

Document Title:

## **SCOPE OF SERVICES**

Project Title:

**FOR PROVISION FOR ONCE OFF MV GENERATOR SETS INSPECTIONS AND  
MAINTENANCE**

**REVISION 00: FOR APPROVAL**

## **GLOSSARY**

TPL	-	Transnet Pipeline
ECP	-	Electrical Control Panel
GCP	-	Generator Control Panel
Gen	-	Generator
DE	-	Drive End
ID	-	Identity Document
NDE	-	Non-Drive End
PPE	-	Personal Protective Equipment
Tax	-	Taxation
SAPS	-	South African Police Service
MV	-	Medium Voltage
LV	-	Low Voltage
MPP	-	Multi Product Pipeline
OHS Act	-	Occupational Health and Safety Act

## Contents

1. TRANSNET PIPELINE BACKGROUND.....	5
2. PROJECT BACKGROUND.....	5
3. SCOPE OF SERVICES .....	5
3.1 General requirements.....	5
3.2 Description of services and tender information.....	6
3.3 Performance Standards & Acceptance Criteria .....	7
3.4 Staff requirements and supervision.....	7
3.5 Equipment materials and consumables.....	7
3.6 Working hours.....	8
3.7 Health and Safety Compliance .....	8
3.8 Security Screening.....	9
4. GEOGRAPHICAL FOOTPRINT .....	9

## 1. TRANSNET PIPELINES BACKGROUND

Transnet Pipelines (TPL), a business unit of Transnet, provides strategic pipeline infrastructure, with associated world class pipeline logistics, for the petroleum and gas industries of South Africa. This is done in partnership with our customers and stakeholders thereby assuring the African sustainable development imperative. TPL operates and maintains a 3114 kilometres of petroleum pipeline network within South Africa. Established in 1965, Transnet Pipelines transports an average of 17 billion litres of fuel per annum. This includes diesel, unleaded petrol, aviation turbine fuel and crude oil. The pipeline transverses five different provinces (Kwa-Zulu Natal, Gauteng, North West, Free States and Mpumalanga) ensuring security of supply of petroleum products into the inland market. TPL is responsible for the operation, maintenance, and improvement of Transnet's pipeline network.

## 2. PROJECT BACKGROUND

Transnet Pipelines Multi Product Pipeline(MPP) operates five depots namely, Island View, Twini, Hilltop, Mnambithi and Jameson Park each with two Medium Voltage(MV) Generator(Gen) sets installed on sites, totalling 10 MV Gen sets. MV Gen sets are used as back-up power whenever there is load shedding and power shortages in the area. Transnet Pipelines have embarked on a process to appoint a service provider for a **once-off** inspection and full maintenance of all MV Gen sets in all the MPP depots. The MV generator sets in use are Diesel 16V228GSE, 11kV, 50Hz heavy-duty cycle engines, designed for industrial and high-demand applications.

## 3. SCOPE OF SERVICES

### 3.1 General requirements

Transnet Pipelines is looking to appoint a service provider to do a **once-off** inspection and full maintenance on all MV Gen sets on the Multi Product Pipeline depots, namely Island View, Twini, Hilltop, Mnambithi and Jameson Park.

### 3.2 Description of services and tender information

Transnet Pipelines has two sets of MV Gen sets per MPP depot, below find the equipment description per site.

<b>SITE NAME</b>	<b>EQUIPMENT DESCRIPTION (Engine model no, rated Voltage, rated Current)</b>
Terminal 1, Island View Operations	Diesel, 16V228GSE, 11kV, 221A
Terminal 1, Island View Operations	Diesel, 16V228GSE, 11kV, 221A
Pump Station 1, Twini	Diesel, 16V228GSE, 11kV, 200A
Pump Station 1, Twini	Diesel, 16V228GSE, 11kV, 200A
Pump Station 3, Hilltop	Diesel, 16V228GSE, 11kV, 200A
Pump Station 3, Hilltop	Diesel, 16V228GSE, 11kV, 200A
Pump Station 5, Mnambithi	Diesel, 16V228GSE, 11kV, 200A
Pump Station 5, Mnambithi	Diesel, 16V228GSE, 11kV, 200A
Terminal 2, Jameson Park Operations	Diesel, 16V228GSE, 11kV, 221A
Terminal 2, Jameson Park Operations	Diesel, 16V228GSE, 11kV, 221A

