

# **TRANSNET NATIONAL PORT AUTHORITY: PORT OF NGQURA – INFRASTRUCTURE DEPARTMENT**

**Document Title:**

## **SCOPE OF WORK**

**Project Title:**

**REPAIRS OF THE SULZER PUMP EME 250-300 FOR SAND BYPASS SYSTEM AT  
TNPA PORT OF NGQURA.  
FOR A ONCE OFF PERIOD.**

**REVISION:001**

DOCUMENT NAME:	REVISION	PAGE
SULZER PUMP EME 250-300 REPAIRS FOR SAND BYPASS SYSTEM AT PORT OF NGQURA.	001	1 OF 6

The potential service providers are hereby invited to tender for the repairs of Sulzer Centrifugal Pump EME 250-300 for the Sand Bypass System at Port of Ngqura for a once off period.

## 2. INVITATION TO SUBMIT A QUOTATION

Only Service providers who have experience in similar works and are Original Equipment Manufacturer approved are eligible to submit quotation.

## 3. SCOPE OF WORKS AND SPECIFICATIONS.

### 3.1. Specification of the Pump

Sulzer Centrifugal Pump EME 250-300,  
Pump Type: UNK  
Equipment Number: 10023150  
Serial Number: MP22920-1

### 3.2. Scope of Work

- 3.2.1. The service provider will be required to collect the pump from the OEM in Johannesburg and deliver it to the Port of Ngqura after repairs have been effected.
- 3.2.2. Part of the repairs will include but not limited to dismantle, clean, shotblasting of component parts, perform a non-destructive test where necessary, assembly the pump, and applying corrosion treatment to the whole pump.
- 3.2.3. Split Casing (Top and Bottom) Part No. 204171958202
  - Repair all worn parts and machine to size.
  - Strip off old coating and recoat with CAR 300
  - Re-tap all threaded holes.
  - Clean and Paint
- 3.2.4. Replace the Shaft (Part No. 204171449200), shaft design and supply to include the following:
  - Coupling Journal 75 x 213
  - Coupling keyway 20 x 140
  - DE bearing journal 80 x 39
  - Oil seal journal 84.87 x 97.5
  - DE shaft sleeve journal 89 x 255
  - Impeller journal 90 x 190

DOCUMENT NAME:	REVISION	PAGE
SULZER PUMP EME 250-300 REPAIRS FOR SAND BYPASS SYSTEM AT PORT OF NGQURA.	001	3 OF 6

- Impeller keyway 22 x 239
- NDE shaft sleeve journal 89 x 255
- Oil seal journal 80 x 78
- RH diameter 80 x 2 pitch
- 3.2.5. Impeller (204171711005) with a diameter of 697
  - Impeller to be repaired (welded) and machined to standard, thereafter, put through a dye pen test. (dye pen test report to be provided)
  - Tungsten coat impeller eyes with STS-WC
- 3.2.6. DE Bearing bracket (Part No. 204171450200) – repair by skimming and line boring to size
- 3.2.7. DE Bearing cover (Part No. 204171896202) – repair through insert ring and machining to size.
  - 3.2.7.1. Inner bearing End cover (Part No. 204171897201) repair through insert ring and machining to size.
  - 3.2.7.2. Bearing bracket NDE (2041714451200) – Skim and line boring, replace studs, nuts and washers, clean and paint.
  - 3.2.7.3. Bearing end cover NDE (Part No. 204171895002) – repair
  - 3.2.7.4. Inner bearing end cover (Part No. 204171894201) – insert ring and machine back to size.
  - 3.2.7.5. Replace DE/NDE bearings, bearing covers and bearing housing split.
  - 3.2.7.6. Replace ball bearing.
  - 3.2.7.7. Repair impeller, machine to standard and perform a dye test)
  - 3.2.7.8. Inspect Volute, repair (or replace where necessary) split casing ball bearing.
  - 3.2.7.9. The service provider will have to purchase accessory kit for the pump and the spares as per the list in the table below.
  - 3.2.7.10. The pump shall be tested against factory specification as stipulated in the nameplate and manual, in which test shall prove compliance of the pump to factory standard (Testing report to be provided).

<p>DOCUMENT NAME: SULZER PUMP EME 250-300 REPAIRS FOR SAND BYPASS SYSTEM AT PORT OF NGQURA.</p>	<p>REVISION 001</p>	<p>PAGE 4 OF 6</p>
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### 3.3. Part list

Parts to be procured:			
Part No.	Description	Qty	Amount
204171071001.00	B/Race Thrust Collar GME 250/300	1	
204171957004.00	Neck Ring (ID295H7, OD 310h7)	2	
204171713003.00	Stuffing box bush (ID105.5 H7, OD 145h5)	2	
204171709202.00	Gland Split (ID105.5 H7) with kit	2	
204171449200.00	Shaft LH (IMP)	2	
204171647005.00	Shaft nut RH (OD 104.6 X 25)	4	
204171647006.00	Shaft nut LH (OD 104.6 X 25)	4	
204171900001.00	Sleeve to Imp (ID89 H7, OD104.953 G7, L260)	2	
204171710202.00	Water Thrower (ID84.91, OD140, W20)	2	
17723563160.00	Bearing 6316/C3	2	
17733617316.00	Bearing 7316BECBJ	4	
204171647006.00	Impeller	1	
2041717098004.00	Logging Ring (ID105.5 H7, OD144.946 G7, W40)	2	

**3.4. The service provider will be required to install and commission the pump onsite upon completion or as and when TNPA requires.**

### 4. BILL OF QUANTITIES

Item No	Description	Unit	Qty	Total Amount
1	Safety File	Each	1	
2	Transportation of the pump	Each	1	
3	Spares (as per list)	Sum	1	
4	Accessory kit of the pump	Sum	1	
5	Repairs	Sum	1	
6	Installation and commissioning	Sum	1	
7	Contingency @20% of total cost	Sum	1	
<b>Sub Total</b>				
<b>15% VAT</b>				
<b>Total</b>				

## 5. GENERAL REQUIREMENTS

- 5.1. The warranty period for the work conducted shall be 12 months or more.
- 5.2. The paint and coating used must be able to protect corrosion and be suitable for a marine environment. Data sheets for paint used must be provided with delivery of the pump. All tests performed on components that are repaired and all tests conducted on the pump at the end of the works for testing or certifying the works, must also be shared.
- 5.3. Service provider to supply a schedule for the full repairs of the pump including installation.
- 5.4. All work under contingency to be quoted and approved separately before being executed.
- 5.5. The contractor shall have a safety file submitted for approval within 7 days of receiving a letter of award from Transnet. As a minimum the contractor must provide:
  - Section 37 (2) Mandatory Agreement.
  - Valid Medical Certificates for your artisans who will be doing installation and commissioning.
  - Method statement for installation and commissioning
  - Risk Assessment for installation and commissioning.
  - Appointment Letter for CR 23 (d)(k) Vehicle Operator and Inspector.
  - Company Profile.

DOCUMENT NAME:	REVISION	PAGE
SULZER PUMP EME 250-300 REPAIRS FOR SAND BYPASS SYSTEM AT PORT OF NGQURA.	001	6 OF 6