierarchy of control shall be used to scrutinize the risk assessment process and explore all alternatives to avoid the need of having personnel enter confined spaces.

4.2.4 Permit system

No employer must allow or direct a worker to enter a confined space to carry out work unless a confined space entry permit for the work has been issued.

4.2.5 Energy isolation and lockout

All energy sources are identified and physically isolated or locked out before entry or work in the confined space is allowed.

4.2.6 Atmosphere

The atmosphere inside a confined space is safe and without risk to health as far as reasonable practicable before entry into and work inside a confined space is allowed.

4.2.7 Atmosphere testing and monitoring

The atmosphere inside a confined space is tested prior to entering for relevant harmful, flammable substances and oxygen content. The testing may require specialized instrumentation to checking all extremities of the confined space without physically getting into the confined space (telescopic rod, vacuum pump, probe/hose).

4.2.8 Ventilation

The COP should ensure that where the risk assessment has identified the need for ventilation, then this must be covered by a documented procedure approved by a 12.1 Appointee.

4.2.9 Standby person/control attendant

The COP should ensure that a standby person/control attendant is utilised for Confined Space work.

4.2.10 Personal protective equipment

Where it is not reasonably practicable to ensure the confined space contains a safe oxygen level, or safe levels of airborne contaminants, the employer shall ensure that every person required to enter the confined space is provided with:

- (i) Appropriate respiratory protective equipment (RPE) which would render sufficient protection against the contaminant encountered.
- (ii) Where there is the risk of asphyxiation, the entrants are provided with self-contained breathing apparatus. Space other personal protective equipment to protect them from any other health or safety hazards which may be encountered in the confined space.

4.2.11 Communication

The employer shall ensure that a system of work is provided that would enable adequate and effective communication.

4.2.12 Entry and exit procedures

The employer shall ensure that a system of work is provided that would keep formal record of confined space entry and exit.

4.2.13 Signs and barricading

The employer shall ensure that before any work in relation to a confined space starts, a system of work is provided that would ensure that the space is properly barricaded and appropriate signage posted.

4.2.14 Employee training

All employees involved with any work or responsibility in relation to a confined space, directly and indirectly, are made conversant with all requirements in terms of safe entry and work inside the confined space.

4.2.15 Maintenance of control measures

The employer shall ensure that a system of work is provided for the inspection and maintenance of control measures as an integral part of the safe system of work.

4.2.16 Confined space rescue plan

A task specific Confined Space Rescue Plan are developed by competent personnel that identifies the methods by which a rescue will be initiated, and personnel will be extracted from the Confined Space in the event of an emergency.

4.2.17 Fitness to work

medically fit by an occupational medical practitioner, specifically for work in a confined space.

4.2.18 Record keeping

The COP should ensure that any confined space related documents/records are kept at the mine and made readily available.

4.2.19 System review

The mine's confined space procedure, risk assessment, entry permit and control measures are review and if necessary, revise at appropriate intervals.

4.3 Occupational health risk assessment key aspects

- a) Any airborne pollutant(s) to which employees are being exposed
- b) The route of entry
- c) Where such pollutants may be present
- d) The airborne nature of those pollutants identified
- e) The nature of the key workplace operations and activities that pose the greatest potential for exposure with identified airborne pollutants
- f) The occupations and number of employees who are being exposed
- g) The pattern (e.g., intermittent, continuous, etc.), duration and frequency of employee exposure to the airborne pollutants identified.
- h) The actual exposure levels measured compared to occupational exposure limits.
- i) The control measures in place, the additional control measures required to be instituted to reduce or maintain exposures to below the OELs, and if applicable, the planned programme of implementation
- j) The frequency of any ongoing monitoring to assess the effectiveness of the controls mentioned above.
- k) The relevant material safety data sheets as contemplated in Section 21(4)(a), (b) and (c) of the MHSA.

