



## PART C3: SCOPE OF WORK

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## SECTION 1

### 1. Procurement

**\*Note to tenderers: should there be any discrepancies between the works information and the NEC3 – ECC the NEC3 ECC would take precedence unless otherwise communicated.**

#### 1.1. Code of Conduct

Transnet aims to achieve the best value for money when buying or selling goods and obtaining services. This however must be done in an open and fair manner that supports and drives a competitive economy. Underpinning our process are several acts and policies that any supplier dealing with Transnet must understand and support. These are:

- The Transnet Procurement Manual for Construction;
- Section 217 of the Constitution - the five pillars of Public PSCM (Procurement and Supply Chain Management): fair, equitable, transparent, competitive and cost effective;
- The Public Finance Management Act (PFMA);
- The Broad Based Black Economic Empowerment Act (B-BBEE); and
- The Anti-Corruption Act.

This code of conduct has been included in this contract to formally apprise Transnet Suppliers of Transnet's expectations regarding behaviour and conduct of its Suppliers.

#### ***Prohibition of Bribes, Kickbacks, Unlawful Payments, and Other Corrupt Practices***

Transnet is in the process of transforming itself into a self-sustaining State Owned Enterprise, actively competing in the logistics industry. Our aim is to become a world class, profitable, logistics organisation. As such, our transformation is focused on adopting a performance culture and to adopt behaviours that will enable this transformation.

#### ***1. Transnet will not participate in corrupt practices and therefore expects its suppliers to act in a similar manner.***

- Transnet and its employees will follow the laws of this country and keep accurate business records that reflect actual transactions with and payments to our suppliers.
- Employees must not accept or request money or anything of value, directly or indirectly, to:
  - Illegally influence their judgement or conduct or to ensure the desired outcome of a sourcing activity;
  - Win or retain business or to influence any act or decision of any decision stakeholders involved in sourcing decisions; or
  - Gain an improper advantage.
- There may be times when a supplier is confronted with fraudulent or corrupt behaviour of Transnet employees. We expect our Suppliers to use our "Tip-offs Anonymous" Hot line to report these acts. (0800 003 056).

#### ***2. Transnet is firmly committed to the ideas of free and competitive enterprise.***

- Suppliers are expected to comply with all applicable laws and regulations regarding fair competition and antitrust.
  - Transnet does not engage with non-value adding agents or representatives solely for the purpose of increasing B-BBEE spend (fronting)
3. *Transnet's relationship with suppliers requires us to clearly define requirements, exchange information and share mutual benefits.*
- Generally, Suppliers have their own business standards and regulations. Although Transnet cannot control the actions of our suppliers, we will not tolerate any illegal activities. These include, but are not limited to:
    - Misrepresentation of their product (origin of manufacture, specifications, intellectual property rights, etc);
    - Collusion;
    - Failure to disclose accurate information required during the sourcing activity (ownership, financial situation, B-BBEE status, etc.);
    - Corrupt activities listed above; and
    - Harassment, intimidation or other aggressive actions towards Transnet employees.
  - Suppliers must be evaluated and approved before any materials, components, products or services are purchased from them. Rigorous due diligence is conducted and the supplier is expected to participate in an honest and straight forward manner.
  - Suppliers must record and report facts accurately, honestly and objectively. Financial records must be accurate in all material respects.

#### **Conflicts of Interest**

1. *A conflict of interest arises when personal interests or activities influence (or appear to influence) the ability to act in the best interests of Transnet.*
  - Doing business with family members
  - Having a financial interest in another company in our industry

#### **1.2. The Contractor's Invoices**

- 1.1.1 When the *Project Manager* certifies payment (see ECC Clause 51.1) following an assessment date, the *Contractor* complies with the *Employer's* procedure for invoice submission.
- 1.1.2 The invoice must correspond to the *Project Manager's* assessment of the amount due to the *Contractor* as stated in the payment certificate.
- 1.1.3 The invoice states the following:
  - Invoice addressed to Transnet SOC Ltd;
  - Transnet SOC Limited's VAT No: 4720103177;
  - Invoice number;
  - The *Contractor's* VAT Number; and
  - The Contract number

The invoice contains the supporting detail.

Transnet Pipelines

Tender Number: TPL/2024/02/0003/56566/RFP,

Description of the Works: Replacement of existing 150kVA Generator with a new 350kVA Generator and new distribution panel at 202 Anton Lembede Street

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1.1.4 The invoice is presented either by post or by hand delivery.

1.1.5 Invoices submitted by post are addressed to:

Transnet Pipelines  
PO Box 3113  
Durban  
4001

1.1.6 Invoices submitted by hand are presented to:

Transnet Pipelines  
202 Anton Lembede Street  
Durban

For the attention of Senior Contract Manager, Transnet Pipelines. Invoices to be submitted by the 21<sup>st</sup> of the relevant month and must be attached to the relevant month end statement.

