

**GUIDELINE FOR A MANDATORY CODE OF PRACTICE ON THE MINIMUM
STANDARDS OF FITNESS TO PERFORM WORK ON A MINE**

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I **DAVID MSIZA**, Chief Inspector of Mines, under section 49(6) of the Mine Health and Safety Act, 1996 (Act 29 of 1996) and after consultation with the Council, hereby issues the guideline on the minimum standards of fitness to perform work on a mine in terms of the Mine Health and Safety Act, as set out in the Schedule.

(Signed)

DAVID MSIZA
Chief Inspector of Mines

SCHEDULE

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DEPARTMENT OF MINERAL RESOURCES

MINE HEALTH AND SAFETY INSPECTORATE

**GUIDELINE FOR THE COMPILATION OF A MANDATORY CODE OF PRACTICE ON
THE**

MINIMUM STANDARDS OF FITNESS TO PERFORM WORK ON A MINE

(Signed)

CHIEF INSPECTOR OF MINES



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

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PART A: THE GUIDELINE

1 Introduction

- 1.1 This guideline has been drafted to assist **OMPs** in determining fitness to perform specified work at a mine or entity that reports under Mine Health and Safety Act (Act 29 of 1996) as amended, or to continue to perform such work.
- 1.2 This guideline outlines the most common approaches to be followed by the **OMP** to determine fitness-to-work of an employee suffering from a medical condition of a bodily system. It should however be noted that the approaches described within this guideline are not meant to be too prescriptive and **OMPs** should be allowed to introduce other approaches for evaluation of fitness to work as long as such approaches are supported by evidenced-based medical trials or by the appropriate medical associations eg South African/American Thoracic Society, etc.
- 1.3 Legislation (**MHSA/EEA**) requires that for every job for which a fitness-to-work medical examination is done is to have specific minimum health standards in relation to the essential functions of such a job. An **OMP** is responsible for executing fitness-to-work medical examinations and must ensure that he/she is familiar with the specific physical and mental requirements of each job for which he has to issue a fitness to work certificate.
- 1.4 Templates are provided as an Annexure for guidance on identifying possible risks and hazards associated with certain diseases and conditions. These are however not absolute guidelines, and they could be implemented as such.

2 Legal status of guidelines and COPs

- 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 the mines if the Chief Inspector of Mines requires it. These **COPs** must comply with any relevant guideline issued by the Chief Inspector of Mines (section 9(3)). Failure by the employer to prepare or implement a **COP** in compliance with this guideline is a contravention of the **MHSA**.

3 The objective of this guideline

- 3.1 The objective of this guideline is to assist the employer charged with the task of preparing a **COP** which, if implemented and complied with, would:
 - 3.1.1 be appropriate, considering the health and safety of all employees at the [sic];
 - 3.1.1 [sic] be appropriate, considering the health and safety of all employees at the mine;
 - 3.1.2 [sic] ensure the employee is fit to perform that employees' work at the mine;
 - 3.1.3 [sic] ensure that the health of the employee who is certified as fit for a specific job is such that the employee will be able to perform that work without an unacceptable health or safety risk to that employee or any other person;
 - 3.1.4 [sic] establish a baseline against which to measure subsequent changes in the health status of the employee; and
 - 3.1.5 [sic] ensure compliance to obligations as prescribed in other relevant labour legislation (**LRA; EEA; BCEA**) and relevant **COPs**.

4 Definitions and acronyms

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

'**COP**' means Code of Practice.

'**DMR**' means the Department of Mineral Resources.

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

'**OMP**' means Occupational Medical Practitioner.

'**EEA**' means Employment Equity Act (Act 55 of 1998).

'**LRA**' means Labour Relations Act (Act 66 of 1995).

'**BCEA**' means Basic Condition of Employment Act (Act 75 of 1997).

'**OREP**' means Occupational Risk Exposure Profile.

Health impact assessment (HIA) means the provision of information about how any policy, program practices and exposures may affect the health of a population, and the distribution of those effects within the population.

The social model means a model that concentrates on the person as a valued member of a very diverse society. It suggests that the disabled person is a unique individual who has the right to the same opportunities in housing, education, transport and facilities as anyone else. The solution according to this model is to bring about attitudinal, environmental and organisational changes within present day society. It is felt that disabled people need to be encouraged to play an equal part in decision making processes, particularly when the decisions affect them personally.

Medical model means a model that in the terms cited by psychiatrist Ronald D. Laing for the 'set of procedures in which all doctors are trained.' This set includes complaint, history, physical examination, ancillary tests if needed, diagnosis, treatment, and prognosis with and without treatment. This does not allow the person affected to have any say in the decision of fitness to work.

'**Strenuous work**' means physically and demanding tasks combined with extended hours of work where the work rate exceeds 160 W.m⁻².

