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OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN

DOCUMENT APPROVAL PROCESS

NAME		POSITION/MEETING NO.	SIGNATURE	DATE
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1. PURPOSE

To mitigate or minimise environmental impacts associated with Transnet Pipelines operational activities.

2. SCOPE AND APPLICABILITY

An Environmental Management Plan is a tool used to ensure that undue or reasonably avoidable adverse impacts associated with Transnet Pipelines operations are prevented or mitigated. This document has been compiled to ensure good environmental practices during operational phase of Transnet Pipelines facilities and pipelines. It is a generic environmental document to use as a guide for all Transnet Pipelines operational activities. This document doesn't replace site specific Environmental Management Plans, that were issued as a condition of an Environmental Authorisation. It must be read in conjunction with those EMP's.

3. DEFINITIONS AND ABBREVIATIONS

CTO	Chief Technical Officer
DM	Depot Manager
EM	Environmental Manager
EMP	Environmental Management Plan
ES	Environmental Specialist
FM	Facility Manager
General waste:	Waste that does not pose an immediate hazard or threat to people or the environment and includes domestic waste, business waste, building waste and garden waste).
Hazardous waste:	Any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment.
TPL:	Transnet Pipelines
Waste:	Any substance, whether or not that substance can be reduced, re-



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used, recycled and recovered - that is surplus, unwanted, rejected, discarded, abandoned or disposed of, or that is identified as a waste by the Minister by Notice in the Gazette

4. ROLES AND RESPONSIBILITY

4.1 Chief Executive

- Make provision of resources to ensure compliance with all relevant legislative and other requirements.

4.2 General Manager Legal and Compliance

- Ensure access to legal requirements and legislative compliance.

4.3 All Transnet Pipelines Managers

- Identify, review and maintain compliance obligations, in respect of their environmental aspects and other interested parties requirements.
- Make provision of resources to ensure compliance with all relevant legislative and other requirements.
- Co-operate with regulatory inspectors or representatives regarding permits and authorisations.
- Renew permits and authorisations timeously.
- Forward a copy of new permit/s and authorisation/s to the Environmental Manager, as they are renewed.

4.4 Environmental Manager

- Identification of sources of information on compliance obligations.
- Interface with the environmental legal specialist.
- Identify, review and maintain applicable compliance obligations in respect of TPLs environmental aspects and other interested parties requirements which the organization has to or chooses to adopt.
- Communicate relevant compliance obligations to key organisational personnel.
- Interface with applicable regulatory authorities and relevant persons to ensure compliance with all relevant legislative and other requirements.
- Ensure accessibility to the Legal Register (ENV-FORM-002) and the Aspect and Impact Registers (ENV-FORM-001).
- Withdraw and archive, where necessary, repealed compliance obligations from the system.

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4.5 Environmental Department

- Assist all TPL facilities and departments in implementing compliance obligations.
- Make recommendations to the relevant TPL Department to ensure adherence to compliance obligations
- Record TPL authorisations and permit requirements and maintains the 'Authorisations' Register'. (ENV-FORM-007).
- Retain and maintain the Legal Register (ENV-FORM-002), and supporting documentation.

4.6 All Transnet Pipelines personnel

- Comply with procedures and work instructions to ensure compliance with applicable environmental legislation and other interested parties requirements.
- Report all non-conformances, incidents and emergencies immediately.
- Co-operate with regulatory inspectors or representatives regarding permits and authorisations, where applicable

5. PROCEDURE

5.1 Key Applicable National Environmental Legislation Governing Transnet Pipelines

This section lists some of the main environmental legislation that TPL operations have to comply with. It is by no means a list of all applicable environmental legislation as this is dealt with in detail in the TPL Environmental Legal Register. A copy of the TPL Environmental Legal Register is available on the TPL intranet.

5.1.1 The Constitution of South Africa, Act 108 of 1996

Chapter 2: Bill of rights requires TPL to ensure that its operations do not impact on the health or wellbeing of employees and the general public. Environmental Aspects and impacts must be identified and appropriate controls put in place. This document is one of the controls to ensure that negative impacts on the environment are mitigated and managed.