The service provider shall perform the following activities on all MV Gen sets:

- Perform General Inspection.
- Check leakages.
- Perform engine minor service,
  - replace baggy air filters, primary/secondary fuel filters.
  - Perform internal engine inspection and adjustments.
- Inspect and repair Alternator, if required.
- Inspect, clean, and maintain Fuel system.
- Inspect Electrical Panels (ECP, GCP, Battery Charger)
- Sample lube oil and analyse oil condition. If the oil is out of spec, replace lube oil, estimated quantity is 1600 L (to be confirmed by the Service provider).
- Check the operation of lube oil/coolant heating systems.
- Lubricate air starter.
- Service air compressor. Replace oil and air filter. Test cut in and cut out settings.
- Regrease main alternator DE and NDE.
- Test Batteries and repair, if applicable.
- Change Spark Plugs, if applicable.
- Test Transfer Switch.

- Inspection and repair Exhaust system, if required.
- Perform no load testing. Monitor engine and electrical parameters.
- Perform load testing. Forward and back-synchronization, power main pumps up to 100% load.
- Never mix lubricant of different brands or grades, except for engine oils in the same class.
- Too much lubrication can be harmful as too little. NEVER OVERFILL
- Always clean the grease fittings before adding grease, and clean the equipment covers if they are removed during service.
- Use only clean containers when handling lubricants and fuel.
- NB: The lube oil, coolant/anti-freeze, compressor oil and alternator grease is provided by Transnet Pipelines

### **3.3 Performance Standards & Acceptance Criteria**

- Equipment must be left in fully operational condition with test reports confirming efficiency.
- Generators must pass load testing and synchronization requirements.
- Engine, electrical, and alternator parameters must align with manufacturer recommendations.
- Detailed maintenance reports should document completed work and any outstanding issues.

### **3.4 Staff requirements and supervision**

- The service provider shall provide with the competent personnel to do the inspections and the maintenance.
- The service provider is to ensure all staff are equipped with the required PPE to carry out their duties.
- The service provider shall ensure that their personnel comply with OHS Act 85 of 1993 provision.
- The contractor is required to comply to the Transnet Contractor Management Procedure (TRN-IMS-GRP-PROC-014)

### **3.5 Equipment materials and consumables**

- The service provider shall provide all necessary equipment and PPE for the execution of the work. As minimum requirement, service provider shall allow:

- Steel cap boots,
- Full length overall, either 1 piece or 2 pieces that are flame retardant,
- Hard hat,
- Safety glasses and ear protection,
- The service provider will submit to Transnet Pipelines a contractor compliance file for approval by Transnet Pipeline safety manager before the commencement of the work.
- The service provider will collaborate with the TPL Mechanical supervisor and/or artisan to verify and approve all the inspections.
- All equipment to be always kept in good and safe condition and will comply with all safety regulations.
- Service provider to supply necessary tool, shackles and consumables required to repair and comply the MV Gen sets.
- The service provider shall provide the standard contents of the GE MV Generator Service Kit
  - **Filtration Components** – Oil Filters, Fuel Filters (Primary and Secondary), Air Filters, Breather Filters, and Coolant Filters
  - **Wear and Replacement Parts** – Drive Belts, Gaskets and Seals, O-rings, Washers, and Mounting Hardware and Valve Cover Gaskets.
  - **Electrical Components** – Brushes and Springs, Battery Terminal Maintenance Kit and Grounding Straps
  - **Diagnostic & Maintenance Aids** – Oil and Coolant Strips, Service Tags and Labels and Cleaning Supplies

### 3.6 Working hours

- Transnet Pipeline normal working hours are between 07:00 to 12:00 and 13:00 to 16:00 from Mondays to Fridays inclusive (8-hour shift per day).
- The contractor must be able to accommodate overtime on request by Transnet Pipeline.
- After completion, the work will only be signed off upon passing load tests and approval of maintenance reports.

