



# MOBILE EQUIPMENT & VEHICLE STANDARD

Reviewed by:

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Date


**The person in charge of the activity is responsible for applying this procedure.**

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	Mobile Equipment & Vehicle	September 17, 2021


**LIST OF VERSIONS**

Version No.	Date	Section	Page(s)	Purpose of the Modification
1	May 13, 2015			Original version.
2	September 12, 2017	all	all	Document control
3	May 15, 2018	all	all	General Review
4	September 17, 2021	all	all	General Review

**DEFINITIONS AND ABRIVIATIONS APPLICABLE TO THIS DOCUMENT**

Mobile Equipment	Earth Moving Equipment and auxiliary support equipment such as rear dump, water trucks, ore trucks, graders, mobile cranes, dozers and loading equipment are considered mobile equipment, etc.
Light Vehicle	All light duty vehicles whose primary purpose is to carry passengers and light loads including busses, pickup trucks, passengers vans, and special vehicles such as emergency vehicles under 4500kg.
Bus	All large motor vehicle designed to carry passengers from 8 persons and more are classified as busses.
RGM	Rosebel Gold Mines N.V.
ANCAP / ENCAP	Australian / European New Car Assessment Program
Contractor	Company assigned by RGM to provide a specific service or work on the RGM sites and/or controlled activities
OEM	Original Equipment Manufacturer
Controlled Activities	Those activities where RGM is able to enforce rules, regulations and standards.
Mobile Equipment Operator	Person who has been found fit, trained and has been qualified by Rosebel Gold Mines or other certified training institute to operate specific mobile equipment. This includes lump sum contractors, sub-contractors, contracted services, visitors.
Pre-Shift inspection	Required inspection of a piece of mobile equipment or light vehicle completed and signed by the operator at the beginning of each shift.
FMP	Fatigue Management Plan that brings together all the causes, controls and strategies for dealing with fatigue in the workplace in order to keep workers safe.
	Pay attention! While not a requirement the instruction following this sign needs to be carefully considered.

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**INTRODUCTION**

The nature of mining and passenger transport requires mobile equipment, light vehicles & busses to interact with each other in order to achieve production. The risk of collision between these equipment is present and can have fatal results. (Rosebel Gold Mines N.V.) RGM recognizes this and has set minimum requirements to eliminate or minimize these risks. Working near mobile equipment and daily commuting of employees in busses are identified as significant risks which can lead to serious injury or fatality, if not managed properly.

**PURPOSE**

To eliminate or minimize the risk of fatalities, injuries & other incidents resulting from interactions with light vehicles, mobile equipment & busses. Also to eliminate any fatigue related incident that can occur during controlled activities from RGM. Every attempt should be made to reduce the possibility of accidental occurrences by complying with all safety policies, country laws and ordinances. Safe operation of any vehicle shall take precedence over expediency and short cuts.

**SCOPE**

This standard applies to all Light Vehicles, Mobile Equipment and Busses from **RGM and contractors (owned or leased) and employees and contractors** performing activities on RGM sites and/or controlled activities.

