DEPARTMENT OF MINERAL RESOURCES AND ENERGY

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

GUIDELINE FOR A MANDATORY CODE OF PRACTICE FOR ROAD AND RAIL SAFETY MANAGEMENT IN THE SOUTH AFRICAN MINING INDUSTRY

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) as amended, hereby issue the Guideline for a Mandatory Code of Practice for Road and Rail Management Safety in the South African Mining Industry, as set out in the schedule below.

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

SCHEDULE

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DEPARTMENT OF MINERAL AND PETROLEUM RESOURCES

MINE HEALTH AND SAFETY INSPECTORATE

GUIDELINE FOR THE COMPILATION OF A MANDATORY CODE OF PRACTICE FOR

ROAD AND RAIL SAFETY MANAGEMENT IN THE SOUTH AFRICA MINING INDUSTRY

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CHIEF INSPECTOR OF MINES

mineral & petroleum resources
Department:
Mineral and Petroleum Resources
REPUBLIC OF SOUTH AFRICA

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PART A: THE GUIDELINE

1. FOREWORD

1.1. **PTV** services are integral in ensuring that mine employees commute to and from designated pick-up and drop-off points close to their places of residence and employment. These services support the South African mining industry which is the backbone of the economy of South Africa economy. A significant increase in road transportation in South Africa has correlated to a rising number of road incidents that have led to serious injuries and fatalities (**RTMC**, 2023).

1.2. Due to the rail infrastructure challenges in South Africa, there has been an increase in the transportation of minerals and materials by road. As a result of this increase, the number of incidents that are attributed to the transportation of minerals and materials by road has increased.

1.3. The lack of adequate maintenance programmes for railway infrastructure, combined with the increased use of **level crossings** by mine passenger and mineral transportation services, has contributed to rail-related incidents.

1.4. In an initiative to address this challenge, a tripartite task team was established under the auspices of the **MOSAC**. The task team prepared this guideline on the development of a **COP** on road and rail safety management in the South African mining industry.

1.5. The **MHSA** requires the employer to protect the health and safety of employees at mines. To this end, section 9 (2) of the **MHSA** requires employers to compile and implement a **COP** in terms of the *Guideline for Road and Rail Safety Management in the South African mining industry*.

1.6. The **RSR** is, in terms of section 7 of the National Railway Safety Regulator Act, 2002 (Act No 16 of 2002) as amended, required to provide for and promote safe railway operations as well as to encourage collaboration and participation of interested and affected parties on improving railway safety.

2. SCOPE

2.1. This guideline addresses significant health and safety hazards and risks associated with the design, application, organisational work methods, driver competency criteria and the provision of **PPE** in the context of road and rail safety management within the control of the mine.

2.2. It also considers potential impacts on areas beyond the mining right that may affect the health and safety of mine employees without necessarily imposing legal obligations on employers other than the obligations already imposed on the employers by the **MHSA**.

2.3. The employer must take reasonable measures to liaise with the appropriate department or authority to improve road and/or rail safety where employees and commodities are being transported. In this regard the following should be borne in mind when complying with the provisions of this guideline:

2.3.1. The National Department of Transport is responsible for the overall regulation of **public roads** in South Africa. This includes setting standards, policies, and regulations related to road safety, traffic management, and road infrastructure development. The National Department of Transport also oversees the **RTMC**, which is responsible for traffic enforcement and road safety.

2.3.2. The South African National Roads Agency Limited is a government-owned entity responsible for managing the national road **network**, including planning, constructing, and maintaining national roads. It is also involved in implementing road safety measures and ensuring compliance with traffic regulations on national roads.

2.3.3. The Railway Safety Regulator, an agency under the National Department of Transport, is responsible for the regulation of railway safety in South Africa. It ensures that rail operators comply with safety standards and regulations aimed at preventing accidents and ensuring the safe operation of rail services.

2.3.4. Local municipalities and provincial transport departments also have jurisdiction over **public roads** within their respective areas, including the regulation of road infrastructure, traffic management, and local road safety. They work with national agencies to enforce safety standards and manage **public roads**.

3. LEGAL STATUS OF GUIDELINES AND CODES OF PRACTICE

3.1. 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.

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

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

4. THE OBJECTIVE OF THE GUIDELINE

4.1. The objective of this guideline is to enable the employer to compile a **COP** to address hazards and risks associated with the usage of roads and railway lines used for activities associated with the mines.

