DEPARTMENT OF MINERAL RESOURCES AND ENERGY

NO. 5099 **2 August 2024**

MINE HEALTH AND SAFETY ACT, 1996 (ACT NO. 29 OF 1996)

GUIDELINE FOR A MANDATORY CODE OF PRACTICE FOR A QUALITY ASSURANCE PROGRAMME FOR A SYSTEM OF OCCUPATIONAL HYGIENE AND VENTILATION ENGINEERING MEASUREMENTS

I **DAVID MSIZA**, the Chief Inspector of Mines, in terms of Section 49 (6) read together with Sections 9 (2) and 9 (3) of the Mine Health and Safety Act, 1996 (Act No. 29 of 1996), hereby issue the Guideline for a Mandatory Code of Practice for a Quality Assurance Programme for a System of Occupational Hygiene and Ventilation Engineering Measurements, as set out in the schedule below.

DAVID MSIZA
CHIEF INSPECTOR OF MINES
DEPARTMENT OF MINERAL RESOURCES AND ENERGY

SCHEDULE

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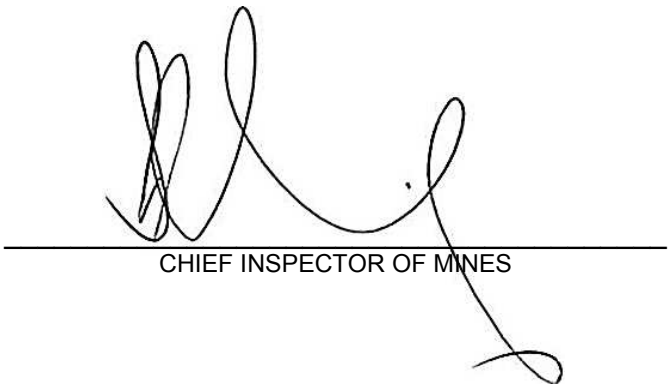
DEPARTMENT OF MINERAL RESOURCES AND ENERGY

MINE HEALTH AND SAFETY INSPECTORATE

GUIDELINE FOR THE COMPILATION OF A

MANDATORY CODE OF PRACTICE FOR

A QUALITY ASSURANCE PROGRAMME FOR A SYSTEM OF OCCUPATIONAL HYGIENE AND VENTILATION ENGINEERING MEASUREMENTS



CHIEF INSPECTOR OF MINES

mineral resources & energy
Department:
Mineral Resources and Energy
REPUBLIC OF SOUTH AFRICA

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PART A: THE GUIDELINE

1. FOREWORD

1.1. The **MHSA** requires the employer to protect the health and safety of employees at mines. It further requires the employer, in terms of Regulation 9.2(2) read with Section 11(4)(a) and Section 12 of the **MHSA**, and in terms of its risk assessment, to establish and maintain a system of occupational hygiene measurements.

1.2. The overall goal of a well-designed and well-implemented occupational hygiene measurement system (i.e. sampling and analysis) is to measure accurately the health hazards to which an individual might be exposed to in his or her workplace. Workplace environmental control management decisions are made on the assumption that analytical results are, within known limits of accuracy and precision, representative of workplace conditions.

1.3. Many sources of error exist that could affect the analytical results. Factors to consider as sources of error include improper sample collection, handling, preservation, transport, inadequate personnel training, poor analytical methods, data reporting and record keeping.

1.4. The **CIOM** has for years provided mandatory guidelines to assist employers on several aspects to develop programmes for managing occupational exposures to health hazards. It has always remained a challenge to ensure that with every programme there is appropriate quality assurance in place for the integrity of sampling strategies and processes put in place at mines.

1.5. Where the risk assessment of the employer indicates a need to establish and maintain either a system of occupational hygiene and ventilation engineering measurements, or where such a system is required by regulation, the employer must prepare and implement a quality assurance programme **COP** based on this guideline.

1.6. This guideline aims to assist employers with the establishment of an appropriate quality assurance programme on the occupational hygiene and ventilation engineering measurements but does not stipulate detailed requirements for specific circumstances, as the individual requirements of any employer will be guided by the risk assessment outcomes.