**DESCRIPTION OF THE ACTION**

**1 MINIMUM SITE REQUIREMENTS.**

**A. PLANT AND EQUIPMENT REQUIREMENTS:**

**LIGHT VEHICLES**


All **Light Vehicles** shall have the **mandatory safety specifications:**

**On access & public roads\*:**

1. Seat belts for all occupants (preferred are 3 point seatbelts).
2. Double roll over protection in cab and truck bed.

**(Roll over protection is not required if the light vehicle is ANCAP & Euro NCAP 5-star**

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3. Driver's side airbag for all pickups, sport utility vehicles and vans. Where a particular vehicle model is **not** equipped with a driver's side airbag a formal risk assessment must be performed to manage the risk.
4. One inner and two outer mirrors.
5. Air-conditioning.
6. Suitable means for access and egress, that will allow three points of contact at all times when entering and exiting vehicles.
7. **Anti-lock braking system (ABS):** A part of the service brake system that automatically controls rotational wheel slip (prevents skidding) through brake modulation.
8. Primary and secondary braking system.
9. Revolving or flashing beacon light.
10. Operational horn.
11. Working headlights, taillights, reversing lights, and reversing alarm; where a reversing alarm is not fitted then horn signals shall be used as mentioned in RGM-PR-01 Traffic management procedure.
12. Day time running lights or automatic headlights where installation is possible.
13. Reflective taping (magnetic or sticker) on the sides and back of vehicle (i.e. yellow on sides; red on back)
14. Signage ID # and RGM logo (magnetic or sticker); side, front and back of the vehicle that allows clear and easy 360° identification from a distance. The recommended color is black lettering on a white reflective background.
15. Fire extinguisher and first aid/emergency kit.
16. Working windshield wipers and washers.
17. Roadside triangles or cones (2) to place in the event of a roadside breakdown.
18. Wheel chocks (2)
19. Wheel nut indicators.
20. Emergency hammer and seatbelt cutter.
21. Window glass tinting according to governmental rules (on driver and front passenger side and front window; driver and front passenger should be visible).
22. Valid insurance papers and government inspection report when using public roads.

\*On public roads while performing activities on behalf of RGM.


**Recommended requirements:**

1. Emergency & Security response GPS panic system with tracking system to monitor speed.

**At mine sites:**

1. Same as access & public roads.
2. Two way radio.
3. Buggy whip (3 meters minimum height above the ground).
4. Off road tires

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## **MOBILE EQUIPMENT**


All **Mobile equipment** shall have the following **mandatory safety specifications**:

1. Adequate lighting (i.e. headlights, tail, turn, brake, strobe, flashing light, work lights)
2. Horn and Reversing alarms (or travel alarms) with a sound level of 87 to 112 dB at 4 feet and with a dominant frequency
3. Seat belts for all occupants (preferred are 3 point seatbelts)
4. Two-way radio
5. Air-conditioning.
6. Unique Identification signage that allows clear and easy 360<sup>o</sup> identification from a distance.
7. Mirrors and/or cameras to eliminate/reduce blind spots.
8. Fire extinguisher/fire suppression system, reachable for the operator, for all mobile equipment (size and type based on risk assessment)
9. Effective guarding on accessible moving/rotating parts.
10. All devices needed for normal operation as per Original Equipment Manufacturers instructions/specifications (including signage).
11. Chock blocks for rubber tired mobile equipment when performing maintenance.
12. Cranes: Crane inspection certification; LMI internal and/or external; grounding wire; anti – two block; weight distribution mats under outrigger feet.
13. Vehicle should be clean and neat free of trash dirt and debris

## **ADDITIONAL REQUIREMENTS FOR MOBILE EQUIPMENT**

The following additional requirements shall be in place for mobile equipment:

1. Identified isolation/lockout point in accordance with RGM-PR-03 LOTOV procedure.
2. Access & working at heights provisions (i.e. adequate walkways, railing, steps/grab handle combinations and boarding facilities including an alternative path of disembarking in case of emergency) according RGM-PR-04 Fall Prevention procedure.
3. Certified Roll-Over Protection Structure for bush clearing equipment (ROPS).
4. Certified Fall-On Protection System for bush clearing equipment (FOPS)
5. A fire suppression system capable of being activated from both ground and cabin levels
6. Enclosed & tightly sealed air-conditioned cabins, with consideration of requirements for noise and dust suppression systems and suitable protective glass (e.g. laminated, shatterproof).  
(Formal risk assessment should be conducted with H&S in case of operating mobile equipment with open cabin)
7. A method for transporting supplies and personal items to and from the operator cabin, allowing drivers to continuously maintain three points contact whilst mounting and disembarking equipment (e.g. a back pack or shoulder strap bag).
8. Effective windscreen wipers and washing system.
9. Means for the operator to smash a window and or cut the seatbelt in case of an emergency.
10. Drip pans and pig mat shall be kept near the working areas, in case of oil spills

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## **BUSSES**


All **Busses** shall have the following **mandatory safety specifications**:

### **On access & public roads:**

1. Seat belts for all occupants
2. One inner and two outer mirrors.
3. Air-conditioning.
4. Suitable means for access and egress, that will allow three points of contact at all times when entering and exiting vehicles.
5. **Anti-lock braking system (ABS)**: A part of the service brake system that automatically controls rotational wheel slip (prevents skidding) through brake modulation.
6. Primary and secondary braking system.
7. Revolving or flashing beacon light.
8. Operational horn.
9. Working headlights, taillights, reversing lights, and reversing alarm, where a reversing alarm is not fitted then horn signals shall be used as mentioned in RGM-PR-01 Traffic management procedure.
10. Day time running lights or automatic headlights where installation is possible.
11. Reflective taping (magnetic or sticker) on the sides and back of vehicle (i.e. yellow on sides; red on back)
12. Signage ID # and logo (magnetic or sticker); side, front and back of the vehicle that allows clear and easy 360° identification from a distance.
13. Fire extinguisher, first aid/emergency kit accessible to all personnel inside the vehicle
14. Working windshield wipers and washers.
15. Roadside triangles or cones (2) to place in the event of a roadside breakdown.
16. Wheel chocks (2)
17. Wheel nut indicators.
18. Emergency hammer and seatbelt cutter.
19. Window glass tinting according to governmental rules (on driver and front passenger side and front window; driver and front passenger should be visible).
20. Valid insurance papers and government inspection report when using public roads.
21. Emergency & Security response GPS panic system with tracking system to monitor speed.
22. Vehicle should be clean and neat free of trash dirt and debris

### **At Mine sites:**

1. Same as access and public roads.
2. Two way radio.
3. Off road tires
4. Certified Roll-Over Protection Structure (ROPS)

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**B. PROCEDURAL REQUIREMENTS:**

- 1. A formal review against the requirements in this document for all new to the site or modified mobile equipment prior to commencement of work shall be in place.**
2. Documented Predictive and Preventive Maintenance & inspection program aligned to OEM requirements (including critical equipment and components) shall be in place. This includes a post-maintenance machine check.
3. A Traffic Management procedure including, but not limited to, the requirements as stated in section D, shall be in place.
4. The Management of Change process shall be followed for any changes to light vehicles and mobile equipment (including changes to traffic movements, add on of instrumentation, retrofitted devices, etc.)
5. A procedure and checklist system shall be in place for pre-operation inspection by the operator.
6. Procedures/ instructions shall be in place detailing the operational requirements under testing conditions
7. Seat belts shall be used in all cases for all occupants while in operation / in use.
8. Mobile phones, whether hands free or not, shall only be used by the driver of Light Vehicle, bus and Mobile Equipment whilst parked in a safe area during scheduled breaks.
9. A tire management system shall be in place to address tire related issues including fire, heating, explosion, electrical contact, separations, maintenance, tire changes etc.
10. A program shall be in place to manage driver/operator fatigue.
11. A Formal Journey management plan must be used when traveling includes any of the following, but not limited to:
  - A journey identified as high risk by risk assessment,
  - Travel outside of daylight hours,
  - Route(s) that the driver is unfamiliar with, intermittent or no communication services,
  - Travel to remote or sparsely populated areas (includes roads with limited traffic), and
  - Other high risk factors identified in the risk assessment.

**C. PEOPLE REQUIREMENTS:**

1. Operator should have passed Physical examination by Occupational Health Physician.
2. Light Vehicle & Bus drivers shall complete Defensive Driving training and obtain a RGM-DD-permit.
3. Recruitment for mobile equipment operators shall encompass past work history (any driving under influence previous 3 years/ reckless driving or endangerment previous 3 years, any moving traffic violation previous 12 months, at fault traffic accident previous 3 years), site testing, and comprehensive medical examinations that confirm fitness for work.
4. Equipment specific and machine specific training requirements shall be defined for all type of Mobile Equipment.
5. Light Vehicle & Bus drivers shall have a valid Government driver's license and a RGM defensive driving permit.


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6. Mobile equipment operators shall have a valid Government driver’s license, a defensive driving permit and an equipment specific permit or certification.
7. No smoking is permitted while in a company owned, -managed, -rental or -leased mobile equipment
8. Do not operate any vehicle while under the influence of alcohol, drugs or any special medications.


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**TRAINING REQUIREMENT**


Target group	Training	Frequency
All RGM employees & contractors	Defensive Driving	Every 2 Years/ When changes occurred
All RGM employees & contractors	Mobile Equipment and Machine Specific	As required 1. Basic Operating Training – a minimum of 140 hours before evaluation/qualification. 2. Refresher training in case of an incident.
All RGM employees & contractors	Fatigue Management Awareness Training	As required 1. New Employees. 2. Refresher training in case of an incident.