5.1.2 Petroleum Pipelines Act, Act 60 of 2003

The objective of this Act includes *inter alia*- the safe, efficient, economic and environmentally responsible transport, loading and storage of petroleum products. Section 15 of this Act requires TPL to have a license to operate a pipeline, storage or loading facilities. Conditions of the license issued in terms of section 20 of this Act, may include compliance with existing health, safety and environmental standards in line with legislation. This document aims to give effect to this condition.



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5.1.3 National Environmental Management Act, Act 107 of 1998

Section 2 of this Act provides principles of sustainable development that TPL must take into account when planning new developments and during operational phase.

Section 28 deals with Duty of Care and remediation, TPL must ensure that reasonable measures are taken to prevent pollution from occurring, to minimise and remediate areas where pollution has occurred. This can be done through implementation of Environmental Management Plan and Operating Procedures.

5.1.4 National Environmental Management Act, Act 59 of 2008

Section 16 requires that a holder of waste must take reasonable steps to avoid, reduce, re-use, recycle and recover waste, and must ensure that wastes are treated and disposed of in an environmentally sound manner.

Section 21 requires any person who stores waste to at least take steps to ensure that- (a) the containers in which any waste is stored, are intact and not corroded or in any other way rendered unfit for the safe storage of waste; (b) adequate measures are taken to prevent accidental spillage or leaking; (c) the waste cannot be blown away; (d) nuisances such as odour, visual impacts and breeding of vectors do not arise; and (e) pollution of the environment and harm to health are prevented.

Section 24 (b) Collection of Waste: No person may collect waste for removal from premises unless such person is authorised by law to collect that waste, where authorisation is required.

Section 26 prohibits the unauthorised disposal: No person may dispose of waste, or allow waste to be disposed of, unless the disposal of that waste is authorised by law.

5.1.5 National Environmental Management: Air Quality Act, Act 39 of 2004

The Act provides for *inter alia* the regulation of air quality to protect the environment, the prevention of pollution and ecological degradation, for securing ecologically sustainable development while promoting justifiable economic and social development, for national norms and standards regulating air quality monitoring, management and control by all spheres of government, and for specific air quality measures.

5.1.6 National Water Act, Act 36 of 1998

Section 19 of this Act requires TPL to identify activities that may cause a negative impact on a water resource. This includes implementation of operational controls such as bunding of storage

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tanks, spillage management, good housekeeping, proper effluent and storm water management, staff training on environmental pollution prevention and effective waste management.

5.1.7 Hazardous Substances Act, Act 15 of 1973

Hazardous Substances Act (Act 15 of 1973) provides for the control of substances which may cause injury or ill health to, or death of, human beings. The Act also enables the declaration of hazardous substances and the establishment of measures for disposal of hazardous substances and products.