5 Scope

- 5.1 This guideline covers a basic approach for the **OMP** advising on minimum standards of fitness to perform work at a mine.
- 5.2 This guideline does not stipulate specific advice on every medical condition. However, conditions not dealt with in the guideline, which could have an impact on health or safety, should also be taken into account when determining an employee's fitness to perform work. The hazard identification and risk assessment approach contemplated in the **MHSA** should be applied to fitness to perform work at a mine.
- 5.3 The **OMP** conducting the medical examination should be satisfied in each case that no disease or impairment is present which could either be significantly aggravated by working at a mine or represent an unacceptable health or safety risk to any person.

6 Members of the task group

6.1 Principal drafting members

- Dr Chris de Beer Occupational Medicine Practitioner and
Certified Professional in Medical Incapacity and
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- Dr Andre du R Louw Occupational Medicine Practitioner

6.2 Additional drafting members

- Dr Johan Schoeman Professional Occupational Hygienist
- Dr Nico Claassen Specialist Physiologist and Extra-ordinary lecturer
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6.3 Independent specialists consulted

- Dr Nomonde Mabuya Occupational Medicine Practitioner
- Me Zuritha du Preez Senior Human Resource Consultant - Matla Collieries, Mpumalanga
- Mr Lukas Coetsee Attorney of Law
- Mr Francois Strydom Attorney of Law
- Mr Paul Venter Experienced Underground Mine Captain

6.4 System specialists consulted

- Prof James Kerr Specialist Physician
- Dr Thomas Gray Specialist Physician
- Dr Danie du Toit Ophthalmologist
- Dr Helena Oosthuizen Endocrinologist
- Dr Hardie de Beer Dermatologist
- Dr Jan Chabalala Specialist Psychiatrist
- Dr Nomonde Mabuya Occupational Medicine Practitioner
- Dr Daneel Heyns Orthopaedic Surgeon
- Dr Pite Bresler Ear, Nose and Throat Surgeon
- Dr S Fatmi Neurosurgeon

6.5 State member

- Dr L Ndelu Chief Directorate: Occupational Health
- Dr D Mokoboto Medical Inspector

6.6 Employer member

- Dr K Baloyi

6.7 State

- Mr A Lertshele

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**'. The pages as well as the chapters and sections must be numbered to facilitate cross-reference. Wording must be unambiguous and concise.
- 2 It should be indicated in the **COP** and on each annex to the **COP** whether—
 - 2.1 The annex 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; or
 - 2.2 The annex is merely attached as information for consideration in the preparation of the **COP** (ie compliance is discretionary).
- 3 When annexes are used the numbering should be preceded by the letter allocated to that particular annex and the numbering should start at one (1) again (eg 1, 2, 3, A1, A2, A3).
- 4 Whenever possible illustrations, tables, graphs and the like should be used to avoid long descriptions and/or explanations.

- 5 When reference has been made in the text to publications or reports, 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

The **COP** should have a title page reflecting at least the following—

- 1.1 name of the mine;
- 1.2 the heading: 'Mandatory Code of Practice for Minimum Standards of Fitness to Perform Work at a Mine';
- 1.3 a statement to the effect that the **COP** was drawn up in accordance with **DMR** reference number **DMR 16/3/2/3-A3** issued by the **CIOM**;
- 1.4 the mine's reference number for the **COP**;
- 1.5 effective date; and
- 1.6 revision dates (if applicable).

2 Table of contents

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

3 Status of COP

Under this heading the **COP** must contain statements to the effect that—

- 3.1 the **COP** was drawn up in accordance with Guideline **DMR** reference number **DMR 6/3/2/3-A3** issued by the **CIOM**;
- 3.2 this is a mandatory **COP** in terms of section 9(2) and (3) of the **MHSA**;
- 3.3 the **COP** may be used in an accident investigation/inquiry to ascertain compliance and also to establish whether the code is effective and fit for purpose;
- 3.4 the **COP** supersedes all previous relevant **COPs**; and
- 3.5 all managerial instructions, recommended procedures (voluntary **COPs**) and standards on the relevant topics must comply with the **COP** and must be reviewed to ensure compliance.

4 Members of drafting committee

- 4.1 In terms of section 9(4) of the **MHSA** the employer must consult with the health and safety committee on the preparation, implementation and revision of any **COP**.
- 4.2 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**.
- 4.3 The members of the drafting committee assisting the employer in drafting the **COP** should be listed giving their full names, designations, affiliations and experience. This committee should include competent persons sufficient in number to effectively draft the **COP**.

5 General information

Relevant information relating to the mine must be stated in this paragraph. The following minimum information must be provided—

- 5.1 a brief description of the mine and its location;
- 5.2 the commodities produced;
- 5.3 the mining methods/mineral excavation processes;
- 5.4 a description of the systems in use on the mine to determine, implement and monitor minimum standards of fitness to perform work at the mine; and
- 5.5 other relevant **COPs**.

6 Terms and definitions

Any word, phrase or term of which the meaning is not absolutely clear or which will have a specific meaning assigned to it in the **COP**, must be clearly defined. Existing and/or known definitions should be used as far as possible. The drafting committee should avoid jargon and abbreviations that are not in common use or that have not been defined. The definitions section should also include acronyms and technical terms used.

