ENVIRONMENTAL MANAGEMENT PLAN (EMP) FOR THE REMOVAL OF BALLAST WASTE AND COAL (FROM DERAILEMENT SITES)

Transnet Freight Rail (TFR)
Risk Management (Environmental Management)

FEB 2013
## DOCUMENT MANAGEMENT & CONTROL

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<td>Compiled:</td>
<td>Environmental Management Department</td>
<td>Signature Date:</td>
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<td>Signature Date:</td>
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1. INTRODUCTION

1.1 Purpose of this document

This document describes environmental management measures with regard to removal of ballast and the removal of coal from derailment sites. This document is issued for the guidance of contractors performing this clean-up work in TFR premises.

*Note: For all problems or issues that are not discussed in this document, the TFR Project Manager must be contacted as per emergency contact details provided in Section 5 of this EMP.*

1.2 Application of this document

Contractors must acquaint themselves with this document and act in accordance with the document in so far as it concerns the environment, while carrying out work in TFR premises.

2. MATERIAL REMOVAL

2.1 Ballast removal

Transnet Freight Rail generates significant amount of ballast spoils during its perway infrastructure maintenance operations. Newly crushed ballast is replaced at an average rate of 1440 – 1600 m³ per kilometre of track and about 40% of this is discarded as spoilt ballast. The spoilt ballast is discarded alongside the tracks and over the years spoilt ballast stone have accumulated in stockpiles along the rail line within the coal line network.

**Management Measures:** The removal of ballast spoils should not result in the pollution of the environment or the destruction of sensitive environmental features.
2.2 Coal Removal (at derailment sites)

One of the commodities that TFR transports is coal. In South Africa coal is a vital export commodity. TFR provides world-class transportation of South Africa's export coal. The largest coal transportation operations in TFR are in the Coal line with railings of over 61 million tonnes per annum. Export coal is loaded in the coal fields of Mpumalanga and railed through the coal network to the Richards Bay Coal Terminal.

In the transportation of export coal, derailment incidents occur, which lead to spillage of coal. During derailment clean-up operations, which are carried out subsequent to the derailment incidents, it is not always possible to recover the spilled coal, due to, among other reasons, the financial implications of recovering the coal. The coal would then be stockpiled at the derailment sites for recovery during future environmental remediation processes.

**Management Measures:** The coal recovery operations are to be carried out in such a manner that environmental degradation is prevented. No destruction of natural vegetation due to machinery and vehicles being operated or parked in sensitive environmental features (e.g. wetlands) where this can be avoided by using dedicated pathways and TFR service roads.

3 TRAINING AND ENVIRONMENTAL AWARENESS

The TFR Project manager shall ensure that all contractors coming on site are inducted accordingly, including induction on the following:

- General environmental awareness
- Safety awareness

Furthermore it is important that the contractors on site are provided with training and capacity building on the following:

- Their roles and responsibilities as specified in this EMP
- The environmental impacts associated with their activities and how to manage these impacts
- Contractors to familiarise themselves with the TFR Environmental Guidelines
- Contractors should be able to recognise environmental impact hazards and know who to contact in case of such
- The contractors should also be inducted on the socio issues associated with the presence of contractors in the vicinity of communities, to minimise possible tensions with adjacent communities

**Tools that can be used**

| Operational Phase | • Regular toolbox sessions  
|                   | Transnet Freight rail SHEQ policy explained to all personnel on site  
|                   | A quick reference list of practices that are prohibited on site – e.g. no loud music, no littering, no open fires  
|                   | Sensitive environmental areas e.g. rivers and wetlands how to manage these areas |

The following are some Standard TFR rules reasons for which an employee of a Contractor may be temporarily or permanently removed from TFR premises:

- Possession or use of alcoholic beverages or regulated drugs not prescribed by a physician;
- Possession of explosives, firearms, ammunition, and other weapons;
- Deliberate violation of safety or security rules;
- Ignoring posted “Danger” and “Caution” signs;
- Unauthorized dumping, handling, or disposal of hazardous materials
- Destruction or removal, without written permission, of any property belonging to TFR;
- Intimidating, threatening, harassing, impeding or interfering with security officer, or TFR designated project representative;
- Unauthorized removal or destruction of a safety barricade, handrail, guardrail, warning sign or other warning devices intended to protect TFR employees, contractors, neighbours; and
- Violation of any local, provincial or national legislations or by-laws.
4 ENVIRONMENTAL MANAGEMENT PROGRAM

The following table outline the environmental management programme to be followed in order to minimise the identified environmental impacts.

### 4.1 Destruction or disturbance of fauna and flora habitat

The destruction of vegetation and sensitive environmental features during the loading of ballast and coal on trucks can lead to destruction of sensitive vegetation and habitats.

**Objective:**

To prevent and mitigate the destruction of vegetation and sensitive habitats.