	Notify the H&S department for H&S review for all new to the site mobile equipment, light vehicles & busses This includes Rosebel Gold Mines owned or leased and all contractor’s equipment.
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	Consider installing a collision avoidance systems and/or procedures. Where such is not applicable a spotter must be used as much as possible.
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	Modifications such as installation of auxiliary electrical devices, chargers, radios, etc., are prohibited
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	Appropriate engineering reviews into advances in technology for collision avoidance, safety management systems, fleet management and visibility improvement; should be conducted to determine whether new technology should be implemented or used.
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**D. TRAFFIC MANAGEMENT PLAN REQUIREMENTS**


A RGM Traffic management plan shall address, but not limited to, the following:

1. Segregation of pedestrians, light vehicles and heavy mobile equipment. Including control of mobile equipment movement in areas accessible to pedestrians.
2. Control approaching, refueling, parking, boarding, disembarking, and isolation by production and maintenance crews.
3. Setting of appropriate speed limits, installation and maintenance of road signage and road furniture.
4. Right-of-way rules, including overtaking restrictions and exclusion zones.
5. Clear communication procedures for interactions between all vehicles (e.g. procedure for overtaking).
6. Access planning in areas identified as hazardous and having significant associated risk
7. Designated parking areas for heavy vehicles and light vehicles (including both in pit and around maintenance areas). Parking standards shall include requirements for the immobilization for mobile equipment (e.g. chocking or ditches/trenches) and consideration for breakdown maintenance activities
8. Guidelines for operating under abnormal road conditions (e.g. rain) giving “weather” criteria and stating the responsible person for this decision.
9. A dust control & water management plan for roads, mining and haulage operations shall be in place. Consideration shall be given to extreme wet weather and the issue of over-watering roads.
10. Truck loading/unloading procedures-to avoid material or objects falling from vehicle.
11. Equipment working within the vicinity of overhead power lines.
12. Requirement for (Risk based) road design, inspection and maintenance to be in place taking into account equipment’s operating envelopes and collision protection (including safety berms).
13. Changes to traffic patterns and road alignments/ locations require the completion of the RGM Management of Change document including a complete Risk Assessment. It is critical that all road changes be communicated immediately to all persons using the road systems.

**E. FATIGUE MANAGEMENT:**

1. The work station shall be designed conform the European standard for Ergonomics
2. RGM shall make sure administration employees are provided with adequate work location to perform work activities
3. RGM shall make sure the field employees are equipped with the necessary accommodation to work under any weather circumstances
4. Written and auditable Fatigue Management Plan (FMP) for all operations that have working time arrangements.
5. RGM site shall assess and maintain a hazard/risk assessment and control process document that identifies and lists all fatigue hazards/risks. The register shall be accessible to all relevant personnel, including contractors and emergency personnel.
6. Employer shall ensure the health, safety and welfare of employees and visitors to the workplace with regard to fatigue.
  - Have a health and safety management system or plan

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- Consult with employees and those doing the work on fatigue risks
  - Identify and assess fatigue hazards
  - Eliminate or control fatigue risks
  - Provide information and instruction on managing fatigue risks
  - Provide supervision of work practices
7. Awareness, training and education shall be provided to all involved employees about the site’s fatigue policy and procedures.
  8. All site personnel including contractors shall be informed about the FMP and have the skills and knowledge. They need to fulfill their roles and responsibilities.

**F. SAFETY OBSERVATIONS**

All work sites at RGM are subject to regular Safety Observations. ME and Vehicle operations and the requirements of this Standard are included as elements of those observations. Results of the observations, including identified need for re-training or opportunities for program improvement require management follow-up and identified action.

**2. DOCUMENT CONTROL**

<b>Document</b>	<b>Primary File Location</b>	<b>Frequency of Review/Update</b>
RGM-PR-01 Traffic management plan	Mine Operations	As needed
RGM-PR-03 LOTOV Procedure	OHS	As needed
RGM-PR-04 Fall Prevention	OHS	As needed
EHS-F-11 Management of Change	OHS	As needed

**If you have any comments, questions or requests for corrections regarding this document, please contact one of the signatories.**

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