



**OVERHAUL, TESTING, CALIBRATION AND  
COMMISSIONING OF THE EXISTING VACUUM  
PRESSURE IMPREGNATION SYSTEM (2 OFF)  
FOR ROTATING MACHINE BUSINESS.**

**ROTATING MACHINE DEPOT, 150 EEL ROAD,  
UMBILO.**

**REFERENCE No: RM\_DBN\_ESR\_SOW\_030**

**DATE OF RELEASE: SEPTEMBER 2022**

The information contained herein is the sole property of Transnet Engineering. It may not be used, disclosed or reproduced in part or in whole in any manner, except with the written permission of and in a manner permitted by the proprietors.



## Table of Contents

---




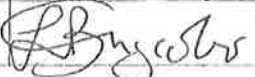
1. INTRODUCTION/ SCOPE OF WORK	4
2. SITE INSPECTION	4
3. INFORMATION REQUIRED	4
4. TECHNICAL REQUIREMENTS	5
5. SPECIFICATION REQUIREMENTS	5
6. CONSTRUCTION INDUSTRY DEVELOPMENT BOARD (CIDB) REGISTRATION	5
7. HEALTH AND SAFETY REQUIREMENTS	7
8. SPECIALIST SUB-CONTRACTORS	8
9. MATERIAL AND WORKMANSHIP	9
10. GENERAL REQUIREMENTS	9
11. DEFINITIONS AND ABBREVIATIONS	9
12. GENERAL	9
13. SITE ESTABLISHMENT	10
14. PENALTY CLAUSES	10
15. SCHEDULE OF PRICES	11
16. TENDER EVALUATION CRITERIA	12
17. COMPLIANCE VERIFICATION	13

Signature of Bidder/s: \_\_\_\_\_

Date: \_\_\_\_\_



# DOCUMENT AUTHORITIES

Department	PEMM, Projects Management
Department Affected	Rotating Machines Business
Effective Date	September 2022
Compiled by	Zolani Mngqithi
Designation	Engineering Technician
Signature & Date	 06 September 2022
Reviewed by	Soojith Ramnund
Designation	Engineering Manager
Signature & Date	 08.09.2022
Reviewed by	Pat Pather
Designation	Maintenance Manager
Signature & Date	 08/09/2022
Approved by	Lindo Ngcobo
Designation	Acting Plant Engineer, Kzn Region
Signature & Date	 08/09/2022

Signature of Bidder/s: \_\_\_\_\_

Date: \_\_\_\_\_



## 1. INTRODUCTION / SCOPE of Work

This specification is for the:

#	TASK	REQUIRED
1	Design	
2	Manufacture	
4	Foundations	
5	Supply	✓
6	Repair	✓
7	Replacement	✓
8	Documentation	✓
9	Testing	✓
10	Training	✓
11	Commissioning	✓

of the specified:

#	ITEM	REQUIRED
1	Overhaul, testing, calibration and commissioning of the existing vacuum pressure impregnation system (2 off) for Rotating Machine Business.	✓
2	Training for 5 Transnet Engineering staff members on how to operate, maintain and service the vacuum pressure impregnation system.	✓
3	Submission of project completion documents.	✓

## 2. SITE INSPECTION

- 2.1 All prospective contractors shall be required to undertake a compulsory site inspection to fully acquaint themselves with all aspects involved.
- 2.2 Arrangements to visit the site and confirmation of the date and time of the site inspection shall be made with Transnet Engineering Contract Manager.
- 2.3 The site inspection certificate shall be completed and countersigned by the Contract Manager on the day of the visit and must be submitted with the tender documents.

## 3. INFORMATION REQUIRED

- 3.1 Offers will not be considered unless full particulars and sufficient literature are provided at the tendering stage to enable Transnet Engineering Technical Officers the opportunity to assess each technical offer properly.
- 3.2 Prospective Contractors will complete the relevant questionnaire in full and must indicate whether their offer complies with each item of the specification
- 3.3 Should there be insufficient space for furnishing full details; contractors shall provide the additional details in their covering letter. The additional details shall be numbered in accordance with the applicable clause specified in the specification.
- 3.4 As prospective contractors are considered to be experts in their field, they are obliged to identify any shortcomings, such as omissions or sub-standard requirements, to the completeness of this specification. These must be brought to the attention of Transnet Engineering at tender stage with alternatives to address these shortcomings. However, each offer shall be quoted for separately.

Signature of Bidder/s: \_\_\_\_\_

Date: \_\_\_\_\_



#### 4. TECHNICAL REQUIREMENTS

The following legislation and code (including all relevant legislations and codes) all relevant codes must be complied with:-

- The Occupational Health and Safety Act – Act 85 of 1993.
- SANS 10142 :The wiring of premises Part 1: Low-voltage installations.