2. LEGAL STATUS OF THE GUIDELINE AND COP

2.1. In accordance with section 9(2) of the **MHSA**, an employer must prepare and implement a **COP** on any matter affecting the health or safety of employees and other persons who may be directly affected by activities at a mine when the **CIOM** requires it.

2.2. The **COP** must comply with any relevant guidelines issued by the **CIOM** in accordance with Section 9(3) of the **MHSA**.

2.3. Failure by the employer to prepare or implement a **COP** in compliance with this guideline is a breach of the **MHSA**.

3. OBJECTIVE OF THIS GUIDELINE

3.1. In terms of Regulation 9.2(2) read with Section 11(4)(a) and Section 12 of the **MHSA**, and in terms of the risk assessment, every employer at a mine is required to establish and maintain a system of occupational hygiene measurements of all working places where health hazard limits prevail.

3.2. The objectives of this guideline are to ensure that every employer at a mine is able to:

3.2.1. Compile a **COP** on a quality assurance programme for a system of such occupational hygiene measurements and ventilation engineering measurements, which if implemented properly will ensure integrity of such measurement results, thereby improving occupational hygiene programmes at the mine.

3.2.2. Be provided with relevant and accurate information that the employer can use in determining measures to eliminate, control and minimise the health risks and hazards to which employees are or may be exposed.

4. DEFINITIONS AND ACRONYMS

4.1. In this guideline for a **COP** or any amendment thereof, unless the context otherwise indicates, the acronyms are:

4.1.1. **Analysis methodology** means analysis techniques used to quantify a pollutant collected on or in sampling media (e.g. gas chromatography or mass spectrometry).

4.1.2. **CIOM** means Chief Inspector of Mines.

4.1.3. **COP** means a Code of Practice.

4.1.4. **DMRE** means Department of Mineral Resources and Energy.

4.1.5. **Exposure** means the subjection of a person to a workplace health hazard (e.g. physical, chemical or biological) during employment.

4.1.6. **MHSA** means the Mine Health and Safety Act, 1996 (Act 29 of 1996) as amended.

4.1.7. **Measurement (or sampling)** means the act of measuring while sampling and is the process or technique of obtaining a representative sample. However, in the context of this **COP**, these terms may be used interchangeably when referring to both occupational hygiene and ventilation engineering measurement techniques and are not mutually exclusive.

4.1.8. **Monitoring equipment** means any equipment or instrument that is used to conduct an occupational hygiene and ventilation engineering measurement(s).

4.1.9. **PI** means Principal Inspector of Mines.

4.1.10. **Quality assurance** means a planned and systematic means for assuring management that the defined standards, practices, procedures and methods of the process are applied.

5. SCOPE

5.1. This guideline details elements of quality assurance that need to be applied in the occupational hygiene programme and mine ventilation engineering measurements, where the risk assessment of the mine identified the need for the employer to establish and maintain a system of occupational hygiene measurements.

5.2. The quality assurance programme must include all aspects of the occupational hygiene and mine ventilation engineering measurement system, from preparation, calibration and handling of samples and equipment, data interpretation and storage, calculations to reporting that are formally documented, traceable and auditable.

5.3. This guideline provides guidance of a general nature on the required format and content for the **COP** and details sufficient technical background to enable the drafting committee at the mine to prepare a comprehensive and practical **COP** for the mine.

6. MEMBERS OF THE GUIDELINE REVIEW TASK GROUP

CHAIRPERSON		
	Mr Brian Mongoma	
STATE	**EMPLOYERS**	**ORGANISED LABOUR**
Ms Constance Kekana	Mr Willie Deysel	Ms Keneiloe Mokgongwana
	Mr Salwynne Vreugdenburg	
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	Ms Zoe Selenati-Dreyer	
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PART B: AUTHOR'S GUIDE

1. The **COP** must, where possible, follow the sequence laid out in Part C: Format and Content of the **COP**.

2. The pages as well as the chapters and sections must be numbered, where possible, to facilitate cross-referencing.

3. Wording must be unambiguous and concise.

4. In this guideline for a **COP**, unless the context otherwise indicates the meaning of the words, will have the meaning as described within this document and that of the general understanding of such words.