5.2 LOCATION OF OPERATIONAL SITES

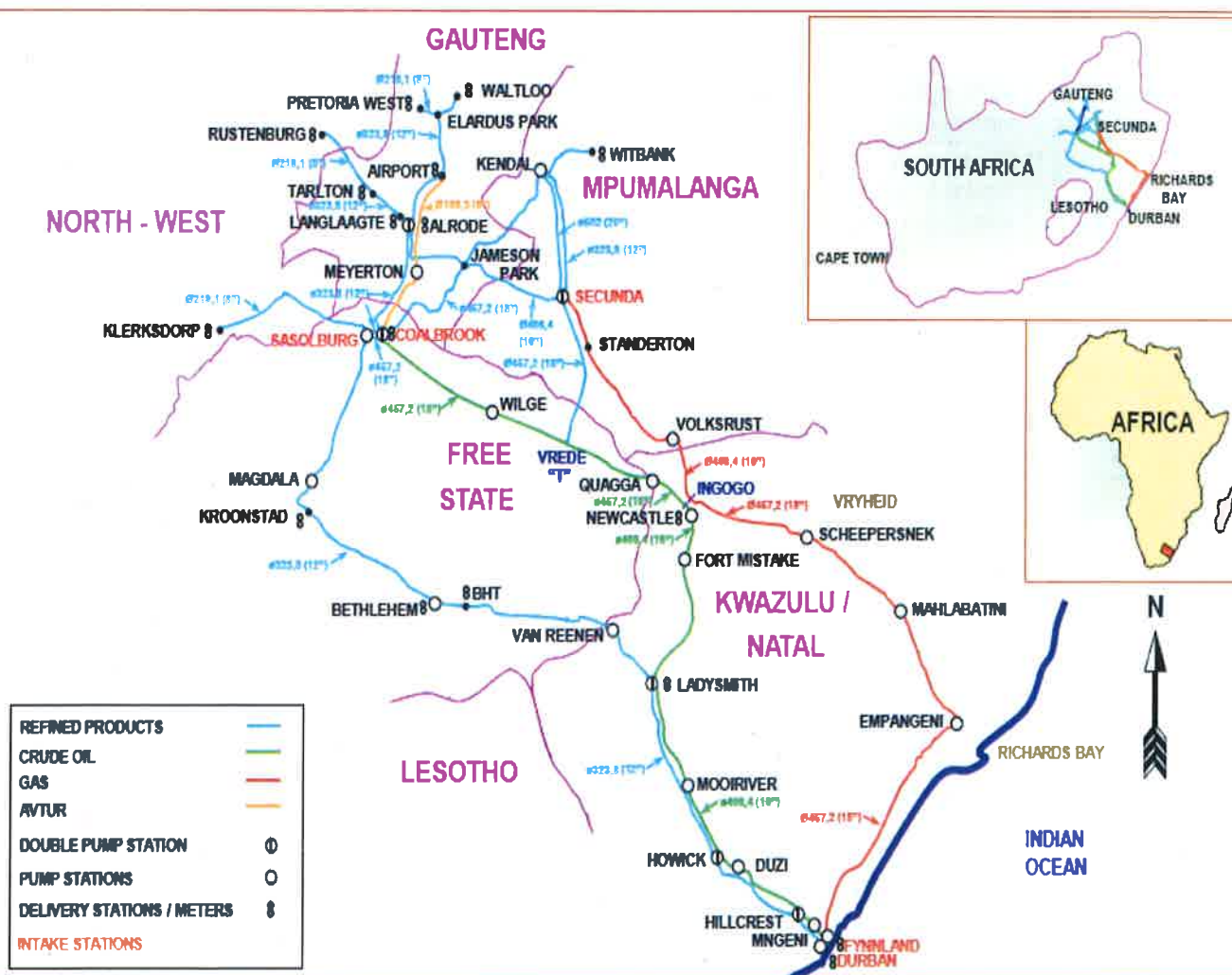


Figure 1: Map showing location of TPL's pipeline network and pump stations

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5.3 MANAGEMENT OF THE OPERATIONAL PHASE

ELEMENT:WASTE MANAGEMENT

Objective

- To ensure appropriate management of waste.
- To comply with all permits, and or licenses issued to the site.

Management Strategy

To mitigate impacts of waste on the environment

		Responsibility	Frequency
Actions	Each site must have a designated waste storage area with appropriate signage.	Site Manager	Throughout operational phase
	Waste must be separated according to its stream and stored appropriately as required in terms of the waste management procedure ENV-SOP 01.	All employees	Daily
	All reusable or recyclable materials e.g. empty laboratory bottles must be reused or recycled. Each Depot or Workshop must identify waste streams that can be recycled and re-used, in consultation with the Environmental Specialist Responsible for the site.	All employees	Daily
	Liquid waste receptacles must be stored in a bunded area or be leak- proof.	DM/FM	Daily
	Obtain a waste manifest document from a waste contractor for each waste removal (Refer to ENV-SOP 01 for detail on waste management).	DM/FM	During waste collection
	Maintain high level of housekeeping on site through avoidance of littering, ensuring that waste receptacles are not overfilled and have legible signage for waste receptacles.	All employees	Daily
	Staff must be trained on waste management to ensure compliance.	ES	As and when required
	Appoint the waste service provide to collect waste onsite.	DM	As an when required
Performance indicators	<ul style="list-style-type: none"> * A dedicated area for storage of waste with labeled waste receptacles. * Reuse and recycling initiatives * Good house keeping 	DM/FM	Daily
Monitoring	<ul style="list-style-type: none"> * Depots environmental management audit. * Operational inspections 	ES	As and when scheduled.
		SHE Reps	Monthly