7 Risk management

- 7.1 Section 7 and 11 of the **MHSA** requires the employer to identify hazards, assess the health and safety risks to which employees may be exposed while they are at work, consider the capabilities of employees in respect of health and safety, record the significant hazards identified and risks assessed and develop medical standards for each job on the mine. The employer must determine how the significant risks identified in the risk assessment process must be dealt with.
- 7.2 To assist the employer with the risk assessment all possible relevant information such as accident statistics, ergonomic studies, research reports, manufacturers specifications, approvals, design criteria, performance figure for all relevant equipment, medical condition/disease impacts, etc should be obtained and considered.
- 7.3 The existence of a medical condition with the likelihood of precipitating an acute illness or medical emergency is of particular concern in a mine, given that evacuation may entail a delay in providing treatment, and may put the health or safety of that individual or that of others at risk. The risk of an adverse outcome in the case of acute illness must be seen in the context of the particular mine/entity in which an employee works. For example, evacuation from deep level and open cast mines would not result in the same delays or risks.
- 7.4 In addition to the periodic review required by section 11(4) of the **MHSA**, the **COP** should be reviewed and updated after every serious incident relating to the topic covered in the **COP**, or if significant changes are introduced to procedures, mining and ventilation layouts, mining methods, plant or equipment and material. The results of any risk assessments required by section 11 of the **MHSA** and any relevant occupational exposure should also be considered.
- 7.5 The **OMP**, before making a decision on fitness to work, must consider all relevant legal obligations including those prescribed in the Labour Relations Act (**LRA**), Employment Equity Act (**EEA**), Basic Conditions of Employment Act (**BCEA**) and all relevant **COPs** linked to these Acts with special reference to management of employees with medical incapacity and disability.

The processes leading to a decision on fitness to work on a mine need to be based on risk management principles. Impairments may increase individual risk, but more importantly that of other employees also. Additionally, work exposures and environmental conditions may also impact on the ability of an employee to control impairment effectively, thereby increasing risk to health and safety. All these factors need to be considered prior to making a recommendation. However, to allow for reasonableness in taking fitness to work decisions, **OMPs** and employers should evaluate each case on its own merits, and should

generally not allow 'blanket exclusions' of employees suffering from certain conditions.

- 7.6 The methodology used for Risk Assessment is of particular concern for determining fitness to work on a mine/entity and the **OMPs** responsible should make decisions, especially where an employee is found not to be fit to work in a specific job, by taking into consideration the specific risks of the specific job instead of 'generalisation' of working groups (eg a truck driver with respiratory pathology working in a dust area but who has a relative low risk because of working in a relative safe area of an enclosed air conditioned environment).
- 7.7 Risk Assessment should be an integrated process between Management Occupational Health (Including Occupational Medicine and Occupational Hygiene), Safety Professionals and Health and Safety Representatives. Where an employee's medical condition constitutes an unreasonable risk to continue his/her work, such risk must be confirmed in writing by the **OMP** after taking into consideration the specifics of his/her medical condition and his/her working environment. Medical confidentiality must be respected at all times and cases related to medical detail may only be discussed on the Health and Safety Committee after written, informed consent has been obtained from the employee. Where such an employee does not consent to disclosure of his/her medical information to the Health and Safety Committee, the **OMP** should note such objection in writing and make the final decision on fitness to work taking into account the information available to the **OMP** at the time.
- 7.8 The employee's medical condition should be interpreted in functional terms and in the context of the job requirements. Some disabilities or impairments may be irrelevant to perform a particular job without risk to health or safety and therefore such person is fit to do such work. This means that decisions on fitness to work must be based on specific risk profiles of the individual job rather than the worst-case scenario on the mine.

8 Aspects to be addressed in the COP

The **COP** should address the process of health risk and health impact assessment, including ergonomic risks (see Annexure 1 attached: Health and Safety Risk Profile of the Mining Industry).

8.1 Extent and frequency of medical examination:

8.1.1 Initial/pre-placement examinations;

The **OMPs** must act on health disorders that are detected during initial or any other examination, either immediately or by appropriate referral. Fitness-to-work decisions must be reasonably practicably delayed until the state of maximum medical improvement has been reached. Employees should be informed of their obligation to comply fully to prescribed medical treatment regimens during this process and during the period of employment.

8.1.2 Periodic examination

Periodic examinations will be risk specific, taking into account the physical requirements of the occupation and workplace hazard exposure and results of risk assessment.

It is recommended that the result of this examination be either:

8.1.2.1 **The standards has been met:** a miner is fit for usual category of work.

8.1.2.2 **The standards has not been met:** a miner is unfit for usual category of work.

8.1.2.3 Discretion of the **OMP**

The **COP** should address the discretion of the **OMP**:

- 8.1.2.3(a) At any periodic medical examination, the standards of fitness required of an employee should generally be the same as the initial standards of fitness to perform work.
- 8.1.2.3(b) Where there is illness or impairment present the **OMP** should always consider the effect this would have on the ability of the employee to continue work without endangering the health or safety of that employee or any other person.
- 8.1.2.3(c) It is impractical to cover all medical problems that employees may develop after employment and therefore the **OMP** should use professional discretion when applying the standards of fitness at periodic medical examinations.

