

PORT ELIZABETH MULTI-PURPOSE TERMINAL

Document Title:

SCOPE OF WORK

Project Title:

Supply and Delivery of a brand-new Front-End Loader Engine to Transnet SOC limited (Reg. No. 1990/000900/30) operating as Transnet Port Terminals (hereinafter referred to as "TPT") at the Port of Port Elizabeth Multi-Purpose Terminal as a once off purchase.

SUPPLY AND DELIVERY OF A BRAND-NEW FRONT-END LOADER ENGINE TO TRANSNET SOC LIMITED (REG. NO. 1990/000900/30) OPERATING AS TRANSNET PORT TERMINALS (HEREINAFTER REFERRED TO AS "TPT") AT THE PORT OF PORT ELIZABETH MULTI-PURPOSE TERMINAL AS A ONCE OFF PURCHASE



DOCUMENT PREPARATION

	Name	Title	Signature	Date
Compiled by:	Kwandiwe Kalipa	Technical Manager: Reliability		09.04.2025
Approved by:	Brett Killian	Engineering Manager		09.04.2025

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1 BACKGROUND

Port Elizabeth Multi-Purpose Terminal (PEMPT's) core business is to export dry bulk cargo manganese ore. This is accomplished with terminal infrastructure such as rail wagon tippler, feeders, conveyor belts, storage facilities and ship-loaders and a network of machine mobile equipment such as excavators and bulldozers. The larger network of conveyors is connected via chute and diverter chutes which allow for easy conveying of bulk material to the different conveyor lines. To ensure health and safety of TPT mobile heavy equipment operators and to extend the life of this equipment, Technical Department aims to procure a new Front End Loader engine as detailed in this Scope of Work.

2 OBJECTIVE

The purpose of this Scope of Work is for the supply and delivery of a brand-new engine for a Hyundai Front End Loader for PE Bulk terminal. The make of the engine is a type QSL 8.9 litre engine.

3 SCOPE OF WORK

- 3.1 This scope is for the supply and delivery of a brand-new Front End Loader Engine.
- 3.2 The engine must be completely compatible and interchangeable with the currently installed engine on the Hyundai front end loader machine.
- 3.3 This engine must meet Original Equipment Manufacturer standards. The specification of the front-end loader machine is:
- Manufacturer: HYUNDAI
 - Model/Type: HL770-9S
 - Product Identification Number: >HHKHLK05AF0000477<
- 3.4 The currently installed engine on the machine has the following specification in Table 1:

Table 1: Engine Specification

	Item	Specification
1	Model	QSL
2	Critical Parts List (CPL)	0422
3	Reference no.	QL9B28

4	Type	4-cycle turbocharged, charge air cooled diesel engine (direct 4-stroke, 6 cylinders, in-line, water cooling and charge air cooled diesel engine)
5	Combustion chamber type	Direct injection type
6	Cylinder bore x stroke	114 x 145 mm
7	Piston displacement	8900 cc
8	Compression ratio	17.8 : 1
9	Rated gross horse power	208 kW at 2000 RPM
10	Maximum gross torque at 1400 RPM	1451 Nm
11	Wet weight	738 kg
12	Engine no.	22166193

3.5 The engine name plate can be seen in Figure 1.



Figure 1: Hyundai FEL Engine nameplate.

3.6 A brand-new complete engine must be supplied and shall include all accessories and consumables (except fluids) to ensure that it is plug and play.

- 3.7 The engine shall be painted according to TPT specification EEAM-Q-008 – CORROSION PROTECTION or better, refer to Annexure A.
- 3.8 The brand-new engine must be delivered in a crate.
- 3.9 TPT will require the proof of purchase for the brand-new engine.

4 QUALITY

- 4.1 The new front-end loader engine will be accepted when it has been successfully tested and all manuals, and drawings required for the brand-new engine have been delivered to TPT.
- 4.2 The service provider is required to submit a detailed bar chart showing all major activities and identifying all major milestones to be achieved in this project.
- 4.3 The sole responsibility for ensuring that the components supplied conform to the specification shall rest with the service provider.
- 4.4 The service provider must provide a certificate to TPT for all tests passed by the engine.
- 4.5 The service provider shall not change any design or specification feature which has any of the following impacts without formal approval by TPT: 1) Financial, 2) Interface with other equipment or installations, 3) Safety, and 4) Departure from TPT requirements.
- 4.6 A Data Pack must be submitted to TPT at delivery stage and must contain the following for all components supplied:
 - 4.6.1 Maintenance Instruction Manual.
 - 4.6.2 Parts Catalogue.
 - 4.6.3 Guarantee on the components supplied.
 - 4.6.4 Certification, inspection, testing records, and field inspection checklist to verify compliance with scope of work requirements.

5 RETURNABLE DOCUMENTS

- 5.1 The Bidder must provide a technical specification datasheet for the front-end loader engine to be supplied and delivered to TPT. The technical specification data sheet must show that the brand-new engine is completely compatible and interchangeable with the

engine currently installed on the machine. This shall be in terms of fit, size, capacity, and functionality. The datasheet shall state which machines the engine is for and specification 6, 7, 8, 9, and 10 in **Table 1** shall be visible on the datasheet and be within ± 1 accuracy. The Technical Specification Data Sheet must be attached to Returnable Schedule 1.

- 5.2 The Bidder shall submit confirmation of guarantees on a company letterhead indicating the guarantee on the engine supplied and delivered in accordance with the requirements of the scope and for a period not less than 12 months after delivery of the engine to TPT. Guarantee confirmation must be attached to Returnable Schedule 2.
- 5.3 The Bidder must provide a signed confirmation of lead time on company letterhead for the lead time between receiving Letter of Award (LOA) from TPT and delivery of engine to TPT. Lead time confirmation must be attached to Returnable Schedule 3.

6 TPT TO PROVIDE

- 6.1 Access to site and equipment for site visit and delivery.

7 SITE INFORMATION

- 7.1 The site is at the Workshop 17 in the Port Elizabeth Multipurpose Terminal. Access will be from the existing public and maintenance road networks. Access to the Port will be subject to the TNPA and TPT security requirements and regulation.

8 ANNEXURES

Annexure A: Product Information (Engine)