4.2. This **COP** must be implemented in conjunction with the system of risk assessment and management put in place in terms of Section 11 of the **MHSA**.

4.3. These road and railway line activities include the passenger transportation services of mine employees as well as the transportation of minerals and materials to and from the mine.

5. DEFINITIONS AND ACRONYMS

5.1. For purposes of this guideline, unless the context otherwise indicates, the definitions and acronyms are as follows:

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

5.1.2. **COP(s)** means Code(s) of Practice.

5.1.3. **DMPR** means Department of Mineral and Petroleum Resources.

5.1.4. **Integrity** means a condition where the individual components of a system and the total system are unified, consistent and fit for purpose.

5.1.5. **Level crossing(s)** means the place approved by the **network operator** and the **road authority** (or the landowner in the case of a **private road**) where a road crosses the railway line(s).

5.1.6. **Level crossing protection** means the range of appropriate, technology, road signs, road markings and road signals that are used in various combinations according to the relative level of risk at a **level crossing** to afford the appropriate minimum level of protection at the **level crossing**.

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

5.1.8. **Modes of transport** means various methods or ways for moving of people or minerals and materials from one place to another by rail or road.

5.1.9. **MOSAC** means the Mine Occupational Safety Advisory Committee.

5.1.10. **Network** means a system of railway infrastructure elements comprising of track, civil infrastructure, train control and signalling systems, and where applicable, electric traction infrastructure which constitutes of running lines, railway sidings and private sidings, stations, depots, marshalling yards, railway yards, etc. (SABS, 2021).

5.1.11. **Network operator** means the person(s) who have the ultimate accountability for one or both of the following:

a) The safety of a **network** or part thereof including the design, construction, maintenance and **integrity** of the **network**.

b) Ensuring compliance of rolling stock with the applicable standards of the **network**.

c) The authorising and directing of the safe movement of rolling stock on the **network**.

5.1.12. **NRTA** means the National Road Traffic Act, 1996 (Act 93 of 1996).

5.1.13. **OEM** means the original equipment manufacturer.

5.1.14. **Passenger transport vehicle** means a vehicle which is owned by a mine or is contracted to a mine, that is used for the transportation of mine employees.

5.1.15. **PrDP** means Professional Driving Permit.

5.1.16. **PPE** means personal protective equipment.

5.1.17. **Private road** means a road, a street, a thoroughfare or any other place or any section thereof (whether a thoroughfare or not) that is not commonly used by the public or to which the public does not have right of access, and includes:

a) The verge of any such road, street or thoroughfare;

b) Any bridge, ferry or drift traversed by any such road, street or thoroughfare; and

c) Any other work or object forming part of, is connected with or belongs to such road, street or thoroughfare.

5.1.18. **Private road owner** means a person responsible for a **private road** and who has the right of access to that road.

5.1.19. **PTV** means a **passenger transport vehicle**.

5.1.20. **Public road** as described in the **NRTA** means any road, street or thoroughfare or any other place (whether a thoroughfare or not) which is commonly used by the public or any section thereof or to which the public or any section thereof has a right of access, and includes:
a) The verge of any such road, street or thoroughfare;
b) Any bridge, ferry or drift traversed by any such road, street or thoroughfare; and
c) Any other work or object forming part of or connected with or belonging to such road, street or thoroughfare.

5.1.21. **Road authority** means the relevant national or provincial **road authority**, municipal council or municipality (or both), excluding a **private road owner**, that has the relevant authority over the proclaimed national, provincial, urban or rural roads, including, but not limited to, the maintenance of the road surface, drainage, road markings, signage, control of vegetation and law enforcement (SABS, 2021).

5.1.22. **RSR** means the Railway Safety Regulator.

5.1.23. **RTMC** means the Road Traffic Management Corporation.

5.1.24. **Station operator** means a person responsible for the control and the management of a station.

5.1.25. **Train operator** means a person who is responsible and accountable for the following:

a) Safe movement of rolling stock on a **network**.

b) Safety and **integrity** of rolling stock.

c) Safety of freight or persons being conveyed.