The **COP** must consider the following:

- 8.1.2.3(d) The period of further exposure of the employee. Some occupational diseases take a long time to develop and further deterioration of health may continue even after discontinuing exposure to the hazard. The further exposure of an employee to such a hazard where there is significant impairment present should be questioned. Where it is not practicable to reduce such exposure, it must be considered whether continuous exposure to these hazards (adversely affecting the employee's health) should be allowed and for what period of time. Where serious, permanent disablement could result, further exposure is undesirable thus eg an employee with more than 60 dB average pure tone hearing loss (0.5 kHz, 1, 2 and 3 kHz) is not fit to work in a noise zone at a mine.
- 8.1.2.3(e) The experience of the employee. Experience in a certain occupation or type of work usually enables employees to perform such work safely and without risk to their own or fellow employee's health or safety. This experience may compensate for impairment in such a way that allows the employee to continue performing work effectively without risk to health or safety.
- 8.1.2.3(f) The ability to protect the employee from further deterioration in health or impairment at work and reduce risk to fellow employees.
- 8.1.2.3(g) Supervision at work may reduce or eliminate health or safety risk due to illness or impairment. Examples are:
 - Personal protective equipment may be required and its use supervised to ensure compliance where impairment has resulted from failure to use such equipment;
 - Supervised work may ensure that an employee with an illness that may cause harm to that employee (eg Diabetes) will be able to receive help immediately. Where such supervision is not possible the employee would not be able to perform such work without risk;
 - Similarly, a serving driver for passenger and goods conveyance is no longer fit to work as a driver if there is more than 40 dB averaged pure tone (0.5,

1, 2 and 3 kHz) (note: see paragraph 8.3.5.2.1) hearing loss, due to unacceptable risk to himself and fellow employees;

- Supervised medication may eliminate or reduce risk to the health or safety of an employee or fellow employees: A well-controlled, responsible diabetic under close medical surveillance and supervision may be able to perform work without creating unacceptable risk; and
- Where such supervision is not possible or where there is a documented reluctance of the employee to comply with such measures, the **OMP** should consider these in declaring an employee fit or unfit to continue to work.

8.1.2.3(h) The **COP** must address the comprehensive assessment of the employee, taking into account of all physical, emotional and psychological factors:

- In deciding whether an employee is fit to continue to work, consideration must be given as to how one condition may aggravate another.
- A holistic approach is required that takes cognisance of the employee's health, experience, the type of work, the risk involved etc and how these collectively affect fitness to work.
- The employee's medical condition should be interpreted in functional terms and in the context of the job requirements. Some disabilities or impairments may be irrelevant to performing a particular job without risk to health or safety and therefore such a person is fit to do such work.

8.1.2.3(i) Alterations in exposure or medical surveillance:

- The **OMP** may consider declaring a person fit to continue working subject to certain conditions such as closer supervision and monitoring, which might include reduction in exposure or more frequent medical surveillance.
- Where the standards for fitness are not met at periodical examination, the results of the medical examination should be discussed with the employee to ensure full understanding of the risks and consequences.
- Should an employee be declared fit to work, despite certain impairments and where certain qualifications are applied to certain working standards and supervision etc, this must be discussed with the employee and the importance of these stressed to the employee.
- The **OMP** must notify the employer of the qualifications or conditions subject to which the employee may continue to perform specific work.

8.2 Exit medical examinations

The **COP** must address the exit medical examination by ensuring that all employees or persons who previously have been employed at a mine, have the right to appeal any finding of an **OMP** contained in an exit to the Medical Inspector in terms of section 20 of the **MHSA**. Regarding appeals, the Medical Inspector may, as far as possible, be assisted by the disclosure, in confidence, of personal medical information, in accordance with section 15 of the **MHSA**.

8.3 Categorisation of fitness to work

The **COP** should categorise the standards that has been met if an employee is fit for a particular job; or the standards that has not been met if an employee is unfit for a particular job:

8.3.1 Permanently unfit **or** temporarily unfit.

The **COP** should address the issues related to unfitness at work and consider the following:

- Should a serving employee be found unfit to perform work by the **OMP**, the reason thereof and the effective date must be recorded in the employee's medical record.
- A decision that an employee is unfit to perform that employee's usual category of work should be reached only after thorough consideration of the case and the **OMP** should fully discuss the considerations with the employee. If requested in writing by the employee, the employee's own medical practitioner should be informed of the decision and the reasons for it.
- If an employee is declared unfit to perform work by the **OMP** as a result of an occupational disease, the employer must conduct an investigation in terms of section 11(5) of **MHSA**.
- The **OMP** will follow appropriate procedures in terms of the Compensation for Occupational Injuries and Diseases Act, 1993 (Act 130 of 1993) (COIDA) or Occupational Diseases in Mines and Works Act 1973 (Act 78 of 1973) (ODMWA) if applicable.
- The Mine Health and Safety Act contains provision (section 20) for an employee to dispute a finding of unfitness to perform a particular category of work. In this case the employer will take reasonable steps to assist the employee.