1.1.7 The invoice is presented as an original.



## SECTION 2

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## Interpretation and terminology

Abbreviation	Meaning given to the abbreviation
TPL	Transnet Pipelines
TPT	Transnet Port Terminals
TP	Transnet Property
SHEQ	Safety Health Environment and Quality
CoC	Certificate of Compliance
IEC	International Electrotechnical Commission
QCP	Quality Control Plan
NKP	National Key Point
OEM	Original Equipment Manufacturer

## 1. Introduction

Transnet Pipelines (TPL), the largest multi-Product pipeline operator in Southern Africa, maintains and operates a network of 3114 km of pipeline infrastructure across 5 provinces in South Africa. TPL plays a key role in the country's economy, with the core strategic objective of ensuring petroleum product security of supply for the inland market and gas security of supply for the KwaZulu-Natal market using environmentally responsible methods while ensuring optimal efficiencies.

TPL Head Office is at 202 Anton Lembede Street in Durban. This building is owned by TPL and its currently being occupied by three Transnet Operating Divisions namely, Transnet Pipelines (TPL), Transnet Port Terminals (TPT) and Transnet Property (TP). This building is a 11-storey consisting of the basement, ground floor, office floors (first floor – ninth floor), mezzanine floor between ground floor and the first floor and roof top.

It serves as a work center primarily administrative work for corporate executives, human resources, legal, finance, information technology, engineering, procurement, SHEQ, business development, projects, strategy, and support services

## 2. General

### 2.1 SCOPE OF WORK

2.1.1 This scope of work covers the design, manufacture, supply, delivery, installation, system testing, quality assurance and commissioning for the 350kVA, 3 phase enclosed type diesel Generator and a new 400V distribution panel at 202 Anton Lembede Street, Durban, KwaZulu Natal.

- The decommissioning of the existing generator in the basement and the 400v distribution board in the main substation.
- The manufacture, supply, testing, installation and commissioning of a new 350kVA diesel standby plant.
- The design, supply and installation of the exhaust system.

- d) The design, manufacture, testing, supply, installation and commissioning of the new 400v distribution panel. The new panel to include the change over system of normal and generator supply and the various load feeders.
- e) The Contractor is responsible for the Factory Acceptance Testing of equipment.
- f) Power and control cabling and racking between the generator and the new 400V distribution panel.
- g) The commissioning and hand over of the standby plant, new 400V panel and associated equipment.
- h) An electrical CoC shall be provided by the contractor for acceptance by Transnet Pipelines upon completion of the works.
- i) The supply of clearly presented drawings, schematic wiring diagrams and manufacturer manuals.

2.1.2 The Contractor should take note that acceptance by Transnet Pipelines of submitted drawings does not relieve the Contractor of responsibility of design documents.

2.1.3 Prior to commencement of manufacture, design acceptance shall be obtained from Transnet Pipelines. Design approval shall entail as a minimum, the submission of the following documentation:

- a) Quality Assurance Plan
- b) Single line Drawings
- c) Detailed Circuit schematics of power, control, alarm and indication circuits.
- d) Detailed Protection and Interlocking schemes
- e) General Arrangement Drawings of equipment and panels
- f) Internal wiring diagrams of equipment.
- g) Internal wiring diagrams of any individual specialized components.
- h) Equipment and material lists.

2.1.4 The Contractor is required to note that all documentation and drawings issued by Transnet Pipelines have been supplied in good faith for information purpose only. The Contractor shall be responsible for ascertaining the validity and correctness of all drawings issued.

2.1.5 All drawings submitted by the Contractor shall be in accordance with Transnet Pipeline drawing standards PL 101, 102, 103

2.1.6 The Factory Acceptance Testing of the LV Generator and 400V Distribution Panel

inclusive of the changeover system shall consists of a power failure simulation and Commissioning of the standby plant equipment and 400V distribution panel is to be performed in accordance with the accepted test schedule provided by the Contractor. The Contractor shall be responsible for providing all test equipment and facilities as required for site testing and commissioning. The Contractor shall calibrate, synchronise and test the complete standby plant and 400V panel in accordance with accepted test plan.

This document may not specify all the details of the equipment and services in the Contractor's scope of supply. Contractors are therefore invited to make recommendations with justification any options available that can be beneficial in terms of cost, performance, maintenance and quality. The suitability and benefits of these options will be evaluated by Transnet Pipelines.