6. MEMBERS OF THE GUIDELINE TASK TEAM

6.1. This guideline was prepared by the **MOSAC** Task Team on Road and Rail Safety Management in the South African mining industry. The following members served on this task team:

CHAIRPERSON
Mr. Tumelo Mateta

STATE	EMPLOYER	ORGANISED LABOUR
Mr. Paulus Kambula	Mr. Arie Van Wyk	Mr. Henk Kruger
Mr. Lindsay Polley	Mr. Amos Xheko	Mr. Coenie Rheeder
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Mr. Malatsi Mashala		

CONSULTED EXPERTS
Ms. Vhutshilo Rambevha
Mr. Lemohang Monyatsi

PART B: AUTHOR'S GUIDE

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

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

3. The wording used must be unambiguous and concise.

4. Unless otherwise indicated, for the purpose of crafting a **COP**, the meanings of the words mentioned in this guideline will also have the same meanings as those assigned to them in this document.

5. It must be stated in 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 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 in-text referencing that relates to sources such as publications, and reports, have be done, these sources must be included in the text, as footnotes or side notes, as well as in a separate bibliography section.

PART C: FORMAT AND CONTENT OF THE MANDATORY COP

1. TITLE PAGE

1.1. The **COP** should have a title page reflecting at least the following:

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 Road and Rail Safety Management in the South African Mining Industry*.

1.1.4. A statement to the effect that the **COP** was drawn up in accordance with the guideline with reference number **DMPR** 16/3/2/2-B5 issued by the **CIOM**.

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

1.1.6. The effective date of the **COP**.

1.1.7. The revision dates of the **COP** (if applicable).

2. TABLE OF CONTENTS

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

3. STATUS OF 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 guideline with reference number **DMPR** 16/3/2/2-B5 issued by the **CIOM**.

3.1.2. This is a mandatory **COP** in terms of Sections 9(2) and (3) of the **MHSA**.

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

3.1.4. All managerial instructions or recommended procedures (voluntary **COPs**) 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 investigations or inquiries in terms of the **MHSA** to ascertain compliance and to establish whether the **COP** is effective and fit for purpose.

4. MEMBERS OF DRAFTING COMMITTEE

4.1. The employer must convene a committee responsible for the drafting and revision of the **COP**.

4.2. As far as practically possible the **COP** must not be an overly technical document.

4.3. When compiling the document, the participation of all levels of employees is essential.

4.4. In terms of Section 9(4) of the **MHSA**, read with Section 25 of the **MHSA**, the employer must consult with the relevant health and safety structures or representative(s) on the mine in the preparation, implementation or revision of the **COP**.

4.5. The **COP** must list the following for every member of the current committee:

4.5.1. Full names.

4.5.2. Designation / job title e.g. Mine Manager, Safety Representative, Engineer, etc.

4.5.3. Qualifications e.g. Bachelor of Technology degree (and any other equivalent qualifications), Chamber of Mines Safety Officers' Certificate, Government Certificate of Competency such as a Mine Manager's Certificate of Competency, etc.

4.5.4. Relevant mining experience (in years, at a given date).

4.6. The **COP** must be signed off by all the members of the current committee.

5. LOCALITY

5.1. The **COP** must include a brief description and locality map to indicate the location of the mine in relation to existing national roads, provincial roads, municipal roads, access roads, national or provincial boundaries, rail **networks** and/or other nearby mines.

6. GENERAL INFORMATION

6.1. The general information relating to the mine must be stated in this paragraph. The following minimum information must be provided:

6.1.1. The commodities produced.

6.1.2. The mining methods or mineral excavation processes.

6.1.3. An estimated number of employees.

6.1.4. The estimated production.

6.1.5. A description of logistical arrangements such as the transportation of minerals and materials, explosives, etc.

6.1.6. A description of the **PTV** service arrangements used at the mine.

6.1.7. Other relevant **COPs**.

7. TERMS AND DEFINITIONS

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

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

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

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

8. RISK MANAGEMENT

8.1. Section 5 of the **MHSA** requires that every employer must:

8.1.1. Provide and maintain a working environment that is safe and without risk to the health and safety of employees.

8.1.2. Identify the relevant hazards and assess the related risks to which persons who are not employees may be exposed.

8.1.3. Ensure that any other persons who may be directly affected by the activities at the mine are not exposed to any hazard to their health and safety.

8.2. The employer must therefore identify the hazards and risks to which employees and other persons are exposed to during the transportation of employees, minerals and materials.

8.3. To assist the employer with risk assessment, all possible relevant information such as accident statistics, ergonomic studies, research reports, accident reports, **OEM** specifications and performance figures for all relevant **modes of transport** may be considered.