8.3.2 Review of fitness after absence for medical reasons

Provision is made for the review of fitness after a period of absence due to medical reasons, irrespective of whether the reason is occupationally- or non-occupationally related or whether due to illness or injury. Sick note certificates used by mine medical practitioners will provide space for the treating doctor to indicate whether an employee is fit for his/her usual occupation. If declared unfit, or if the treating doctor is unsure of the employee's status of fitness, the employee may be referred to the occupational health centre for assessment.

In the case where the treating doctor is not employed by the mine, the sick note will be routed through the business unit's occupational health practitioner when the employee resumes work. The OHP will either accept the sick note as is or arrange for a review of fitness. The review of fitness will apply to all levels of employees, as well as the employees of contractors to the business unit.

- 8.3.3 Disability evaluation and transfer examinations (failed fitness-to-work examination).

Where the **OMP** certifies an employee as 'not fit' for work, the **OMP** must make reference to why such decision was made eg 'not able to comply with physical demands of job' as well as the reason for making this decision eg unable to climb stairs.

Reasonable care should be exercised in the process of evaluating potential impaired employees to not utilise the employee benefits of sick leave unnecessarily. Employees should be kept in employment as far as reasonably practicable while conducting investigations, except where further work exposures may drastically impact on an employee's wellbeing or safety, eg hearing impairment and pneumoconiosis. Where employees are removed from their job during these investigations, the case should be managed in line with the prescripts of the 'Management of Medical Incapacity due to Ill-health and Injury' guideline.

8.4 Minimum standards of fitness to perform work at a mine

The **COP** should take the following into consideration:

- 8.4.1 The **OMP**, as the responsible competent person in terms of section 13 of the MHSA, must establish minimum health standards depending on findings of risk and health impact assessments at the specific mine.
- 8.4.2 This includes establishing and maintaining a risk based medical surveillance system for determining fitness to perform work of a strenuous nature.
- 8.4.3 The system should be holistic to include medical, physical and functional work capacity assessments.
- 8.4.4 The decision for fitness should be based on the outcomes of medical, physical and functional work capacity assessments. Failure to meet the standards of a single test should be dealt with in a discretionary way by the **OMP**. Some chronic conditions may need adequate supervision and control for successful accommodation to occur. The employee must give consent for disclosure of his condition, and allow for employer involvement with management and monitoring of compliance to treatment regimens.
- 8.4.5 To allow for substantive fairness in the process of fitness to work recommendations, **OMPs** should make notes and keep records of all aspects informing them on reaching recommendations. These records should be kept in the employee's medical file, and their confidentiality information maintained.

When making the decision about a person's ability to do a specific job it is imperative to take cognisance of the World Health Organisation's (WHO) stance to apply the Social Model approach rather than the Medical Model. (Refer to ILO Disability Management Code) (Annexure 1).

The **OMP** must determine minimum standards for each job category (**OREP** or man job specifications) as demonstrated in table 1 below.

Table 1: Categorisation and minimum standards for strenuous work

Very Heavy	<p>Manual Material Handling: Consists of 34-66% of the work shift (daily exposure).</p> <p>Work Environment: Manual material handling takes place in restricted work environments (ceiling heights of 0.850 m - 1.5 m).</p> <p>Heat Exposure: Daily exposure to high environmental heat loads for more than 34% of the work shift.</p> <p>Production/Non Production Related: Work tasks are imposed by a process (directly linked to production).</p>
Heavy	<p>Manual Material Handling: Consists of 34-66% of the work shift (daily exposure).</p> <p>Work Environment: Manual material handling takes place in unrestricted work environments.</p> <p>Heat Exposure: Daily exposure to high environmental heat loads for more than 34% of the work shift.</p> <p>Production/Non Production Related: Work tasks are imposed by a process (directly or indirectly linked to production).</p>
Moderate	<p>Manual Material Handling: Load handling consists of less than 34% of the work shift on a daily basis or more than 34% of the work shift on an occasional basis.</p> <p>Work Environment: Unrestricted work environments or supervisory work in restricted environments.</p> <p>Heat Exposure: Occasional exposure or daily exposure in case of supervisory work.</p> <p>Production/Non Production Related: Work tasks indirectly linked to production.</p>
Light	<p>Manual Material Handling: Load handling consists of less than 34% of the work shift - occasional load handling.</p> <p>Work Environment: Unrestricted work environments and/or occasional exposure to restricted work areas.</p> <p>Heat Exposure: Occasional exposure.</p> <p>Production/Non Production Related: Work tasks indirectly linked to production.</p>
Sedentary	<p>Manual Material Handling: Load handling limited to loads of up to 10 kg, occasional exposure only.</p> <p>Work Environment: Unrestricted. Work tasks take place in a seated/standing work position for at least 50% of the work shift.</p>