### 3.7 Health and Safety Compliance

- Valid letter of good standing with the compensation commissioner.
- Signed section 37 agreement.
- Risk assessment.
- Method statement.
- Training and Qualification records or certificates of service Technicians.
- Proof of calibration for equipment to be used.

- Health and safety plan.
- Flame retardant PPE for working in operational areas.

### 3.8 Security Screening

The contractor will be expected to go through security screening prior to be given access to Transnet Pipeline premises.

The following documents are needed from the company: -

- Company registration number.
- CIPC registration.
- Company TAX clearance TCS Pin.
- Copies of ID of directors.
- Fingerprints of directors (Use SAP 91) to be found at local SAPS. Original fingerprints must be submitted.
- Copies of ID of employees who will be working on site.
- Fingerprint of employees who will be working on site (Use SAP 91) to be found at local SAPS. Original fingerprints must be submitted.
- The contractor must make a copy of the extra Departmental documents and take it to SAPS which prevents them from paying.

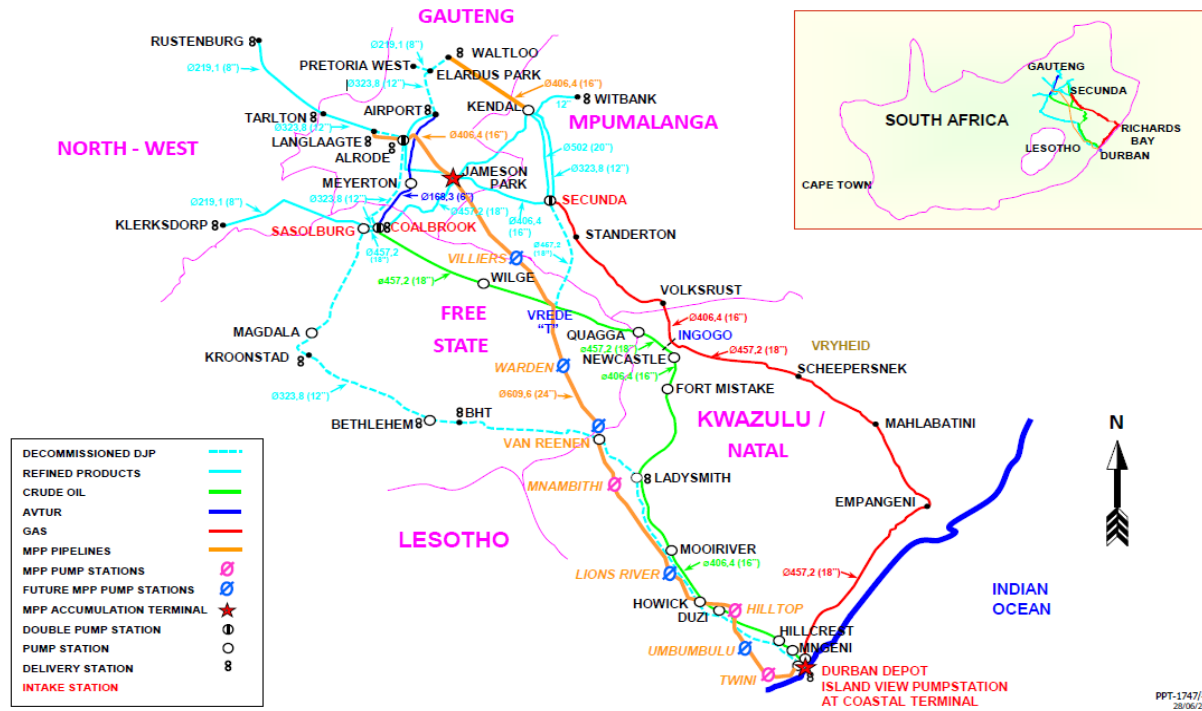
**Note:** Please take note that SSA takes 2 weeks for screening to take place once all required documentation has been submitted.

## 4. GEOGRAPHICAL FOOTPRINT

Tenderers shall be required to put their point of Origin /Office address to determine distance travel to each TPL MMP site. Tenderer shall provide the services in Island View (IVW), KwaMakhutha (TNI), Hilltop (HTP), Mnambithi (MBT) and Heidelberg (JMP). The map below shows the geographical footprint of Transnet Pipeline sites.



**Transnet Pipelines**  
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