8.4. The application of a risk management processes for railway activities must be in accordance with the SANS 3000-1, SANS 3000 2-2 and SANS 3000 2-2-1 for **network operators** where applicable. The employer must ensure that the **network operator** and the **private road owner** or road authority conduct **level crossing** risk assessment for new and existing **level crossings**.

8.5. The **COP** should be reviewed periodically and updated after every incident involving the **modes of transport** mentioned in this guideline. The latter review will also cover any significant change to mine procedures, mining method, plant or equipment type, and major changes on routes layout.

9. ASPECTS TO BE ADDRESSED IN THE MANDATORY COP

9.1. The **COP** must set out how the significant risks are assessed and identified in terms of the risk assessment process referred to above will be addressed. The **COP** must cover at least the aspects set out below.

9.2. Design and specification register

9.2.1. To ensure that all **modes of transport** are appropriate for the specific circumstances by or at the mine and are used within their designed and operating specifications, the **COP** must describe and provide a detailed table containing the following information as a minimum for all **modes of transport** in use:

9.2.1.1. Type and model of **modes of transport** (mini-buses, trucks, buses, trains, etc.).

9.2.1.2. Maximum design capacity (cubic metres, tons, number of passengers, etc.).

9.2.1.3. Maximum designed speed (km/h).

9.2.1.4. Gross mass (kg).

9.2.1.5. Minimum dimensions (mm).

9.2.1.6. Maximum operating dimensions (mm).

9.2.1.7. Prime mover (electrical, battery, diesel, etc.).

9.2.1.8. Designed rated power (kW).

9.2.1.9. Maximum towing capacity (kg).

9.2.1.10. Manual or automatic transmission or control.

9.2.1.11. Braking system.

9.3. Braking systems

9.3.1. The employer must ensure that:

9.3.1.1. Measures are put in place so that **modes of transport** are operated with adequate and effective braking systems to prevent persons from injury or fatality as a result of braking system failure.

9.3.1.2. The braking systems are adequately and routinely tested for intended functionality in terms of brake design specifications as per the **OEM**, including the recording and safe keeping of test results for a period to be specified in the **COP**.

9.3.1.3. All braking systems are regularly maintained according to the **OEM** specifications and requirements. Such maintenance records are kept as specified in the **COP**.

9.4. Testing of braking systems

9.4.1. To ensure that drivers and passengers are protected against injuries in the event of an accident the **COP** must describe the installation and use of safety belts.

9.5. Protection of the driver and passengers

9.5.1. The **COP** must describe the installation and use of safety belts to ensure that drivers and passengers are protected.

9.6. Loading and drop-off or pick-up

9.6.1. The **COP** must describe the following:

9.6.1.1. The configuration and layout of mineral and material loading points.

9.6.1.2. The configuration and layout of pick-up or drop-off points of passengers.

9.6.1.3. Operating procedures for the loading of minerals and materials.

9.6.1.4. Operating procedures for the pick-up or the drop-off points of passengers.

9.7. Towing of different modes of transport

9.7.1. In the event of a breakdown, the **COP** must describe the following procedures:

9.7.1.1. Recovery of the **mode of transport** where the procedure must take into cognisance that no **modes of transport** will be towed whilst persons are onboard.

9.7.1.2. Provision of alternative means of transport for passengers.

9.7.1.3. Recovery of the minerals and materials.

9.8. Route planning

9.8.1. To ensure safe operation of the **modes of transport** stipulated in this guideline, the **COP** must describe route plans that includes, but is not limited to, the following:

9.8.1.1. Dedicated routes to be used by each class of transport.

9.8.1.2. All measures put in place to ensure that all train drivers and train assistants have a certification of the route and/or road knowledge of the siding or the yard that they are being planned for.

9.8.1.3. Describe a process of consultation with other stakeholders *viz* municipalities, National Road Traffic Regulator and/or **RSR** for the purposes of the identification of the following:

a) Dedicated lanes.

b) Time zoning.

c) **Level crossings**.

9.9. Operating procedures

9.9.1. To ensure the safe operation of **modes of transport**, the **COP** must describe procedures and capture information that covers at least the following:

9.9.1.1. Start-up, operation, parking and shut-down.

9.9.1.2. How to deal with obstructions, restricted clearances and restricted entry with regard to dangerous areas.

9.9.1.3. General safety rules relating to the interaction between pedestrians, cyclists and **modes of transport**.

9.9.1.4. A system in place to ensure that **modes of transport** entering and exiting mine premises pose no significant risk.