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Reporting	* SHE Reps monthly reports on housekeeping for each site.	SHE Reps	Monthly
	* Sustainability monthly reporting on the quantities generated and recycled.	DM	Monthly
Corrective action	Where a non-conformance has occurred, a non-conformance form (ENV-Form-018) shall be completed.	All employees	Daily
	Control measures are to be identified through Root Cause Analysis as detailed in the non-conformance form (NCR) issued.	DM/FM	As and when
Interfaces	The waste management practices must comply with the Waste Management Procedure (ENV-SOP-001) and Transnet Waste Management and Resource Conservation Standard (Reference: GRM/SHEQ/STD 016 of March 2007).	All employees	Daily

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ELEMENT: AIR QUALITY MANAGEMENT

Objective

- To minimize the potential negative environmental impact of Volatile Organic Compounds and other air pollutants resulting from operations undertaken at TPL facilities e.g. product storage facilities, loading/offloading operations and manifolds.
- To comply with all authorizations or licenses issued.

Management Strategy

To efficiently manage the activities that may lead to emission of air pollutants into the air.

		Responsibility	Frequency
Actions	Develop an air quality management plan for TPL to manage our impact on ambient air quality.	EM	2013
	Implement actions identified in the AQMP to reduce the concentration of emissions released into the atmosphere.	EM	As per the timeframes set out in the AQMP.
Performance indicators	Compliant with ambient levels specified in the legislation, Atmospheric Emissions License or other licences and permits.	EM/DM	Throughout operational phase
Monitoring	Air emissions monitoring, which includes ambient air monitoring, as well as stack emissions monitoring where required.	EM	As specified in the Atmospheric Emissions License
Reporting	Emissions monitoring reports to be kept on file. Reporting to authorities as specified in the Atmospheric Emissions License, or other permits and licenses.	ES	As stipulated in license/permit
Corrective action	Where the minimum ambient levels are exceeded, existing site mitigation measures will be reviewed.	ES	Throughout operational phase
Interfaces	The Environmental Department shall ensure that the requirements of the AQMP are communicated to the relevant depots. The Environmental Department will report to the relevant authorities as and when required.	EM	During operationa, phase



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ELEMENT: BIODIVERSITY MANAGEMENT

Objective

- To ensure minimal impacts on biodiversity (flora, Fauna, wetlands, rivers and other protected sites).
- Ensure compliance with legal requirements.

Management Strategy

To manage the direct and indirect impact on biodiversity that may emanate from TPL Operations

		Responsibility	FREQUENCY
Actions	Ensure that the impacts associated with excavations for pipeline maintenance along the servitude within wetlands areas and other environmentally sensitive areas are mitigated through consultation with TPL Environmental Management Department prior to commencement with work.	Servitude , Pigging and Workshop	During the planning phase, prior to commencement of work
	Ensure the minimization of impacts on wetlands and other sensitive environmental sites through adherence to the wetland crossing procedures/environmental methods statements.	Servitude , Pigging and Workshop	During servitude/pipeline maintenance work
	Ensure the development of site specific environmental rehabilitation plan.	EM	Prior to commencement of work onsite
	Ensure that, the rehabilitation of all sites disturbed as a result of pipe maintenance work is implemented. The rehabilitation should be in accordance with the rehabilitation plan for the site.	Servitude , Pigging and Workshop	Post maintenance work
	Minimize the extent of areas required for excavation during pipeline maintenance along the servitudes	Contractor	During servitude maintenance activities.
Performance indicators	The success of rehabilitation activities. Number of non-conformances.	EM	During servitude maintenance activities.
Monitoring	Environmental inspections of work on site.	ES or Independent Environmental Control Officer or Authorities	During maintenance work and post rehabilitation
Reporting	CTO meetings and project interface meeting.	EM	Monthly



