



TRANSPORTATION MANAGEMENT PLAN: LOCOMOTIVES

**THE PROPOSED MOVEMENT ACROSS SOUTH AFRICA OF LOCOMOTIVES
CLASSIFIED AS NATIONAL HERITAGE ASSETS**

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1. **TRAFFIC MANAGEMENT PLAN**

INTRODUCTION

Eskom Holdings SOC Ltd and Eskom Rotek; Industries Logistics Services have a 10 year contract; “Haulage and related services for the transportation of loads above 32 tonnes,” for the period, 20 January 2017 – 19 January 2027; Eskom Rotek Industries is proposing to develop a plan which will be used as a basis for the movement of the Heritage Locomotives assets across the South African country. This plan is generic with no actual site and further assessments on the actual sites for delivery.

Logistics Multi Axle Department was invited to perform an assessment in order to develop a plan for going out on the market.

2. **PURPOSE OF THE TRANSPORTATION MANAGEMENT PLAN**

A transportation management plan is required to ensure that the movement of the locomotives, considering the items to be moved, all the risks are mitigated as far as possible to:

- Loading, movement is done seamlessly with safety in mind and to the correct quality
- reduce the traffic impact on the surrounding road network.
- reduce potential conflicts that may results from the development trafficand the general traffic/public; and
- to identify potential routes for vehicles travelling to the site, particularly heavy and abnormal load vehicles.

This Plan has been prepared to enable the identification and implementation of all legal and best practice requirements in respect of the management of traffic associated with the operation of logistics.

3. ASSUMPTIONS AND LIMITATIONS

The following assumptions and limitations apply:

- a. This Traffic Management Plan is based on the project information provided by the Client;
- b. Maximum vertical height clearances along the haulage route are at least 6m to be able to accommodate abnormal loads;
- c. All haulage trips will occur on either surfaced national and provincial roads or existing gravel roads;
- d. All loading will be done using a crane (we are equipped to assist with the service)

4. SOURCE OF INFORMATION

Information used in a transport study includes:

- Project Information provided by the Client
- TRH11, Dimensional and mass limitations and other requirements for abnormal loads, August 2009
- The Technical Recommendations for Highways (TRH 11): “Draft Guidelines for Granting of Exemption Permits for the Conveyance of Abnormal Loads and for other Events on Public Roads”, 2000
- National Road Traffic Act, Act 93 of 1996
- National Department of Transport (NDoT), Manual for Traffic Impact Studies, October 2005
- Department of Transport (DoT), Geometric Design of Rural Roads, 1988
- SANS 10280/NRS 041-1:2008 Overhead Power Lines for Conditions Prevailing in South Africa

5. SITE LOCATION

Various sites across South Africa.

6. DESCRIPTION OF PROJECT ASPECTS RELEVANT TO THE TRAFFIC MANAGEMENT PLAN

Components

Components will be transported to site using appropriate National and Provincial routes. It is expected that the components will generally be transported to site with normal heavy load vehicles, proposed combination below:



Technical data

Travel speed	Acc. to the german traffic regulations (StVZO) 80 km/h	40 – 80 km/h	25 km/h	10 km/h	1 km/h
Payload	52,000 kg	72,000 kg	121,000 kg	167,800 kg	250,000 kg
Dead weight	20,000 kg				
Total weight	72,000 kg	96,000 kg	141,000 kg	187,800 kg	270,000 kg
Axle load	12,000 kg	16,000 kg	23,500 kg	31,300 kg	45,000 kg
Platform dimensions	approx. 9,000 x 3,000 mm				
Coupling length	approx. 9,000 mm				
Platform height center	approx. 1,175 mm				
Axle compensation	approx. +/- 300 mm				
Platform height lowered	approx. 875 mm				
Steering / steering angle	hydraulic-mechanical / approx. +/- 60°				
Number of wheel bogies / braked	12 / 12				
Braking force	522 kN				

7. **PROPOSED COMBINATIONS**

Combination 1: One 6 x 6 Mercedes in front, pulling 45 Ton capacity Lowbed trailer. Total combination weight about 95 Tons, total combination length about 20m.

Combination 2: One 6 x 6 Mercedes in front, pulling 2 x10 Scheuerle K25 modular trailer. Total combination weight about 110 Tons, total combination length about 22m.

7.1 **Applicable Legislation and Permit Requirements**

Key legal requirements pertaining to the transport requirements for the proposed development are:

7.1.1 Abnormal load permits, (Section 81 of the National Road Traffic Act)

7.1.2 Port permit (Guidelines for Agreements, Licenses and Permits in terms of the National Ports Act No. 12 of 2005), and

7.1.3 Authorization from Road Authorities to modify the road reserve to accommodate turning movements of abnormal loads at intersections.

8. **LIFTING AND LOADING**

We have 150 Ton capacity crane to assist with the loading and offloading at the various site.



9. TRAFFIC MANAGEMENT PLAN

This Traffic Management Plan has been prepared in respect of the planning phase of the proposed facility. The Traffic Management Plan will be updated prior to the commencement of the execution phase, when detailed information regarding the delivery of components, traffic data and other activities are available. A designated personnel member of the ERI's team will be the custodian of the plan and the custodian will ensure that all personnel and subcontractors are trained to ensure compliance. The requirements of the Traffic Management Plan shall apply to all transportation personnel and subcontractors appointed to provide vehicles, machinery, or drivers, for the safe movement of the abnormal loads. The Plan needs to be reviewed every four months or immediately after an incident, when corrective measures will be incorporated into the Plan.