**Targets**

Compliance to NEMA

Compliance to National Water Act, 1998

<table>
<thead>
<tr>
<th>Activity</th>
<th>Impact</th>
<th>Mitigation Action</th>
<th>Responsibility &amp; Resources</th>
<th>Target Date</th>
<th>Monitoring criteria</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearing of vegetation</td>
<td>Removal of soil cover and disturbance of habitat for crawling and burrowing insects</td>
<td>Keep clearing of vegetation to the absolute minimum required</td>
<td>Contractors</td>
<td>Daily</td>
<td>Visual</td>
<td>Daily</td>
</tr>
<tr>
<td>Use of vehicles and machinery</td>
<td>Destruction or disturbance of sensitive features (e.g. wetlands)</td>
<td>Ensure that all machinery and vehicles are operated on existing pathways and service roads, the use of vehicles and machines on undisturbed sites must be prevented or minimised</td>
<td>Contractors</td>
<td>Daily</td>
<td>Visual</td>
<td>Daily</td>
</tr>
</tbody>
</table>
### 4.2 Soil and Water Pollution from spillages

The spillages of hydrocarbons from vehicles and machinery

**Objective:**

To prevent pollution of soils and water from spillages.

**Targets**

Compliance to NEMA
Compliance to National Water Act, act 36 of 1998

<table>
<thead>
<tr>
<th>Activity</th>
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<th>Mitigation Action</th>
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<th>Monitoring criteria</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicles working and parked on site</td>
<td>Pollution from spillages</td>
<td>No vehicle repairs should be done on site. Vehicle workshops should be located off site. Vehicles with oil and fuel leaks should be prohibited from working on site until such time that they have been repaired</td>
<td>Contractor</td>
<td>Daily</td>
<td>Inspect site for spillages</td>
<td>Daily</td>
</tr>
<tr>
<td>Spillage of hazardous chemicals</td>
<td>Pollution from spillages</td>
<td>Spill kit to address spillages, Remove polluted soil from site for rehabilitation or safe disposal</td>
<td>Contractor</td>
<td>Daily</td>
<td>Inspection of site for spillages</td>
<td>Daily</td>
</tr>
</tbody>
</table>
### 4.3 Waste Generation

The irresponsible waste management practices leading to illegal waste disposal and an unsightly site

**Objective:**

To prevent illegal dumping of waste, littering and illegal handling of waste

**Targets**

Compliance to NEMA: Waste Act

<table>
<thead>
<tr>
<th>Activity</th>
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<th>Mitigation Action</th>
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<th>Monitoring criteria</th>
<th>Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage and disposal of waste</td>
<td>Littering and illegal disposal of waste</td>
<td>Waste management induction must be conducted for contractors coming on site. Contractor to provide waste bin/containers or plastic on site for storage of waste while on site. All waste material generated by contractors must be removed and disposed off site, at an approved disposal site. Burning or burying of waste on site is strictly prohibited.</td>
<td>Contractors</td>
<td>Daily</td>
<td>Monitor the handling of waste</td>
<td>Daily</td>
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</table>
5 EMERGENCY CONTACTS

The following list of contact persons are to be activated in case of an environmental incident must be made available to all staff on site:

<table>
<thead>
<tr>
<th>Designation</th>
<th>Contact Person</th>
<th>Contact Numbers</th>
<th>email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Manager</td>
<td>Philip de Klerk</td>
<td>Tel (012) 315 2021</td>
<td><a href="mailto:Philip.deklerk@transnet.net">Philip.deklerk@transnet.net</a></td>
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<td></td>
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<td>Cell: 083 308 9669</td>
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<td>Email: <a href="mailto:Philip.deklerk@transnet.net">Philip.deklerk@transnet.net</a></td>
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<tr>
<td>Environmental Specialist</td>
<td>Tshilidzi Masalesa</td>
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<td></td>
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<tr>
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<tr>
<td></td>
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<td>Cell: 083 410 8264</td>
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<td></td>
<td></td>
<td>Email: <a href="mailto:Xolile.Makhoba@transnet.net">Xolile.Makhoba@transnet.net</a></td>
<td></td>
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</table>

6 RECOMMENDATION AND CONCLUSION

The proposed will have negative impact to the environment as highlighted. The most significant impact is the permanent destruction of fauna and flora habitat, however in the long term the impact is only limited to the footprint of the operations, of which when weighed against the positive impact of removal of the pollution source, and improved aesthetics, the negative impact is deemed insignificant.

7 SPECIAL CONDITIONS

ALL

- Wherever the successful bidder enters any property, whether TFR or private property, he/she shall inform TFR representative and the private property owner prior to entering. Should any fences or structures be damaged, the successful bidder shall repair it at his/her own cost.

BALLAST

- A detailed proposal on treatment/disposal of contamination in the ballast must be provided when registering to bid – TFR will satisfy itself that the proposal will ensure that all pollution is responsibly addressed in line with all relevant environmental legislations – should the successful bidder’s proposal be acceptable then the award will be made or else the next best bidder will be similarly tested.
- Where the hazardous waste is generated from the process of cleaning the ballast, such waste shall be disposed of in an environmentally acceptable manner and proof of responsible disposal must be
provided – e.g. a copy of a waste disposal certificate from a licenced waste disposal facility must be provided to TFR.

**COAL**

- It should be noted that the coal stockpiled at the various sites was “discarded” following derailment occurrences and that during clean-up of these sites some of the coal stockpiled was contaminated – thus it is possible to find pieces of rail steel, ballast and broken concrete sleepers within the stockpiles – where this is the case the successful bidder is not expected to remove such material (contaminants) from site – but as guided by the EMP (which is being finalised) such material shall be safely stockpiled on site.