

MEMORANDUM**QUESTION 1****1.1 Legal responsibilities of the Occupational Hygiene/Ventilation MSHA 12.1 appointee. (15)**

Section/Regulation	Duties/ Responsibilities
MHSA section 12.1	Measure the levels of exposure to hazards at the mine.
MHSA 12.3	Keep records of all occupational hygiene measurements.
MHSA 11	Identify health hazards to which employee may be exposed. Record significant hazards identified and risk assessed and Make records available.
Regulation 9.2 (2)	1. Establish a system of Occupational Hygiene measurements where the following hazards limits prevail: a) Airborne pollutants $\geq 10\%$ of the OEL; b) Heat above 25°C wet bulb and /or above 32°C dry bulb and/or above 32°C mean radiant temperature. c) Noise $\geq 82\text{dB}_{\text{Aeq8h}}$
Regulation 9.2 (3)	Report to the employer on occupational hygiene risk assessment, with specific reference to planning, design, implementation, and management of occupational hygiene at the mine.
Regulation 9.2 (4)	Provision of potable and palatable water.
Regulation 9.2 (5)	Provision and maintenance of ablution and change house facilities.
Regulation 9.2 (8)	Ensure that respiratory protective equipment used at mine other than SCSR with comply with SANS/SABS code of practice, homologation of respiratory equipment SABS 0338.
Regulation 9.2 (9)	Ensure illumination at working place is sufficient.
Section 9 (2)	Prepare and implement a code of practice on any matter affecting health and safety of employees and other persons who may be directly affected by activities at the mine if the Chief Inspector of Mines requires it.
Regulation 5.1(1)	Report to the employer on: Effectiveness of the precautionary measures taken to prevent or suppress explosions of coal dust or flammable gas, and on the adequacy of measures in

	place to prevent, detect and combat the start and spread of mine fires
Regulation 9.1 (2)	Requires that where the risk assessment at the mine indicates a significant risk of a fire and/or explosion and/or toxic release, that could lead to an irrespirable atmosphere or an atmosphere immediately dangerous to life or health, the employer must provide an early warning system or systems at all working places
Regulation 9.1(4)	Reasonable practicable measures to be taken to ensure that no employee is exposed to any health hazard at, or emanating from, any working place where work has ceased, either temporarily or permanently
Regulation 16.1(1)	Report to the employer on the adequacy of escape and rescue procedures at the mine relating to explosions, fires, and flooding
Section 11.5	Investigations to be conducted into all serious illness cases and health threatening occurrences. These investigations are to commence within 10 days from the date of such diagnosis and or incident and the completed investigation report to be submitted to the Principal Inspector of Mines within 30 days
Section 14	The manager at every mine must keep a service record, in the prescribed form, of employees at the mine who perform work in respect of which medical surveillance is conducted in terms of section 13

1.2 Employer responsibilities/ requirements in managing the risk MSHA 11 (10)

- 1.2.1 Identify the hazards to health and safety which an employee may be exposed.
- 1.2.2 Assess the risk to health and safety to which an employee may be exposed to.
- 1.2.3 Record significant hazards identified and risk assessed.
- 1.2.4 Make those records available for inspection by employees.
- 1.2.5 Eliminate any recorded risk
- 1.2.6 Control risk at source
- 1.2.7 Minimise the risk
- 1.2.8 Provide for personal protective equipment
- 1.2.9 Institute programme to monitor the risk.
- 1.2.10 Periodically review hazards identified and risk assessed.
- 1.2.11 Conduct investigation into every accident, serious illness, and health threatening occurrence.

(25)

QUESTION 2

2.1 Five (5) Key employer responsibilities in management of fire and explosions at the mine. Regulation 5.1 (1) (5)

2.1.1 Ensure that a competent person reports to employer at appropriate intervals on the effectiveness of precautionary measures taken to prevent or suppress explosions of coal dust or flammable gas and adequacy of measures in place to prevent, detect and combat start and spread of mine fires.

2.1.2 Take reasonable measures to ensure that flammable liquids, gases and materials in use are transported, stored, deposited, used and disposed of in such a way as to prevent starting and spreading of fire.