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Corrective action	Where non-conformances with methods statements and rehabilitation plans are recorded, control measures are to be reviewed.	ES	As an when required
Interfaces	<ul style="list-style-type: none">* Site specific environmental authorization and EMP's must be complied with.* Multi Products Pipeline Operational Environmental Management Plan must be implemented for the Trunkline, PL 2,3 & 4 maintenance* Implement ENV SOP-002	ES	As an when required

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ELEMENT: WATER POLLUTION PREVENTION AND WATER MANAGEMENT

Objective

- To mitigate the pollution of water resources as a result of spill basin waste water discharge and other operational related activities
- To comply with all approvals and or licenses issued to the site.

Management Strategy

To effectively manage water usage and mitigate pollution associate with spill basin waste water.

		Responsibility	FREQUENCY
Actions	Rain water and firewater that drain into the manifolds areas, booster pump bunded areas and flush tank bunded areas pump base plates, pump seal drains, will collect and be retained in the spill basins.	DM	Throughout operations
	Tank and bund area integrity is to be maintained in good condition. Regular tanks and bunds inspection for cracks	DM	As and when required
	Prevent minor spills within the manifolds through the use of drip trays during maintenance and when minor drips are identified.	DM	As and when required
	Ensure that oil/water separators are clean, through regular removal of sludge. The spill basin must also be cleaned regularly to prevent accumulation of sediments.	DM	As and when required
	The area around the separator tank and the gutters leading to the tank are to be free from debris and other objects that could fall or blow into the drainage system.	DM	Throughout Operations
	No spill basin waste water is to be discharged directly into the wetland or storm water drains, should the sampling results indicate exceedance of parameters specified in the site specific permit or National Water Act requirements.	DM/EM	Prior to discharge

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Performance indicators	Non-compliance with permits and notices from authorities. Reduction in water usage	EM	Annual sustainability reporting
Monitoring	Water Quality Analysis. Water quantity recordings	DM/Appointed Service Provider	Prior to emptying of spill basins
Reporting	Water Quality Results Water quantity results	EM	Monthly or Quartely
Corrective action	Where water quality parameters limits are exceeded, the implementation of mitigation measures will be audited for that particular site.	EM	As and when required
Interfaces	Implement the Spill Basins Waste Water Management Procedures (ENV SOP 005) requirements.	DM	As and when required



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ELEMENT: ALIEN VEGETATION MANAGEMENT

Objective

- Ensure that TPL Depots and pump station are free of alien vegetation.
- To ensure that the work onsite complies with legal requirements.

Management Strategy

		Responsibility	FREQUENCY
Actions	Appoint a service provider to remove alien vegetation infestation	DM	As and when required.
	Ensure that service providers are in compliance with legal requirements for pest control operators or use of herbicides. Depot manager must consult with Environmental Management Department to obtain advice in this regard.	DM	Prior to appointment.
	All TPL Depots, Pump Stations and Workshops must be free of alien plants	DM	Daily
Performance indicators	Absence of alien vegetation at the Depots and Workshops	DM/FM	Monthly
Monitoring	Depots environmental audits	ES	As and when
Reporting	Depot Environmental Meeting	DM	As and when
Corrective action	Where aliens are found, the DM must be informed and ensure that they are removed.		

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ELEMENT: SPILL MANAGEMENT

Objective

- To effectively manage spillages in order to minimize impacts on the environment.
- To comply with legal requirements.

Management Strategy

To properly manage spillages in order to minimize impacts and remediate.