### 3. References

The publications listed below form part of this specification. Each publication shall be the latest revision and addendum in effect on the date of this specification unless noted otherwise. Except as modified by the requirements specified herein or the details of the drawings, Work included in this specification shall conform to the applicable provisions of these publications.

Where neither specific rules, regulations, codes requirements are contained in this specification nor covered by the above mentioned codes, the contractor shall, in

consultation with Transnet Pipelines, adhere to internationally accepted modern design and engineering practices.

Legislation and SANS (South African National Standards) Codes of Practice  
OHSA Occupational Health and Safety Act and Regulations. Act 85 of 1993

SANS 10142-1 The wiring of premises. Part 1: Low voltage installations  
SANS 1507 Secondary Wiring

BS (British Standards)  
BS 5514 Part 4: Speed Governing

BS 5514 Part 5: Specification for Over Speed

Transnet Pipelines Specifications  
PL101 Plant & Equipment Tag Numbering Standard

PL102 Equipment, Instrument & Electrical Symbolology Standard  
PL103 General Drawing Standard  
PL727 Cable, Racking and Trenching reticulation codes of practice

PL 631 LV Switchgear and Distribution Boards.



#### 4. Submittals

The Contractor must complete and submit the data sheet for the generator as part of the bid. All symbols used on drawings shall be in accordance with applicable IEC standards.

No manufacturing/fabrication shall commence without acceptance of the designs by Transnet Pipelines.

The Contractor shall maintain a quality assurance plan that has been accepted by Transnet Pipelines for the manufacturing, inspections, testing, delivery, installation and commissioning of the equipment. The QCP shall be submitted before the commencement of the project. QCPs must clearly identify all requirements to meet the Contractual obligations, specifications, drawings and related details including all testings, witness and hold points. The Contractor prepares and submits QCP to Transnet Pipelines for review in accordance with the requirements of the Contract.

#### 5. Site Conditions

The equipment shall be designed to operate continuously at its rated capacity, at the specified ambient temperature and site elevation conditions. Typically these conditions are tabulated below:

Ambient operating temperature	5 to 40 °C
Maximum relative humidity	0 to 95 %
Maximum altitude	0 to 1000m above sea level Provide derating factors where applicable
Lightning conditions	Severe, max ground flash density 11 flashes per km <sup>2</sup> per annum
Exposure conditions	Salt laden as well as industrial atmosphere

#### 6. Safety, Health and Environment

The service provider shall at all times comply with Safety, Health and Environmental requirements prescribed by the relevant legislation as well as the Transnet Contractor Management Procedure (TIMS-GRP-PROC-014) and the Transnet Contractor Health and Safety Specification Guideline (TRN-IMS-GRP-GDL 014.3) as they may apply to

the scope of services. The service provider shall comply with the provisions of the Occupational Health and Safety Act, 85 of 1993 and relevant regulations as amended. The service provider performs duties of the employer and is in every respect responsible for compliance with the provisions of the act. The service provider will be responsible for the safety, health and environmental rules that TPL may require to be implemented. The service provider shall ensure that no employees or persons working on his/her behalf are allowed to enter any Transnet Pipelines site, unless that employee or person has undergone safety, health and environmental induction pertaining to the hazards prevalent to the site at the time of entry. The service provider shall ensure that all employees working on site have valid medical certificates of fitness specific to the scope of work to be performed and issued by an occupational health practitioner. Before establishing or entering any Transnet site, the contractor shall submit a Safety, Health and Environmental Compliance file for review and approval by Transnet Pipelines. The submission requirements will be aligned to the scope of services of the contractor. The submission shall include as a minimum:



- a) Signed Section 37(2) Agreement
- b) Valid Letter of Good Standing with the Compensation Fund
- c) Risk Assessment
- d) Method Statement
- e) ID copies and police clearance (NKP requirement)
- f) Any professional/legal registrations (e.g. Electrical Installation

registration)

#### 6.1 Site Access Control

6.1.1 The Contractor will be expected to go through security screening prior to be given access to Transnet premises.

The following documents are needed from the company: -

- a) Company registration number.
- b) CIPC registration.
- c) Company TAX clearance TCS Pin.
- d) Copies of ID of directors.
- e) Fingerprints of directors (Use SAP 91) to be found at local SAPS.  
Original fingerprints must be submitted.
- f) Copies of ID of employees who will be working on site.
- g) Fingerprint of employees who will be working on site (Use SAP 91) to be found at local SAPS. Original fingerprints must be submitted.

- h) 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 4 weeks for screening to take place once all required documentation has been submitted.

The Contractor, his personnel and sub-Contractor shall conduct the compulsory Transnet Pipelines induction training, before commencement of the work. Allow 2 to 3 hours for induction.