5. It should be indicated in the **COP** and on each annexure to the **COP** whether:

5.1. The annexure forms part of the guideline and must be complied with or incorporated in the **COP**, or whether aspects thereof must be complied with or incorporated in the **COP**.

5.2. The annexure is merely attached as information for consideration in the preparation of the **COP** (i.e. compliance is discretionary).

6. When annexures are used the numbering should be preceded by the letter allocated to that particular annexure and the numbering should start at one again. (e.g. A1, A2, A3, etc.).

7. Whenever possible illustrations, tables, graphs and the like, should be used to avoid long descriptions and/or explanations.

8. When reference has been made in the text to publications or reports, references to these sources must be included in the text as footnotes or side notes, as well as in a separate bibliography.

PART C: FORMAT AND CONTENT OF THE MANDATORY COP

1. TITLE PAGE

1.1. The title page must include:

1.1.1. The name of the mine.

1.1.2. The mine code number.

1.1.3. The heading: *Mandatory Code of Practice for a Quality Assurance Programme for a System of Occupational Hygiene and Ventilation Engineering Measurements*.

1.1.4. A statement to the effect that the **COP** was drawn up in accordance with the guideline with reference number **DMRE 16/3/2/4-B8** issued by the **CIOM**.

1.1.5. The mine reference number for the **COP**.

1.1.6. The effective date of the mine's **COP**.

1.1.7. The revision dates of the mine's **COP** (previous and next revision dates if applicable).

2. TABLE OF CONTENTS

2.1. The **COP** must have a comprehensive table of contents.

3. STATUS OF THE MANDATORY COP

3.1. Under this heading the **COP** must contain statements to the effect that:

3.1.1. The **COP** was drawn up in accordance with the guideline with reference number **DMRE 16/3/2/4-B8** issued by the **CIOM**.

3.1.2. This is a mandatory **COP** in terms of Section 9(3) of the **MHSA**.

3.1.3. The **COP** supersedes all previous relevant **COPs**.

3.1.4. All managerial instructions or recommended procedures and standards on the relevant topics must comply with the **COP** and must be reviewed to assure compliance.

3.1.5. The **COP** may be used in an investigation or inquiry of any accident, serious illness or health threatening occurrence to ascertain compliance and to establish whether the **COP** is effective and fit for purpose.

4. MEMBERS OF THE DRAFTING COMMITTEE PREPARING THE COP

4.1. In terms of Section 34(1) of the **MHSA**, the employer must establish a health and safety committee through a collective agreement, and where there is no collective agreement, the employer must establish a health and safety committee in terms of

Section 33(6) or (7) of the **MHSA**. The employer must document the system undertaken to establish the health and safety committee at the mine.

4.2. In terms of Section 9(4) of the **MHSA** the employer must consult with the health and safety committee on the preparation, implementation or revision of any **COP**. Where there is no health and safety committee the employer must consult the health and safety representative. The employer must document the system undertaken to consult with the health and safety committee or representative(s).

4.3. It is recommended that the employer should, after consultation with the employees in terms of the **MHSA**, appoint a committee responsible for the drafting of the **COP**.

4.4. The members of the drafting committee assisting the employer in drafting the **COP** should be listed giving their full names, designations, affiliations and experience.

4.5. This committee must include competent persons sufficient in number to effectively draft the **COP**.

5. GENERAL INFORMATION

5.1. General relevant information relating to the mine must be stated in this section of the **COP**, which must include at least the following:

5.1.1. A brief description of the mine and its location.

5.1.2. The commodities produced at the mine.

5.1.3. The mining methods or the combination of methods at the mine must be listed and it must discuss the degree of mechanisation, taking care to identify all the occupational health hazards that prevail at the mine.

5.1.4. Measures taken to eliminate, control and minimise the occupational health hazards to which employees are or may be exposed.

5.1.5. Other related **COPs** and management standards must be reviewed concurrently to avoid conflict of requirements as laid down by the employer.

6. TERMS AND DEFINITIONS

6.1. Any word, phrase or term of which the meaning is not clear, or which will have a specific meaning assigned to it in the **COP**, must be clearly defined.

6.2. Existing and/or known definitions should be used as far as possible.

6.3. The drafting or reviewing committee should avoid jargon and abbreviations that are not in common use or that have not been defined.