2.1.3 Employer at the mine which fire occurs should notify employer of any other mine at which the spread of fire could constitute hazard should such fire not be immediately extinguished, of such fire.

2.1.4 Take reasonably practicable measures to ensure that any coal, coal debris or bituminous rock is deposited so that it does not pose a significant risk to the health or safety of any person.

2.1.5 Where the risk assessment indicates a risk of the presence of flammable gas must ensure that all flammable gas measuring instruments and flammable gas warning devices used at the mine for the detection of methane or hydrogen or mixture of both, comply with SANS 1515

2.2 Conditions under which the employer must establish and maintain a system of Occupational Hygiene. Regulation 9.2 (2) (6)

- a) Airborne pollutants $\geq 10\%$ of the OEL;
- b) Heat above 25°C wet bulb and /or above 32°C dry bulb
- c) and/or above 32°C mean radiant temperature.
- d) Noise $\geq 82\text{dBAeq}8\text{h}$

2.3 Four (4) conditions under which an employer must ensure that every employee is trained with respect to health and safety. (4)**MHSA 10 (2) a-d**

- a) Every employee is trained to deal with every risk to employee health and safety that is associated with any work that employee must perform and has been recorded.
- b) Trained in measures necessary to eliminate, control and minimise those risk to health and safety.
- c) Trained in the procedure to be followed to perform the work.
- d) Trained in relevant emergency procedures.

2.4 Six (6) employee responsibilities to health and safety MHSA section 22 (6)

- a) Take reasonable care to protect their own health and safety.
- b) Protect health and safety of other persons who may be affected by act and omissions of that employee.
- c) Use and take proper care of protective clothing and other health and safety equipment provided for the health and safety protection.
- d) Report promptly to their immediate supervisor any situation which the employee believes presents a risk to the health and safety of that employee, and with which an employee can not properly deal.
- e) Co-operate with any person to permit compliance with the duties and responsibilities placed on that person in terms of MHSA.
- f) Comply with prescribed health and safety measures.

2.5 Four (4) Mine Health Safety Council duties MHSA 43 (4)

- a) Advise the minister on health and safety at mines including, but not limited to, any legislation on mine rehabilitation in so far as it concerns health and safety.
- b) Co-ordinates the activities of its committees, receive reports from the committees and liaise with the mining qualification authority on matters relating to health and safety.
- c) Liaise with any other statutory bodies concerned with matters relating to health and safety.
- d) Promote a culture of health and safety in the mining industry.

(25)**QUESTION 3****3.1 Definitions**

3.1.1 Asbestos means any of the following minerals: Crocidolite, Amosite, Chrysotile, Fibrous anthophyllite, Fibrous tremolite and any mixture containing these minerals. Regulation 22.9 (2)

3.1.2 Breathing apparatus means an apparatus which renders the user independent from breathing from atmosphere for a minimum of two hours. Regulation 16.5

3.1.3 OEL-STEL means a 15-minute TWA exposure which should not be exceeded at any time during a work day even if the 8hour TWA is within the OEL-TWA. Exposure above the OEL-TWA up to the STEL should not be longer than 15minutes and should not occur more than four times per day. There should be at least 60minutes between successive exposures in this range. For substances which no OEL-STEL, excluding airborne pollutants, a figure of three times the OEL is to be used when controlling short time executions in exposures.

3.1.4 Secondary blasting means blasting operations not associated with production from in-situ ground which can take place at any time during shift to remove obstruction or reduce big rock rocks in sizes but excludes blasting of hot holes drilled in situ rock. MSHA Chapter 4

3.1.5 Permit to work it is formal written, safe system of work to control potentially hazardous activities. The permit details the work undertaken and the necessary precautions to be taken (chapter 3). **(10)**

3.2 Refuge Bay requirements regulation 16.6 (2)

- a) Sufficient size.
- b) Equipped with sufficient supply of respirable air.
- c) Sufficient supply of potable water.
- d) Sufficient ablution facilities.
- e) Sufficient illumination.
- f) Sufficient first aid equipment.
- g) Efficient means of communication verbally to surface.
- h) Situated in area not being used for storage of combustible material or close to such an area.
- i) Constructed in such a way that air containing noxious smoke, fumes or gases will not enter the refuge bay.
- j) A plan of escape route is displayed in the refuge bay, indicating position of the refuge bay in relation to shaft or any other egress or access way to the surface.
- k) A sign is displayed in refuge bay, setting out emergency procedures to be followed and relevant emergency numbers.
- l) Means to facilitate clear identification of the location of the refuge bay from outside in poor visibility.