	<p>Heat Exposure: Not exposed to heat.</p>
	<p>Production/Non Production Related: Not linked to production.</p>
Roaming	<p>Manual Material Handling: None. No external workloads required other than wearing PPE.</p> <p>Work Environment: Unrestricted.</p> <p>Heat Exposure: Low exposure to heat.</p> <p>Production/Non Production Related: Not linked to production.</p> <p>ie no external workloads; physical demands essentially restricted to walking, climbing or crawling wearing prescribed PPE but not transporting any equipment etc.</p>

8.5 Different bodily systems

The **COP** should address the following:

8.5.1 Cardiovascular system

The cardiovascular system should be free from acute or chronic disease, which may impair ability to undertake the required physical exertion for a particular category of work. Persons with cardiovascular disease, particularly ischaemic heart disease or uncontrolled hypertension, are not suitable for employment as drivers of passenger or dangerous goods conveyances. A Physical Work Capacity screening (PWC) may be recommended by the **OMP** as an objective assessment of the cardiovascular system.

With reference to hypertension, controlled blood pressure should be below 140 mm Hg (systolic) and 90 mm Hg (diastolic).

8.5.2 Respiratory system

8.5.2.1 The respiratory system should be free from acute or chronic disease, which may impair the ability to meet the required physical performance of a particular category of work.

8.5.2.2 For screening purposes a lung function test is normal if FEV₁ is greater than 80% of predicted or the (FEV₁/FVC) ratio is equal to or greater than 70%.

8.5.2.3 In individuals where there are mild abnormalities of lung function this test should not be the sole criterion on which an individual is precluded from mine work. If the individual otherwise appears to have a normal cardio-respiratory system and is able to meet the physical performance requirements of the specified occupation then he may be found fit for a particular category of work. Refer to the MOHAC Guidance Note for occupational medical practitioners on lung function testing.

8.5.2.4 Any respiratory impairment, whether occupational or non-occupational in origin, equal to or greater than that which may be required for a certification of second degree

occupational lung disease, would disqualify an employee for work in an environment considered a respiratory risk.

8.5.2.5 Active, infectious pulmonary tuberculosis

The **OMP** will refer an employee suffering from active tuberculosis for appropriate treatment. The employee is not fit to work in a condition where there is continuous infectivity or serious permanent impairment. Employees, where either one or both lungs have been seriously affected by previous tuberculosis, should not be exposed to dust environments.

8.5.3 Endocrine and metabolic system

8.5.3.1 Diabetes mellitus

Diabetics may be employed in such occupations as the **OMP** may consider safe having regard to their condition. Insulin dependent diabetics should not work underground except under exceptional circumstances where the **OMP** is satisfied that all required health or safety concerns have been met. Well-controlled, mild non-insulin dependent diabetics may be certified fit to work in a particular category of work underground. Well-controlled, mild non-insulin dependent diabetics may be certified fit to work by the **OMP** as drivers for non-passenger or ordinary goods conveyance.

8.5.3.2 Obesity

A degree of obesity adversely affecting heat tolerance or the ability to exercise, mobility, general health or possible medical evacuation may render a person unfit for a particular category of work. Obesity may also be associated with sleep apnoea.

8.5.4 Diseases of the blood and blood forming organs

Any significant disease of the hematopoietic system may preclude employment in certain categories of work.

8.5.5 Mental and behavioural disorders

8.5.5.1 Acute or Chronic Psychosis

A person suffering from a psychosis may not be fit for a particular category of work.

8.5.5.2 Alcohol or substance abuse/dependency

To be guided by the Alcohol and Substance Abuse Policy, as directed by the Health and Safety Committee at the mine.

8.5.6 Reproductive system

Women should be protected against health risks during pregnancy, after birth and while breast feeding.

The Department of Labour (DoL) has provided a Code of Practice in terms of section 87(1)(b) of the Basic Conditions of Employment Act (75 of 1997). Occupational Medicine Practitioners should refer to this code to guide them on the management of this category of employees (Ref: No 19453 *Government Gazette*, 13 November 1998; R1441 13 November 1998).

8.5.7 Diseases of the nervous system and sensory organs

8.5.7.1 Epilepsy and other conditions of altered or impaired consciousness

8.5.7.1.1 Any medical condition which may result in an altered or impaired level of consciousness, including epilepsy, renders a person unsuitable for employment in certain areas or occupations on a mine, such as underground, or operation of moving machinery or in dangerous situations such as working at heights, near water, high voltage electricity or any other potentially dangerous situations.

8.5.7.1.2 Notwithstanding the above, an epileptic under medical treatment and without any events within a preceding period of two years may be considered fit for certain categories of work underground or on surface.

8.5.7.1.3 No persons with a history of epilepsy may ever be certified fit as a driver for passenger or dangerous goods conveyance.

8.5.7.2 Ear, nose and throat

An ear, nose and throat examination is required (which includes intact tympanic membranes and functioning Eustachian tubes) and the minimum standards set out below must be met for occupations involving changes in barometric pressure and /or exposure to noise.