6.4. The definitions section should also include acronyms and technical terms used.

7. RISK MANAGEMENT

7.1. Section 11 of the **MHSA** requires the employer to:

- Identify the hazards to health or safety.
- Assess the risks to health or safety to which employees may be exposed while they are at work.
- Record the significant hazards identified and risks assessed.

7.2. The employer must develop, implement and document the risk assessment methodology that will be considered in identifying, assessing and recording all the occupational health hazards that prevail at the mine.

7.3. The employer must identify and record all the measures required to eliminate, control and minimise the health risks and hazards to which employees are, or may be exposed to, at the mine that requires a quality assurance programme.

7.4. The employer must document all the relevant information such as accidents or incidents statistics, research reports, manufacturers specifications, approvals, design, and performance criteria for all relevant equipment that will be obtained and considered in conducting the risk assessment.

7.5. In addition to the periodic review required by Section 11(4) of the **MHSA**, the **COP** should be reviewed and updated after audit findings, regulatory standards, guidance and/or instructions, and changes to relevant national or international standards.

8. ASPECTS TO BE ADDRESSED IN THE MANDATORY COP

8.1. Where the risk assessment of the employer identified the need for a system of occupational hygiene and mine ventilation measurements, a quality assurance programme must be developed and implemented.

8.2. The **COP** on a quality assurance programme for the system of occupational hygiene and mine ventilation measurements must, at the minimum, cover the following key elements, but is not limited to:

8.2.1. Occupational hygiene and ventilation engineering personnel

8.2.1.1. As part of the occupational hygiene and ventilation programme implemented at the mine, the employer must ensure that adequate occupational hygiene and ventilation resources are available to execute the programme through, but not limited to, the following requirements:

8.2.1.1.1. Define the organisational management structure with clear roles and responsibilities and the reporting line for occupational hygiene and ventilation engineering resources.

8.2.1.1.2. Conduct an assessment to determine the resources required, the minimum qualifications and the skills needed based on the occupational hygiene and ventilation management requirements for the operation.

8.2.1.1.3. Determine the training programme for occupational hygiene and mine ventilation engineering personnel, and the required training frequency. The programme should include, as a minimum, sampling techniques, field or transport quality assurance of sampling, analytical methods, specificity, accuracy, precision monitoring, detection limits, potential interferences, uncertainty of measurement and regulatory limits.

8.2.1.1.4. Determine which of the occupational hygiene and mine ventilation assessment activities will need supervision and how supervision will be carried out.

8.2.1.1.5. Define clear roles and responsibilities of the employees (Refer to Annexure A: **MHSA** minimum requirements for defining the roles and responsibilities) that will be monitoring, eliminating, controlling, and minimising the significant occupational health hazards.

8.2.2. Occupational hygiene and ventilation engineering measuring equipment control

8.2.2.1. The employer must develop and implement a system that will ensure that the occupational hygiene and ventilation equipment is adequately controlled and managed.

8.2.2.2. All the occupational hygiene and ventilation engineering personnel must receive periodic training on the system that will ensure that the occupational hygiene and ventilation equipment is adequately controlled and managed.

8.2.3. Monitoring programme

8.2.3.1. Measurement methods

8.2.3.1.1. The employer must stipulate the following in the **COP**:

a) All occupational hygiene sampling or measurement methods that will be implemented by the mine.

b) All ventilation measurement methods that will be implemented by the mine.

c) The requirements for the internal and external laboratories that will be used by the mine.

d) Specifications for a gravimetric weighing room where the minimum requirements for a gravimetric weighing room is stipulated in Annexure B: Minimum requirements for a weighing room and should be complied with.

8.2.3.2. Preparation, handling, transportation, and storage of monitoring equipment

8.2.3.2.1. The employer must develop a procedure on how and where all the occupational hygiene and ventilation engineering monitoring equipment will be prepared, handled, transported and stored, where the procedure will include, but is not limited to, the following:

a) Minimum requirements where samples and monitoring equipment will be prepared and handled pre- and post-sampling or measuring.

b) All occupational hygiene and ventilation engineering monitoring equipment being uniquely identified and recorded in an equipment register.

c) Each field sample to be assigned a unique identifier and such unique identifier being recorded.

d) A method of sampling assurance for blank, transport and laboratory monitoring to be developed and maintained.

e) Description of sampling equipment and sample media transportation methods e.g. carrying case.

