



PORT OF NGQURA: TECHNICAL SPECIFICATIONS FOR THE SUPPLY AND DELIVERY OF TWO 16TON FORKLIFT WITH FORK EXTENSION ACCESSORY

For: **TNPA Port of Ngqura**
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1. INVITATION

- 1.1. Bidders are hereby invited to submit Quotations for the supply, delivery, of equipment as mentioned in section (2) two of this document.

2. TECHNICAL SPECIFICATION

- 2.1. The scope of requirements shall comprise of supply and delivery of the following listed below:
- 2.2 **16 Ton Forklift with fork Extension accessory of the right size**
- 2.3 These are the minimum technical specifications, and a higher technical specification will be accepted where applicable

Evaluation Criteria Category	Technical Specifications
Lifting	<p>Capacity: 16tons lifting capacity</p> <p>Lift Height: up to 3m on top of Fork.</p> <p>Load Centre: minimum 600 mm for stability in lifting</p>
Performance	<p>Engine Type: Diesel engine (for heavy duty work)</p> <p>Power: Around 140 to 200 horsepower (105 to 150 kW),</p> <p>Fuel Capacity: Sufficient fuel tank capacity to support extended operation periods, typically 150-200 litres for diesel forklifts.</p> <p>Transmission: Hydrostatic or manual transmission with a torque converter to provide better control over heavy lifting.</p> <p>Hydraulic Pump Type: Load-sensing or gear-type hydraulic pumps for better efficiency and precision.</p> <p>Hydraulic Pressure: Should be designed for high-pressure operation, typically around 200-250 bar</p> <p>Max Speed: 20 to 25 km/h for efficient deployment and movement</p> <p>Battery: 12V or higher. Indicate Battery master switch that is available.</p>
Forklift Dimensions	<p>Overall Length: Approximately 5-8 meters, depending on the configuration and fork dimensions.</p> <p>Fork Size: Typically, 200 mm x 80 mm or custom sizes. Extra length forks up to 2m. Supplier to indicate available length for his Forklift. A fork teeth extension accessory must be included.</p>

Evaluation Criteria Category	Technical Specifications
	<p>Overall Width: Typically, around 2.5 to 3 meters for stability, with wide tires for additional support.</p> <p>Height: Depending on lifting height, but not less than 2.5m</p> <p>Tire Size: 12.00-20 or 14.00-24 tires, designed for uneven surfaces and coastal environments. 6-wheel forklift, with wide tires for stability.</p>
Operation	<p>Forklift Mast: Duplex or triplex mast to provide the necessary lifting height and fork reach.</p> <p>Tilt Angle: Forward and backward tilt for optimal load placement and stability during deployment.</p> <p>Counterweight: A large counterweight to stabilize the forklift during lifting of heavy loads.</p> <p>Overhead Guard: A protective overhead guard to shield the operator.</p> <p>Stability Mechanism: Load-sensing technology and anti-rollover features for safety on uneven or sloped surfaces.</p> <p>Braking System: Hydraulically assisted, oil-immersed braking system for maximum safety, especially when carrying heavy loads.</p> <p>Service Brake: Front, oil-immersed (wet) disc brakes, with large oil cooler and a separate 10-micron brake oil filter. The brake system is fully hydraulic and charged by an accumulator (no air system).</p> <p>Parking Brake: Spring actuated and hydraulically released, on the driveline, automatically applied when pressure falls below 50 bar. The transmission is disengaged when the parking brake is applied.</p> <p>Corrosion-resistant Materials: Forklifts deployed in coastal environments need to be made of corrosion-resistant materials, including stainless steel components and special coatings.</p>
Safety	<p>Operator Cab: Ergonomically designed cab with visibility, climate control, and safety features like seatbelts and alarms. Full-suspension fully adjustable driver's seat with a high backrest, seat belt, "park brake off" warning buzzer. Air-conditioning is integrated into the heating and ventilation system, with manual temperature control</p> <p>Operator Cab Windows: Large windows, fitted with lightly tinted safety glass all around. Include fresh air inlet and windows to have wipers in front and back windows.</p>

Evaluation Criteria Category	Technical Specifications
	<p><i>Mast lift cylinders:</i> to be rear-mounted (behind the mast channels) for optimum visibility.</p> <p><i>A complete light kit, comprising of:</i> 2 front work lights mounted on the mast, 2 front drive lights on the front fenders, 2 rear work/drive lights on the cab, 2 combination tail- & stop- & rear driving lights on the rear fenders, 4 direction indicators with warning switch. Orange flashing beacon, on the cab roof.</p>

2.4. Fork Extension Accessory:

The correct size for a fork extension on a 16-ton forklift is one that matches the fork's width and doesn't exceed 1.5 times the original fork's length, while always ensuring the total load capacity and stability are not compromised. Bidder must also consider the increased load center created by the extensions, which reduces the forklift's effective lifting capacity.

2.4.1. Key Factors for Sizing Fork Extensions

a) Length Constraint:

The bidder must never use an extension that makes the overall fork length more than 150% (1.5 times) of the original fork length.

b) Width Compatibility:

The extension's width must exactly match the width of the original fork for a secure fit.

c) Load Capacity:

The extension's load capacity must not be exceeded.

d) Load Center:

The load center should not be more than 50% of the extension's length to maintain stability.

e) Weight Calculation:

The bidder must always factor in the added weight of the fork extensions when calculating the total load capacity.

f) Match Width: the bidder to find extensions that have the same width as the forks.