9.9.1.5. A system to ensure that the drivers of the **modes of transport** do not use a mobile device while driving.

9.9.1.6. The use of a seatbelt by the driver and all passengers at all times.

9.9.1.7. The total number of passengers of the **mode of transport**, which must be in accordance with the design seating capacity of the **mode of transport**.

9.9.1.8. A fatigue management awareness programme that addresses hazards and risks associated with road and railway safety, which must include the following:

a) Measures to encourage rest periods amongst the drivers.

b) Identify places of rest along the routes of travel.

9.9.1.9. Compliance with train working rules.

9.9.1.10. A process of consultation with the applicable stakeholders such as the National Road Traffic Regulator, the **RSR**, **network operators**, road owners and other relevant transportation providers in the vicinity of the mine. The said consultation must be on the following:

a) Installation of rumbling strips.

b) Traffic rules and road signs.

c) Speed and right of way.

d) Illumination of areas where employees embark and disembark.

e) Positioning and spacing of street lights along employee transport routes.

f) Placement and effectiveness of road studs (reflectors).

g) Solar glare of the surrounding area.

h) Steps to be taken in case of illumination failure along the routes and at **level crossings**.

i) Maintenance of vegetation along the sides of the road including areas near and around **level crossings**.

j) General road maintenance.

k) **Level crossing** operation, monitoring and maintenance.

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l) Dust control.

m) Proper illumination of the train locomotive and at the **level crossing**.

n) Enforcement of compliance to the applicable road and rail regulatory frameworks.

o) Measures to create awareness of the alcohol and drug testing policy of the mine to other transport providers.

p) Awareness programmes that cover the dangers and risks associated with driving under the influence of alcohol and drugs including dealing with intoxicated pedestrians.

q) Extension of the provision of this **COP** to other transport providers.

9.10. Illumination

9.10.1. Illumination on all **modes of transport** must be maintained to ensure that all **modes of transport** are visible to pedestrians and drivers of other vehicles. Furthermore, maintenance will enable the driver to identify the presence of persons, animals and other hazards timeously.

9.10.2. The **COP** must describe the following illumination provisions where applicable:

9.10.2.1. For road transport, the following provisions must be in accordance with SANS 1046:

a) Distinction between front, rear and side lights including colour coding.

b) Positioning of lights to indicate the width of the **PTV** and trucks.

c) The use and position of reflectors.

9.10.2.2. For rail transport, the following provisions must be in accordance with SANS 3000-1, SANS 3000-2-2-1 and SANS 3000-2-4:

a) **Level crossing** flashing red discs, boom barricade, pedestrian guardrails, signages and any **level crossing** related signals must be checked and adjusted for the correct illumination (i.e. brightness and focus).

b) Train locomotive head lights must at all times be switched on during the day and at night.

9.11. Maintenance and inspection of modes of transport

9.11.1. To ensure that the maintenance and inspection of **modes of transport** are appropriate for the specific circumstances at the mine, the **COP** must describe the following to ensure road and train worthiness:

a) Maintenance of all **modes of transport** as per the **OEM** specifications.

b) Service and repair records to be readily available as and when required.

c) Inspections and over-inspections.

d) The use of pre-use checklists to identify components critical for the safe operation of the type of **modes of transport** and keeping of such completed checklists for at least three months where applicable.

9.12. Modes of transport to be operated by competent authorised persons

9.12.1. To ensure that the **modes of transport** are operated by competent authorised persons, the **COP** must describe:

a) The appropriate, valid driver's license and professional driving permit requirements, suitable for that specific class of transport.

b) Appropriate and valid certification for the class of locomotive (rolling stock).

c) Records of health and safety induction that the driver has received.

d) The measures deployed to ensure that all operators of the **modes of transport** have been declared medically fit.

e) The requirements for adherence to the specific alcohol and drug testing policy of the mine before operating any mode of transport.

9.13. Personal protective equipment

9.13.1. The **COP** must describe the type of **PPE** appropriate for the persons operating the various **modes of transport**, as well as those supporting the operations thereof.

10. LEVEL CROSSING MANAGEMENT

10.1. This section of the guideline applies to mines that are **network operators**, **train operators** and **station operators**.