8.2.3.3. Sampling frequency

8.2.3.3.1. Define the sampling or measuring frequency of each identified occupational health hazard as per the applicable mandatory **COPs** of the mine. For those occupational health hazards without mandatory **COPs**, sampling or measuring frequency must be identified as per the risk assessment of the mine.

8.2.3.4. Control monitoring frequency

8.2.3.4.1. Define the monitoring frequency to determine the effectiveness of each control measure implemented as per the risk assessment outcomes and/or the specifications of the original equipment manufacturer.

8.2.3.5. Sampling or measurement duration

8.2.3.5.1. Based on the risk assessment outcomes, define the sampling or measuring duration for each occupational health hazard to be representative of the exposure of employees.

8.2.3.6. Measuring equipment calibration and maintenance.

8.2.3.6.1. The employer must develop a procedure on the calibration and maintenance of all the occupational hygiene and ventilation engineering measuring equipment in use at the mine.

8.2.3.6.2. The employer must demonstrate that adequate resources have been allocated for sampling maintenance, calibration and equipment to be sufficient.

8.2.3.6.3. The procedure must also describe the training requirements to perform in-house calibrations, maintenance and verifications.

8.2.3.6.4. Records must be readily available at the mine of any maintenance performed on the monitoring equipment and who performed the maintenance.

8.2.3.7. Issuing and retrieval of sampling or measuring equipment

8.2.3.7.1. The employer must develop a procedure on how all the occupational hygiene and ventilation engineering sampling or measuring equipment will be controlled, issued and retrieved.

8.2.3.8. Occupational hygiene and ventilation engineering documentation

8.2.3.8.1. Develop and implement a procedure that will ensure, but is not limited to, the following:

a) A safe area or facility where all the specified occupational hygiene and ventilation engineering documents will be kept, the format of the documents (e.g. electronic or hard copies) and stating the period that the documents will be kept for.

b) Defining a responsible person that will have access to the documents and if necessary, what will the arrangements be should other interested parties want to peruse these documents.

c) Define who will be responsible for making any amendments to these documents.

d) Define the approval process for the relevant documents and reports prior to it being shared with other interested parties, employees, the state, organised labour representatives (if applicable), health and safety representative(s), health and safety committees, etc.

e) The field sampling data must cover the information as contained in Annexure C as a minimum requirement where applicable (Annexure C: Field sampling information).

8.2.3.9. Uncertainty of sampling/measurements, errors, and sources of errors

8.2.3.9.1. A sampling or measurement method must identify sampling errors and how to control the errors. The sampling or measurement method must at least cover, but is not limited to, the following:

a) Types and potential sources of sampling or measuring errors.

b) Detection of sampling or measuring errors.

c) Requirements on how the uncertainty of measurements will be identified, evaluated and reported.

8.2.3.10. Data validation and interpretation

8.2.3.10.1. A procedure must be developed and implemented to demonstrate how the data will be validated, interpreted and signed-off prior to reporting to the employer and to the **PI**.

8.2.3.11. Traceability

8.2.3.11.1. A procedure must be developed and implemented to demonstrate that all the sampling or measurement results are traceable through an unbroken chain from planning to reporting, e.g. all the associated sampling or measurement documents to be completed and recorded to provide traceability.

8.2.3.12. Audits

8.2.3.12.1. The procedure must be developed where the employer must conduct an internal audit on the occupational hygiene and ventilation engineering quality assurance programme of the mine on an annual basis to assess compliance to the procedures of the mine and to this guideline. Such audits must be conducted by a competent person or institution where the competency requirements of such a person or institution will be defined by the employer in the procedure.

8.2.3.12.2. The employer must conduct periodical external audits on the occupational hygiene and ventilation engineering quality assurance system of the mine and such audits to be conducted by an independent competent person or institution as defined by the employer.

8.2.3.12.3. The employer must maintain evidence of the audit outcomes, inclusive of any associated action plan to close out identified deficiencies.