8.5.7.2.1 Audiometric Standards

Pure tone audiometric screening at 0.5 kHz, 1 kHz, 2 kHz and 3 kHz must meet the following criteria:

8.5.7.2.1(a) Age 16-39: pure tone average of 15 dB or less.

8.5.7.2.1(b) Age 40 AND ABOVE: Pure tone average of 25 dB or less.

8.5.7.2.1(c) IRRESPECTIVE OF AGE: a threshold of 45 dB or less at 3 kHz.

8.5.7.2.2 Hearing Aids

The use of a hearing aid by those working in a designated noise zone should not be permitted.

8.5.7.2.3 Vision and eye disorders

Binocular vision is necessary for all categories of underground employees. Visual acuity, corrected, should be:

8.5.7.2.3(a)	Underground:	6/9	6/12
		binocular	weaker eye

8.5.7.2.3(b)	Surface	6/18	6/24
		binocular	weaker eye

8.5.7.2.3(c) Passengers 6/9
or goods binocular
conveyanc 6/9 worst
e

Colour vision and normal visual fields are required for passenger, dangerous and non-dangerous goods conveyances and certain other occupations, such as electricians. A normal visual field refers to at least 50 degrees nasal and 70 degrees temporal vision.

8.5.7.2.4 Skin

A history of or presence of skin conditions liable to be aggravated by working conditions may preclude employment in a particular category of work.

8.5.8 Musculo skeletal system

SPINE

There should be sufficient musculo-skeletal integrity to undertake the required physical exertion for a particular category of work. Physical Work Capacity (PWC) or Functional Work Capacity (FWC) may be recommended by the **OMP** to assess fitness to perform work of a strenuous nature.

It will be important for **OMPs** to differentiate between degenerative processes which are normal for a specific age and 'pathological' degeneration before a decision is made on fitness to work and in most cases a specialist orthopaedic surgeon or specialist neurosurgeon opinion should be considered. Occupational therapy, physiotherapy and biokineticist functionality evaluation reports may assist the **OMP** with Fitness To Work (FTW) recommendations.

8.5.9 Diseases of the digestive system

There should not be any significant disease of the digestive system, which may impair ability to perform a particular category of work.

The **OMP** will take special care to ensure that persons suffering from Gastro-Intestinal Infectious Diseases should not be involved in the handling of food.

8.5.10 Diseases of the genito-urinary system

There should [be] no unexplained proteinuria, glycosuria, haematuria or other urinary abnormalities, which may render a person unfit for a particular category of work.

8.5.11 Heat tolerance

For employees working in conditions where the wet-bulb temperature is equal to or exceeds 27.5 degrees Celsius, or the dry the [sic] bulb temperature is equal to or exceeds 37.0 degrees Celsius, the **COP** drawn up in accordance with the Guideline for the Mandatory **COP** on Thermal Stress Management of the **DMR** should be applied. Employees, who need to work in such environments, must meet all the physical requirements and pass the necessary screening tests prescribed in that guideline and **COP** before being declared fit to work.

8.6 Medical surveillance and records

This issue is dealt with comprehensively in the Guideline for the Compilation of a Mandatory **COP** on the Roles and Responsibilities of Occupational Health Practitioners in a System of Medical Surveillance on a Mine (**DMR 16/3/3/3-A7**). The following comments are made in order to link the relevant COPs:

- 8.6.1 Occupational medical surveillance will be done at each of the occupational health centers. Staff conducting medical examinations will be competent in terms of requirements of the **MHSA**.
- 8.6.2 Records will be kept in a medically confidential manner at occupational health centers and computerised network records will have appropriate access controls. These may be made available only in accordance with the ethics of medical practice, or if required by law or court order, or if the employee has in writing consented to the release of the information (section 15 of **MHSA**).
- 8.6.3 Employees are entitled to copies of, or copies of parts of, medical surveillance records or records of occupational hygiene measurements that relate to themselves (section 19 of the **MHSA**).
- 8.6.4 All reasonable steps will be taken to ensure that records of medical surveillance will be stored safely and not be destroyed or disposed of for 40 years from the last date of medical surveillance of an employee, as prescribed by the **MHSA** (sections 15(2) and 13(8)).
- 8.6.5 Medical surveillance procedures will be transparent and open to discussion with all role-players. Endeavours will be made to conduct these professionally, scientifically and based on best reasonable current medical practice.

8.7 Medically affected employee policy and procedures

The **COP** must address a formalised policy and procedure in place, which will effect fair assessment and encourage optimal placement of employees found unfit for their usual category of work.

Out of cycle assessments:

Employees may refer themselves or may be referred for assessment as to fitness to continue in their current occupation at **any time**, eg:

- An employee who has problems in coping with the physical demands of his occupation.
- An employee may suspect a work-related illness, such as boot dermatitis.

Line Management or the Human Resources Department may refer an employee who is unable to cope at work.

8.8 Appeals

Should the employee or his/her representative dispute the decision that the employee is unfit to perform work, the employee may lodge an appeal in terms of section 20 of the **MHSA** with the Medical Inspector.