2.5. The complete 16ton Forklift truck including all accessories and components must be delivered together to Transnet National Ports Authority (TNPA) in the Port of Ngqura.

2.6. The 16-ton Forklift with fork extension accessory must be delivered fully assembled, commissioned and certified as safe for use including a performance test done in the presence of a TNPA representative.

2.7. Load Test:

2.7.1. A forklift does not typically require a load test as part of its initial procurement; the load test is an annual requirement after the purchase, mandated by law to ensure the 16Ton forklift's continued safety and mechanical integrity. The bidder should certainly ensure the 16Ton forklift with fork extension accessory functions correctly upon delivery. This will be done through **pre-delivery inspections** and **operational tests**, not a formal load test which is a periodic safety certification.

2.7.2. Pre-Delivery Inspection:

a) Before TNPA Port of Ngqura will take possession of the two (2) 16Ton Forklifts with fork extension accessory, it's crucial for the bidder to conduct a thorough pre-delivery inspection (PDI). This verifies each 16Ton Forklift with fork extension accessory is in perfect working order and meets all specifications at procurement.

2.6.3. Pre-Delivery Inspection Documents

- a) A signed PDI checklist and report from the manufacturer or dealer,
- b) Final acceptance certificate,
- c) Photos, and
- d) Videos.

2.7. Operational Tests:

On delivery, the bidder will verify that all components, including the mast, hydraulic systems, and brakes, function correctly.

2.8. Documentation Check:

At delivery, the bidder will confirm that all manufacturer documentation, including the operating manual and warranty, is provided.

2.9. After Procurement (Annual Requirement):

Annual Load Testing responsibility by the Employer (owner):

- a) Once the 16Ton Forklift with fork extension accessory is in service, it must undergo a formal load test annually by a qualified professional to ensure it's safe to operate.

2.10. Testing Procedure:

- a) This test typically involves placing a load of 110% of the 16Ton Forklift with fork extension accessory's safe working load on the forks to check its stability, lifting capacity, and braking systems.

2.11. Legal Compliance:

Performing this load test is a legal obligation for the owner, TNPA Port of Ngqura and is crucial for maintaining a safe workplace.

2.12. 16Ton Forklift with fork extension accessory: Proof of Ownership and Registration
Bill of Sale from Bidder

The bill of sale will be received from the bidder. The bill of sale document will serve as the primary proof of ownership, detailing the date of purchase, bidder's information, and details about the 16Ton forklift with fork extension accessory (such as the make, model, and serial number).

Manufacturer's Certificate of Origin

As the 16Ton Forklifts with fork extension accessory will be new, the manufacturer should provide the bidder if not bidding directly with a Certificate of Origin. This document will serve as a title and verifies that the 16Ton Forklifts with fork extension accessory is being transferred from the manufacturer to the first owner being TNPA, Port of Ngqura. It will be useful for tracking the 16Ton Forklifts with fork extension accessory's history.

2.13. Registration of the 16Ton Forklift with fork extension accessory:

For the new 16Ton forklifts with fork extension accessory, the transfer of ownership from the bidder to TNPA Port of Ngqura involves submitting documents such as a signed manufacturer's letter and proof of purchase to TNPA Port of Ngqura, confirming the bidder's details, equipment specifications, and manufacturer information, including any warranty terms, to facilitate payment and formalize the transfer of the asset.

a) Manufacturer's Documentation - Manufacturer's Letter:

The bidder must provide a signed letter from the 16Ton forklift with the fork extension accessory manufacturer. This letter confirms that the manufacturer will supply the equipment and that the bidder is authorized to sell it.

b) Warranty and Maintenance:

The letter should also detail the warranty terms and maintenance plan, typically a three-year warranty for new equipment.

c) Port of Ngqura Authority Procedures:

Internal Policies: TNPA Port of Ngqura will follow its internal procurement procedures and contract terms to verify the submitted documents and ensure compliance.

d) Formal Handover:

Once all documents are verified, a formal handover of the equipment will take place.

e) Payment and Record Keeping:

TNPA Port of Ngqura will then initiate the payment process to the bidder, and the ownership transfer will be formally recorded in the Port's asset management system.

f) All costs and processes related to the transfer of ownership to TNPA Port of Ngqura will be the bidder's responsibility.

2.14. Training of Port Forklift Operator/s:

- a) Train TNPA staff to be trained in safe operation and how to perform routine maintenance inspections on the 16-ton Forklift with fork extension accessory.
- b) Train TNPA staff on how to safely operate the 16-ton Forklift with fork extension accessory.

2.15. Escalations to be claimed by bidder in the event of unforeseen escalation of costs, due to changes in the market or any significant increase in costs related to the delivery of the 16-ton Forklifts with fork extension accessory. These escalation costs are to be proposed by the bidder and agreed to by the Project manager before payment.

2.16. Contingency costs are for unforeseen costs that may be due to an improvement or requests made to the bidder after the business award. These must also be quoted for by the bidder and the quote accepted by the project manager before payment.

3. SIGN OFF AND RECOMMENDATION OF PROJECT SPECIFICATIONS**Luxolo Dodi**

(Print Name)

Signature

Date

Laurens Jonker

(Print Name)

Signature

Date

Zaheer Motala

(Print Name)

Signature

Date