8.2.3.13. Record keeping

8.2.3.13.1. The employer must develop and implement a system to keep a record of the following:

a) Risk assessment methodology that will be utilised in identifying, assessing and recording all the occupational health hazards.

b) All measures required to eliminate, control and minimise the health risks and hazards to which employees are or may be exposed to at the mine that requires a quality assurance programme.

c) Records on the qualifications and training of all occupational hygiene and ventilation engineering personnel.

d) Occupational hygiene and ventilation engineering measuring equipment register.

e) Calibration and maintenance register, including copies of external calibration certificates.

f) Any other procedure(s) required in terms of this guideline.

g) A register of all occupational hygiene and ventilation engineering measurements reports compiled for the mine with each report assigned a unique identifier or reference number.

PART D: IMPLEMENTATION

1. IMPLEMENTATION PLAN

1.1. The employer must prepare an implementation plan for a **COP** that makes provision for issues such as organisational structures, responsibilities of functionaries and programmes and schedules for the **COP**, which will enable proper implementation of the **COP** (a summary of and a reference to, a comprehensive implementation plan may be included).

1.2. Information may be graphically represented to facilitate easy interpretation of the data and to highlight trends for the purposes of risk assessment.

2. COMPLIANCE WITH THE COP

2.1. The employer must institute measures for monitoring and ensuring compliance with the **COP**.

3. ACCESS TO THE COP AND RELATED DOCUMENTS

3.1. The employer must ensure that a complete **COP** and related documents are kept readily available at the mine for examination by any affected person.

3.2. A registered trade union with members at the mine, or where there is no such union, a health and safety representative on the mine, or if there is no health and safety representative, an employee representing the employees on the mine, must be provided with a copy. A register must be kept of such persons or institutions with copies to facilitate the updating of such copies.

3.3. The employer must ensure that all employees are fully conversant with those sections of the **COP** relevant to their respective areas of responsibilities.

ANNEXURE A: MHSA MINUMUM REQUIREMENTS FOR DEFINING THE ROLES AND RESPONSIBILITIES

(For information purposes only)

1. Minimum requirements in terms of the MHSA

MHSA SECTION	REQUIREMENT
Section 2	Employer to ensure safety.
Section 5	Employer to maintain a healthy and safe mine environment.
Section 6 (3)	Employees who are required to use personal protective equipment are instructed in the proper use, the limitations and the appropriate maintenance of that equipment.
Section 7 (1) (e)	Ensure that work is performed under the general supervision of a person trained to understand the hazards associated with the work and who has the authority to ensure that the precautionary measures laid down by the employer are implemented.
Section 9	**COPs**: • Occupational Health Programme on Thermal Stress • Occupational Health Programme (occupational hygiene and medical surveillance) on Personal Exposure to Airborne Pollutants • Occupational Health Programme (occupational hygiene and medical surveillance) for Noise • Prevention of Flammable Gas and Coal Dust Explosions in Collieries • Prevention of Flammable Gas Explosions in Mines Other Than Coal Mines • Emergency Preparedness and Response • Trackless Mobile Machines • And assist in the preparation, review and maintenance of Minimum Standard of Finess to Perform Work at a Mine; Management of Working in Confined Spaces at Mines; Management of Self-contained Self-Rescuers in Mines; etc.
Section 10	Employer to provide health and safety training.
Section 11	Employer to assess and respond to risk (Section 11.4 and Section 11.5 investigations).
Section 12	Employer to conduct occupational hygiene measurements.
Section 14	Record of hazardous work.
Section 19 (1)	Employees' right to information (exposure reports).
Section 21	Manufacturer's and supplier's duty for health and safety.
Section 23	Employees' right to leave dangerous working places.
Section 52	Duty to assist inspectors and answer questions.
Section 53	Duty to produce documents required by an inspector.