8.9 Conclusion

It is clearly impossible to encompass within the guideline specific advice on every medical condition. However, as a general rule the **OMP** conducting the examination should be satisfied in each case that no medical condition or impairment is present which could either be significantly aggravated by working in a mine/entity or represent an unacceptable health or safety risk to the individual employee, or any other person at the mine. Conditions not specified in the guideline, which impact on health or safety should also be assessed in the light of this general principle. For assessment of fitness to work on a mine/entity

according to this guideline an employee is an employee as defined by both **MHSA**.

There may be different evidence-based guidelines which can be used for assessment of medical impairment and the ability to do specific work, for example the official disability guidelines used by American Academy for Disability Evaluating Physicians. The Guides to the Evaluation of Permanent Medical Impairment - 6th Edition (American Medical Association) describes the levels of impairment of bodily systems to indicate to **OMPs** when such impairments could be classified as Minimal, Mild, Moderate and Severe; this supports the **OMPs** to create a more informed opinion on the work stressors that employees with medical conditions can cope with.

PART D: IMPLEMENTATION

1 Implementation plan

- 1.1 The employer must prepare an implementation plan for its **COP** that makes provision for issues such as organisational structures, responsibilities of functionaries and programs and schedules for this **COP** that 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 purpose of risk assessment.

2 Compliance with the COP

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 on written request to the manager. A register must be kept of such persons or institutions with copies to facilitate 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 responsibility.

Annexure 1: Minimum Standards Table - for compliance (from original document)

PARAMETER	NO HAZARD	MINES/ WORKS SURFACE	MINES UNDERGROUND	SURFACE OR UNDERGROUND	
				4	5
Fitness category	1	2	3	4	5
Frequency of examination	3 yearly	Annual	Annual	Annual	Annual
Minimum age	16	18	18	21	21
Visual acuity loss (corrected)	-	6/18 binocular 6/24 worst	6/9 binocular 6/12 worst monocular vision - refer OMP	6/9 binocular 6/9 worst monocular vision - refer OMP	

Colour blindness (consider testing)	-	-	-	Consider exclusion	Consider exclusion
Hearing (Average binaural hearing loss in 0, 5, 1, 2, 3 kHz frequencies)	-	Initial: Age 16-39 <15 dB, 40+ <25 dB, also <45 dB at 3 kHz -> Temp unfit. Previous employer to refer for Diagnostic Audiogram. If compensated previously, provide proof			
		> 60 dba - unsuitable		> 40 dBA - unsuitable	
Spirometry	-	FVC <80% of expected FEV1/FVC <70% of expected Refer to OMP			
		If certified with 1° degree or 2° degree silicosis - not fit to work in silica exposed environment 10% of OEL - refer OMP			
Epilepsy	-	Unsuitable (until 2yrs fit free)		Permanent Exclusion	
Diabetes	Well controlled Diabetes - OK Well controlled NIDDM - OK IDDM - OK, depending on hazards exposure Adequate sugar control for the work environment.	Well controlled NIDDM - OK IDDM - Unsuitable, except in special circumstances (Refer OMP)	Well controlled NIDDM - OK IDDM - Unsuitable	Well controlled NIDDM - OK IDDM - Unsuitable	NIDDM/IDDM - Unsuitable

Alcohol/drug abuse screening	Refer OMP	Refer OMP	Refer OMP	Unsuitable if positive (must test)	
Heat tolerance screening (if exposed to heat) Referral for HTS (see Guideline for the Mandatory COP for an Occupational Health Programme on Thermal Stress COP)		Any history of repeated heat cramps - Refer to OMP Any history of heat exhaustion/heat stroke - Refer to OMP Failed HTS x3 - Refer to OMP Refer for HTS if indicated in Thermal Stress COP or if risk factors below is present (1 AND 2 plus 3 OR 4): 1. Age >50 ys; 2. BMI >30; 3. Employee has any chronic medical condition; 4. Any history of heat related illness since last visit			
Weight (refer BMI nomogram) BMI 20-26 Normal	BMI < 15 or >35 - Counsel	BMI < 19 or >35 or weight <50 kg or >130 kg - Refer to RFA, then OMP			
Physical Labour Physical/Functional work capacity	-	Referral during annual medical surveillance or out-of-cycle examination only if risk factors at the discretion of the OHP/ OMP			

Category 4

NON-PASSENGER AND ORDINARY GOODS CONVEYANCE AND WORK INVOLVING HEAVY OR POTENTIALLY DANGEROUS MACHINERY

eg Drivers or operators of non-passenger locomotives, dump trucks, delivery vehicles, loaders, cranes, forklifts, tractors, pumps, riggers, shaft timbermen, ventilation fan attendants, fridge plant staff, electricians, instrument technicians and other occupations thought to fall within this category.

Category 5

PASSENGER AND DANGEROUS GOODS CONVEYANCE

eg Winding Engine Drivers, Drivers of Busses, taxis, locomotives, onsetters, banksmen and other occupations thought to fall within this category.