3.3 OEM responsibility to ensure health and safety. MSHA Section 21

- a) Ensure that the article is safe and without risk to health and safety when used properly.
- b) Ensure that nothing about the manner in which an article is installed, erected makes it unsafe or creates a risk to health and safety.
- c) Ensure that as far as reasonable practicable that ergonomic principles are considered and implemented during design, manufacturing, erection, or installation.
- d) Ensure that the substance is safe and without risk to health and safety when used, handled, processed, stored, or transported at a mine.
- e) Provide adequate information about use of substance, risk to health and safety associated with the substance, restrictions and/ or controls on the use, safety precautions to ensure that substance is without risk to health and safety,

procedure to be followed in case of an accident and disposal of used containers.

- f) Ensure information provided complies with hazardous substance act 15 of 1973

QUESTION 4

4.1 OHSA 85 of 1993 Asbestos air monitoring requirements Asbestos regulation section 8

- a) Measurement carried out by an approved asbestos inspection authority, or
- b) By a person whose ability to do measurements is verified by an approved asbestos authority.
- c) Measurement programme in a case of group measurements provides for selection of number of persons for sample to be done.
- d) Ensure that representative measurements are carried out at least every 12 months.
- e) Obtain services of an approved asbestos inspection authority at intervals not exceeding 12 months, do required verification:
- f) Measurement and analysis equipment of an employer,
- g) Question the person who is not approved asbestos authority who does asbestos measurements.
- h) Carry out together with a person mentioned above the measurement programme required.
- i) Ensuring that the results of the measurements for any one group have been recorded as per regulation 16.
- j) If the OEL for asbestos have been exceeded regulation 11, control of exposure to asbestos shall apply. **(10)**

4.2 Appointment of competent people Regulation 22.15

4.2.1 Competent person for regulation 5.1(1) obligation for underground-Certificate in Mine Environmental Control issued by the Chamber of Mines.

Obligation for surface- Intermediate Certificate in Mine Environmental Control issued by the Chamber of Mines and be a certified Occupational Hygienist by the Southern African Institute for Occupational Hygiene or Certificate in Mine Environmental Control issued by the Chamber of Mines.

4.2.2 Competent person for regulation 8.2 (6)- electrical or mechanical Certificate of Competency for Mines and works issued by the Chief Inspector of Mines.

AB degree in Electrical or Mechanical Engineering.

4.2.3 Competent person appointed under regulation 11.4 (3)- Means a person registered with Health Professional Council in any of the following:

Ear, nose, and throat specialist

Speech therapy and audiology

An occupational medical practitioner.

4.2.4 Competent person appointed under regulation 14.1 (8) means a person who is at least in possession of either the Chamber of Mines Certificate in Rock Engineering (Metalliferous Mines) or Chamber of Mines Certificate in Rock Mechanics (Coal Mines).

4.2.5 Competent person appointed under regulation 16.5 (1) (a)- means a person who has passed a course of training approved for this purpose by the Chief Inspector of Mines or has been assessed and found competent against applicable unit standards, skill programme and/ or qualification recognised for this purpose by the Mining Qualification Authority (MQA). **(10)**

4.3 Members of the hearing conservation structure.

- a) Employer representative (Chairperson).
- b) Section 12(1) appointee of the MHSA.
- c) Engineer for noise control purpose.
- d) Procurement representative.
- e) OMP of the MHSA.
- f) Human Resources Development Representative (education and training).
- g) Fulltime health and safety representative. **(5)**