2. Minimum requirements in terms of the MHSA regulations

MHSA REGULATIONS	REQUIREMENTS
Regulation 4 (6)	General precautionary measures when blasting takes place, air and ground vibrations, shock waves or fly material are limited to such an extent and at such a distance from any building, public thoroughfare, railway, power line or any place where persons congregate to ensure that there is no significant risk to the health or safety of persons.
Regulation 4 (8)	Prevention of flammable gas and coal dust explosions.
Regulation 5	Fires and explosions.
Regulation 8.4 (2)(g)(iii)	A written procedure prepared and implemented for the installation of a winch system that must cover at least illumination of the moving parts of any winch so that it can be identified by persons.
Regulation 8.6	Machinery and equipment.
Regulation 8.7	Refrigeration and air-conditioning installations.
Regulation 8.8 (5) (c) Regulation 8.8 (6)	General machinery regulations.
Regulation 8.9 (3)	Conveyor belts.
Regulation 9	Mine environmental engineering and occupational hygiene.
Regulation 10	Miscellaneous and general provisions: hazardous location.
Regulation 11.4 Regulation 11.5 Regulation 11.6 Regulation 11.7 Regulation 11.9	Noise. Asbestos dust. Coal dust. Crystalline silica dust. Record of hazardous work.
Regulation 14 (4) Regulation 14 (5)	Protection of the surface and the workings.
Regulation 16	Rescue, first aid and emergency preparedness and response.
Regulation 17 (5) Regulation 17 (6) Regulation 17 (19)	Surveying, mapping and mine plans.
Regulation 23 (1) Regulation 23 (4) (d, f , g, k, m)	Reporting of accidents and dangerous occurrences.

ANNEXURE B: MINIMUM REQUIREMENTS FOR A WEIGHING ROOM

(Mandatory and must be complied with)

1. The following points should be considered when selecting a weighing room:

1.1. The location of the weighing room should be in an uncontaminated, dust free environment and away from any activity or equipment that can cause vibration.

1.2. To avoid draughts and the ingress of dust; windows, if fitted, must at all times be kept closed (sealed) and the entrance to the weighing room must preferably be through an airlock or otherwise a self-closing door (any other condition that may affect a stabilised atmosphere must be addressed).

1.3. The weighing room to be fitted with an air-conditioning device that is capable of maintaining constant relative humidity and temperature within the facility and where there is exceedance in accordance with the standard of the mine, corrective measures must be put in place by the employer.

1.4. The weighing room and procedure must be designed to minimize generation and discharge of static electricity.

1.5. Positioning of the micro-balance on rigidly designed object that will enable proper levelling with an anti-static surface covering.

1.6. Both reference and field filters due to be weighed must be acclimatised for at least 12-hours with appropriate air circulation or exposure to acclimatising environment.

1.7. A weighing procedure must include moisture correction on the sampling filters.

1.8. This room must be dedicated to the weighing and preparation of filter cassettes.

1.9. The following signs should be displayed at the entrance to the weighing room:

1.9.1. Weighing room.

1.9.2. No smoking.

1.9.3. No eating.

1.9.4. Acclimatisation in progress (when applicable).

1.9.5. Weighing in progress (when applicable).

NOTE:
It is recommended that the employer refers to the Guideline for the Compilation of a Mandatory Code of Practice for an Occupational Health Programme (occupational hygiene and medical surveillance) on Personal Exposure to Airborne Pollutants (DMR 16/3/2/4-A1) for additional information.

ANNEXURE C: FIELD SAMPLING INFORMATION
(Mandatory and must be complied with)

1. During sampling the following information must be recorded, where relevant, but it is not limited to:

1.1. Unique survey number.

1.2. Purpose of sampling and date of sampling.

1.3. Hazards or parameters sampled.

1.4. Unique identifier or serial number of monitoring equipment.

1.5. Sample media reference number if applicable e.g. filter reference number.

1.6. Measurement method or standard number and analytical method where applicable.

1.7. Start and stop time of sampling, exposure duration and total duration of sampling where applicable.

1.8. Pre- and post-sampling calibration readings where applicable.

1.9. Date of last external calibration.

1.10. Environmental factor(s) - wind direction, wind speed, humidity level, which might impact or influence on the sampling procedure.

1.11. Control measures in place and the working conditions as per the design specifications.

1.12. Personal protective equipment used by the employee whose exposure is measured.

1.13. Details, position and signature of the person sampling.

1.14. Details of the person and/or the area being sampled.

1.15. Exposure sources.

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