10.2. **Level crossings** must be managed as stipulated in the **level crossing** standard (SANS 3000 2-2-1) which was deemed a regulation in November 2013, under the **NRTA** Reg 312A.

10.3. Design of level crossings

10.3.1. The **COP** must outline how the **network operator**, in collaboration with the **private road owner** or **road authority** must design new and/or modify **level crossings**.

10.3.2. This design process must incorporate the concept phase studies and results of the **level crossing** physical assessment (clause 15, SANS 3000 2-2-1). The process must include and confirm the following:

a) Current and future train patterns and volumes (inclusive of mixed rail traffic).

b) The classification and ownership of the road.

c) The type of road traffic, patterns and volumes.

d) The road geometry.

e) Stopping sight distance for vehicles.

f) The line of sight for pedestrians, road vehicle drivers and train drivers.

g) The rail **network** geometry.

h) The rail traffic patterns and volumes, such as:

i. The train operating parameters including bi-directional traffic.

ii. Train lengths.

iii. The section speed.

iv. The location of a **level crossing** (service lines, yards, sidings, etc.).

i) Unrestricted and safe movement of trains, road vehicles and public usage during peak and off-peak hours.

j) Unrestricted and safe movement of trains, road vehicles and public during normal, abnormal and degraded operations as defined in the relevant part(s) of SANS 3000 or emergency conditions.

k) Provision for persons with disabilities including persons with reduced mobility, visual or audio impairment.

l) The train and road **network** operating parameters including provision for bi-directional traffic or *'wrong road'* working, or both.

m) Current and future train speed.

n) The number of interacting train movements.

o) The speed, mass, acceleration and brake performance of trains.

p) The provision of suitable monitoring and closed-circuit television equipment at all relevant new **level crossing(s)**, modified or existing **level crossing(s)**, or a combination thereof, and pedestrian crossings.

10.4. Operations, monitoring and maintenance of level crossings

10.4.1. The **COP** must outline the processes and procedures in accordance with SANS 3000-2-5 and SANS 3000-2-2-1 for the operation, monitoring, maintenance and operational changes of a new or existing **level crossing** which includes the following:

a) **Level crossings** are to be managed in accordance with an approved safety management system.

b) A preventative and corrective maintenance plan to maintain and restore the performance of the **level crossing**.

c) Conducting of a physical and risk assessment of **level crossings** in accordance with clause 15 and clause 16 of SANS 3000-2-2-1.

d) Conducting audits and inspections of **level crossings** including remedial actions.

e) Amendment of the relevant safety management system of the operator to reflect the changes resulting from the new **level crossing** with or without a pedestrian crossing and modified **level crossing** with or without a pedestrian **level crossing**.

f) Education and awareness of **level crossing** users which must include the train crew, **train operator**, road users and the public (where applicable), employees, contractors and service providers.

10.5. Approval process(es) for level crossings

10.5.1. The **COP** must describe the process for approval of the new and modified **level crossings** by **network operators**. This relates to the activities to be carried out within the railway reserve in compliance with SANS 3000-2-2-1.

10.5.2. These responsibilities should include but are not limited to the following activities:

a) The **network operator** issuing the approval, in principle, of new and modifications to the existing **level crossings** when there is a plan for a new road or an upgrade to an existing road crossing the railway line.

b) The **network operator** must approve and/or determine the **level crossing protection** required for the safe operation of each **level crossing**.

10.6. Incident management

10.6.1. The **COP** must describe, in terms of the requirements of SANS 3000-1, the processes and procedures that will be followed by a **private road owner**, road authorities, **network operators** and **train operators** to ensure that all incidents at **level crossings** are managed and investigated in accordance with SANS 3000-2-2-1.

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 auditing, 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 1: References

1. Road Traffic Management Corporation, 2023. Department of Transport, Road Traffic Management Corporation - State of Road Safety in South Africa 'January 2023 to December 2023', Highveld Ext 79.
https://www.rtmc.co.za/images/rtmc/docs/CalendarReports/STATE-OF-ROAD-SAFETY-REPORT-2023.pdf

2. South African Bureau of Standards, 2021. South African National Standard 3000 2-2-1. Railway Safety Management Part 2-2-1. Requirements for systemic engineering and operational safety standards - Track and associated civil infrastructure and installations - Level crossings. 2nd ed., ISBN 978-0-626-38769-3, SABS Groenkloof.