9.1 Preliminary Transport Requirements

It is expected that the delivery of the components to the site during the transportation phase will not result in a significant increase in traffic. Abnormal loadtrips are limited and guided by the principles of TRH 11 and will in most cases, have traffic officials to guide the movement of the loads over and above the yellow light escorting. Staggered delivery and transporting components outside of the peak traffic periods (peak traffic periods for rural areas are assumed to be 6:30am – 8am and 4pm-6pm) will assist in mitigating the impact on the surrounding road network.

Proposed mitigation measures;

- The delivery of components and other materials to the various sites can be staggered and trips can be scheduled to occur outside of peak traffic periods.
- The implementation of road traffic officials (RTi, commonly known as traffic officials) will be employed to guide and control traffic
- Yellow light escorting to warn and update users on the road of abnormal loads in the vicinity.

- Staff and general trips should occur outside of peak traffic periods as far as possible.

9.2 Transport Coordinator

A transport coordinator (or similar designation) will be appointed to ensure compliance of the TMP. The coordinator shall make all the necessary arrangements to maintain the required traffic measures for the duration of the construction period.

9.3 Stakeholder Engagement

Interested and affected parties informed of all transport activities taking place that may affect them or require approval e.g. local community, the local authorities e.g. law enforcement and affected landowners will be notified.

9.4 Licensing

All vehicles shall have the necessary licenses, a valid roadworthy certificate and shall comply with the relevant traffic and transport licensing requirements (such as abnormal loads or hazardous materials).

All drivers of vehicles shall have the requisite licenses to operate any vehicle (or machinery) operated by them on site or on any public roads. A professional driving permit (PrDP) is required if any of the following vehicles are operated:

- 9.4.1 Goods vehicles, (more than 3 500 kg).
- 9.4.2 Breakdown vehicles.
- 9.4.3 Buses (any bus).
- 9.4.4 Minibus taxis (more than 3 500 kg), transporting 12 or more people, including the driver.
- 9.4.5 Vehicles used to transport people for payment.
- 9.4.6 Goods vehicle carrying dangerous goods (more than 3 500 kg).
- 9.4.7 Road tank vehicles for petroleum-based flammable liquids.
- 9.4.8 Motor vehicles transporting 12 or more people, including the driver.

9.5 Inspection of all Routes

A dry run of all routes is to be undertaken to identify any areas to avoid or obstacles that might disrupt the movement of the construction vehicles. All issues affecting the movement of construction vehicles are to be addressed immediately by the Route Clearance Contractor and relevant stakeholders e.g. law enforcement, relevant roads department and authorities.

9.6 Maintenance of vehicles

All vehicles and construction plant shall be regularly maintained, repaired when necessary and inspected on a regular basis to ensure that the vehicles are in goodworking order.

9.7 Abnormal Loads

Abnormal loads will be transported to site as per the following;

9.7.1 Abnormal Load Considerations

Abnormal permits are required for vehicles exceeding the following permissible maximum dimensions on road freight transport in terms of the Road Safety Act (Act No.93 of 1996):

- Length: 22m for an interlink, 18.5m for truck and trailer and 13.5m for a single unit truck
- Width: 2.6m
- Height: 4.3m measured from the ground. Possible height of load – 2.7m.
- Weight: Gross vehicle mass of 56t resulting in a payload of approximately 30t
- Axle unit limitations: 18t for dual and 24t for triple-axle units
- Axle load limitation: 7.7t on front axle and 9t on single or rear axles

Any dimension / mass outside the above will be classified as an Abnormal Load and will necessitate an application to the Department of Transport and Public Works for a permit that will give Authorisation for the conveyance of said load. A permit is required for each Province the haulage route traverses.

9.8 Further Guideline Documentation

The Technical Recommendations for Highways (TRH 11): “Draft Guidelines for Granting of Exemption Permits for the Conveyance of Abnormal Loads and for other Events on Public Roads” outlines the rules and conditions that apply to the transport of abnormal loads and vehicles on public roads and the detailed procedures to be followed in applying for exemption permits are described and discussed. Legal axle load limits and the restrictions imposed on abnormally heavy loads are discussed in relation to the damaging effect on road pavements, bridges, and culverts.

The general conditions, limitations and escort requirements for abnormally dimensioned loads and vehicles are also discussed and reference is made to speedrestrictions, power/mass ratio, mass distribution and general operating conditions for abnormal loads and vehicles. Provision is also made for the granting of permitsfor all other exemptions from the requirements of the Road Traffic Act and the relevant regulations.

10. POTENTIAL ROUTES TO THE PROPOSED SITE

All route must be identified for the site and a review required prior to delivery once a site has been chosen.

11. CONCLUSION

11.1 Components

The transportation of the locomotives require abnormal load permits as the dimension exceed the permissible maximum dimensions on road freight transport in terms of the Road Safety Act (Act No. 93 of 1996).

11.2 Traffic Management Plan

11.2.1 This TMP has been prepared to enable the identification and implementation of all legal and best practice requirements in respect of the management of traffic associated withthe construction and operation of the facility.

11.2.2 The Traffic Management Plan has been prepared in respect of the planning phase of the proposed facility. The Traffic Management Plan will be updated prior to the commencement of the construction phase and the operational phase.

11.2.3 A route assessment contractor will be appointed for the necessary clearance and assessment for bridges, routes, road furniture removal, etc. including the necessary Eskom (5.5m) and Telkom clearances (6m), to ensure that the delivery will occur without disruptions.

11.3 Post delivery

Logistics Multi axles will require a designated area to park during the post delivery period to allow for permit application (between 48 to 72 hours), then another 48 to 72 hours to notify the traffic officials to escort combination out of the site. Time of delivery willbe dependent on road traffic inspectorate and permit availability.

11.4 Security

Logistics Multi Axles will account for the security while in transit only. Please accommodate our crew at your sites when delivering by providing induction and ablution facilities.

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