		Responsibility	FREQUENCY
Actions	Appoint a service provider for emergency spillages.	EM	As and when required
	Develop an emergency response plan and communicate it to all employees.	CTO	During operational phase
	Drip trays of suitable size and capacity are to be used when handling all equipment's that has potential to leak such as the removal of strainer baskets, spheres, pigs, etc.	Maintenance Employees/ DM	During maintenance work
	Each facility must have spill containment equipment (e.g. wheelie bin, spades, absorbents and spill dispersal) on site to manage minor spillages associated with maintenance work.	DM	Daily
	If a spill occurs on an impermeable surface such as cement or concrete, the surface spill must be contained using oil absorbent materials.	DM	During spills
	Materials used for remediation of petrochemical spills must be used according to product specifications and guidance for use.	All employees	During spills
	All major spills are to be reported immediately to TPL EM.	All employees	As and when there are spills
Performance indicators	* Reporting of incidents to emergency service providers after incident occurrence or discovery thereof.	All employees	During spillages
	* Total number of spills.	DM	Post spillages
	* Rehabilitation of spill sites to their pre-contamination status.	Spill response contractor	
Monitoring	Soil and ground water contamination assessment.	EM	During spillages
Reporting	Incidents or Spill reports	DM	During spillages
Corrective action	* Analyze the root causes of spills and prepare the measures to mitigate the re-occurrence for all operations.	DM and EM	After a spillage incident
	* Rehabilitate the contamination on site.		
Interfaces	TPL Emergency Response Plan, Site Specific Emergency Response Plan and ENV SOP 4.4.7 must be implemented	All employees	During spills

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5.4 MANAGEMENT OF THE DECOMMISSIONING PHASE

Rehabilitation of Hydrocarbon Contamination

It is acknowledged that during the operational phase of an organization or business there might be instances of pollution that take place on site or degradation of the quality of the land due to the nature of activities. The affected areas therefore have to be rehabilitated to their original state or to an acceptable level for the authorities and land owner. Decommissioning must be in line with legal requirements.

ELEMENT: SITES DECOMMISSIONING

Objective

- To reduce hydrocarbon contamination to acceptable levels.
- To comply with legal requirements and principle of due diligence.
- To ensure that previously operational sites are returned to acceptable state once operations cease

Management Strategy

To efficiently rehabilitate the subject site to the land owner's and legal requirements or to the condition the site was before operations.

		Responsibility	FREQUENCY
Actions	Undertake the soil and ground water contamination assessment. If the site is found to be contaminated, apply for Environmental Authorization in terms of Section 24 of the National Environmental Management Act 107 of 1998	Environmental Manager (EM)	As and when required
	Implement the rehabilitation process as recommended by the Environmental Impact Assessment and or Contamination Assessment Specialist Study.	TPL Project Manager/ EM	Throughout the decommissioning phase
	All waste produced shall be managed appropriately on site prior to disposal, using suitable storage containers.	TPL Project Manager/ EM	During decommissioning
	All structures, foundations and concrete/ tarred areas shall be demolished, removed and waste materials recycled or disposed of at an appropriate licensed waste disposal site. All access roads not required are to be closed and fully rehabilitated.	TPL Project Manager/Contract -or	During decommissioning
	All highly contaminated shall be excavated and disposed as per guidance from the specialist, e.g. a geohydrology.	Contractor	During decommissioning

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	All areas that have medium to low contamination levels will be treated in-situ with bioremediation products or as recommended by the specialist.	EM	During decommissioning
	Waste removal shall be undertaken by a suitably qualified and permitted company	Contractor/TPL Project Manager	During decommissioning
Performance indicators	* Rehabilitated sites with minimal risk to the environment.	EM	Post rehabilitation
Monitoring	* Soil and ground water contamination assessment. * Regular inspections of the site. * All treated areas to be tested for hydrocarbon levels after completion of remediation works.	EM	During rehabilitation
Reporting	Logs to be kept of regular inspections as well as disposal certificates to be kept in a register.	TPL Project Manager	During decommissioning
Corrective action	* If contamination still persists after the implementation of the rehabilitation, the contamination assessment specialist is to review the methods applied and provide advice.	EM	Post rehabilitation
Interfaces	All rehabilitation plans must be approved by the Authorities.	EM	Prior to the contractor's commencement on site.

6. RECORDS

- Monitoring and Measurement records
- Non-conformance reports

7. REFERENCE

- ISO 14001:2015 Environmental Management Systems — Requirements with Guidance for Use

8. DOCUMENT CHANGE HISTORY

Date	Previous Rev No.	New Rev No.	Details of Revision
01/09/2012	N/A	00	New procedure
01/08/2017	00	01	Alignment with the QMS template

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