## **7. Generator Technical Requirements**

The generator brand must have an installed base of at least 15 years in South Africa with local OEM agents to provide reliable after sales support. Information must be provided of the installed base and local agents with the bid.

**The following requirements are essential for generator control:**

- a) On mains failure – the diesel alternator plant shall start up and take over the essential load as determined by the client, after a time delay adjustable between 0-60 seconds.
- b) On restoration of the main incoming supply the alternator plant shall continue to supply the load for a period, adjustable from 0 to 10 minutes, transfer the load [slow transfer (break before make)], shut down automatically and be ready for starting when next required.
- c) Arrangements should be made to ensure that should the power fail as the engine is shutting down the starter will not engage until the engine is at rest.
- d) Arrangements shall be made to ensure the normal operation of the changeover contactor (Supply contactor) if the control panel is isolated.

**The equipment below is required for the control panel.**

- a) Lockable standby supply Isolator

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- b) Starting relay allowing 3 attempts
  - c) Over/Under speed relay.
  - d) Over/under voltage relay
  - e) Mains sensing relay.
  - f) Supply change over timer-relay, with settings ranging from 0-60 second
  
  - g) Battery charger with internal circuit protection.
  - h) Selector switch for Auto, Manual Testing, and off selection
  - i) Changeover contactor control relays that are electrically interlocked
  - j) A.C. Ammeters, flush mounted with dial size 96mm X 96mm, with calibrated scale length of 70mm minimum / CT configuration (3 off) on the alternator supply.
  - k) Voltmeter with selector switch, flush mounted volt meter with dial size 96mm X 96mm, with calibrated scale length of at least 70mm minimum, running hour and frequency meter on the 380V alternator supply.
  - l) Battery charge voltmeter, flush mounted 48mm X 48mm
  - m) Protection trips as a minimum as follows : Note-trip & local indication
    - 1. Low fuel 5%
    - 2. Battery charge fail
    - 3. Over speed
    - 4. Under speed
    - 5. High engine temperature
    - 6. Low oil pressure
    - 7. Local flag indication(light bulb) as follows:
  - j) Signalling and Indications
    - 1. Alternator on
    - 2. Mains On
    - 3. Low fuel 20%
    - 4. Low fuel 5%
    - 5. Battery charge fail
    - 6. Over Speed
    - 7. Under speed control
    - 8. High engine temperature
    - 9. Low oil pressure
    - 10. Engine start failure
    - 11. Standby available

## 8. 400V Distribution Panel

The cabinet shall be of the floor mounted totally enclosed metal clad type with lockable doors, mounted on hinged blocks, to give ready access to all internal equipment and shall be compliant with standard PL 631.

Unless stated otherwise, all cabling, inclusive of power, control, data and instrument shall be bottom entry. Cable entry shall be via pre-punched gland plates, and shall be glanded within the cabinet to which the associated cable is terminated.

Surge Protection shall be provided by the contractor. Contractors are to note that responsibility for the provision of adequate surge protection lies with the Contractor and that the client will not regard damage of equipment resulting from an indirect lightning strike or power surge as unavoidable.

## **9. Exhaust**

The Contractor shall supply and install a stainless steel exhaust system to suit the standby plant installation. The design of the exhaust system must be of sound construction to ensure the necessary support and to prevent vibration.

## **10. Battery**

The Contractor shall supply, install and terminate an adequate battery supply capable of at least 6 starts in an 8 hour period.

## **11. Cabling**

The contractor shall supply, install and terminate all power and control cabling from the new generator to be located in the basement to the new 400V distribution panel to be located in the main substation. The existing cabling is to be used to terminate to the incomer circuit breakers and the various load circuit breakers.

## **12. Rigging**

The contractor is responsible to provide the necessary rigging and transportation required for the safe and efficient execution of the works

## **13. Handover Documentation**

Final Contract Documentation, inclusive of Design Documentation, Data books, Operating, Maintenance Manuals, Spares Lists and As Built Drawings.

Supply drawings and schematic diagrams of the newly installed equipment according to the details as prescribed by the Transnet specification PL 100.

## **14. Spare Parts**

Spare parts shall comply with the original specification suitable for replacing the relevant parts as originally fitted. Spare parts for commissioning be provided with the equipment. A priced list of the Manufacturer's recommended spare parts for 2 years normal operation shall be provided.

The generator supplier /manufacturer shall guarantee product support, spare parts and software for 15 years of the product. Spares must be readily available within 24 hours.

## **15. Training**

The Service Provider shall provide all training on site to ensure trouble shooting, maintenance, repairs, programming and operational requirements are fully understood. A full set of Training Manuals must be provided in hard and electronic copies.



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## 16. Guarantee

A guarantee of minimum period of 12 months is required on all workmanship and equipment supplied by the contractor.