- 4.1 Except where otherwise provided for in the specification, all equipment offered will comply with the requirements of the relevant standard specifications of the SABS, if published, otherwise with the relevant standard of the British Standards Institution in force at the time of tendering.
- 4.2 Where equipment offered complies with the recognized standards of the country of manufacture and not specifically with the standards required by this specification, such equipment will be considered at the discretion of Management. In this case, tenders shall state fully all respects in which the equipment departs from the standard laid down in this specification.
- 4.3 The successful tender will at the conclusion of the installation provide a document along the lines “that the installation complies with national/international requirements and that all selected /designed items are compliant with Act 85 of 1995 and SABS practices applicable to the installation. The equipment has been commissioned/ calibrated and employees as specified have been trained and found competent to operate the plant.”

#### 5. SPECIFIC REQUIREMENTS

**Any person with the intention of tendering for this job shall ensure that the information below is complied with.**

##### 5.1 Scope of work

ITEM	<b>This scope of work document covers the minimum requirements Overhaul, testing, calibration and commissioning of the existing vacuum pressure impregnation system (2 off) for Rotating Machine Business.</b>	<b>DETAILS OF OFFER Comply (Yes) / Do not comply (No)</b>
5.1.1	This scope of work shall be read with Annexure 1 (Transnet Engineering Safety, Health and Environmental Management specification) and contractor management SOP 014. • Bidders shall include costs of Health, Safety and Environmental Management compliance.	
5.1.2	Test, supply the required components.	
5.1.3	Completely overhaul and test of the VPI Vacuum pumps.	
5.1.4	Completely overhaul and test all electric motors.	
5.1.5	Supply and fit all new seals, valves and gauges and bearings.	
5.1.6	Completely overhaul of the Chiller unit.	
5.1.7	Clean and test all Pressure vessels.	
5.1.8	Overhaul hydraulic system.	
5.1.9	Overhaul Pneumatic system.	
5.1.10	Supply and fit a complete new control system.	
5.1.11	Supply and install new electrical panel with new control system. The entire VPI system shall work within its minimum requirements, read the attached Standard operating procedure (PD COMP NAT SPEC 583).	
		<b>DETAILS OF</b>

Signature of Bidder/s: \_\_\_\_\_ Date: \_\_\_\_\_



ITEM	This scope of work document covers the minimum requirements	OFFER Comply (Yes) / Do not comply (No)
5.1.12	The electrical installation shall be done and fully completed by an electrical contractor. On completion a certificate of compliance shall be issued in accordance with SANS 10142.	
5.1.13	Replace all measuring instruments, test and calibrate. Submit the calibration certificate.  <b>CALIBRATION CERTIFICATES</b> The equipment shall come with a valid calibration certificate. The calibration and issuing of certificates shall be in accordance with SANS 17025. The calibration certificate shall not be older than 1 month during the time of handover of tarpaulin testing equipment.	
5.1.14	<b>Documentation:</b> 1 set of PDF Files in a disk and 3 sets of hard copies. • Operating Manual • Maintenance Manual. • Electrical Schematics. • Mechanical Drawings. • Parts List.	
5.1.15	On handover, the vacuum pressure impregnation system shall be fully (100%) functional and be able to meet all set criteria. .	
5.1.16	Pressure test and issue certificate of continuance as per SANS 347.	
5.1.17	Transnet reserves the right to invite the bidders to give presentations on their products, services and/or pricing.	

## 5.2 Site

- The work shall be done at Rotating Machines Depot, 150 Eel Road, Umbilo, and
- Coil shop, 102 Eel Road, Umbilo.

## 5.3 Markings

- All labels and markings shall be indelible and only removable by deliberate intent.

## 5.4 Safety Features

- The equipment shall have a fail to safety protection system.

## 5.5 Testing

- All prescribed tests shall be carried out on equipment
- Transnet also reserves the right to carry out any check tests on the equipment and installation.
- Notwithstanding the successful completion of tests, the contractor will still be responsible for the efficient operation of the equipment.
- Test certificates shall be submitted to Transnet Engineering.

## 5.6 Maintenance

- The maintenance plan shall be for 2 years. The tenderers shall include the maintenance plan. The quote for maintenance plan shall be added on the Schedule of prices.

Signature of Bidder/s: \_\_\_\_\_

Date: \_\_\_\_\_



#### 5.7 Spares

- The successful tenderer shall supply Transnet Engineering with three sets of blown out diagrams and schematics of the complete machine as well as a detailed copies of the list of critical spares for all equipment including OEM numbers.
- The tenderers shall indicate the availability and required lead times for the spares considered to be critical for the successful operation of the equipment.

#### 5.8 Warranty

- The contractor shall undertake to repair all faults due to bad workmanship and/or faulty materials during a period of 24 calendar months, calculated from the date that the completed plant installation is accepted by Transnet Engineering.
- Any latent defects that become apparent during the guarantee period shall be rectified to the satisfaction of Transnet Engineering at the cost of the supplier.
- The contractor shall undertake work on the rectification of any defects that may arise during the guarantee period within 7 days of being notified of such defects.
- **The warranty shall be 2 years.**
- **A maintenance contract for the warranty period shall be included in the quoted price and shall involve Transnet employees to learn.**

#### 5.9 After-Sales Service

- The successful tenderer shall provide Transnet Engineering with acceptable proof that spares can be easily and speedily procured for the equipment within 7 working days through agents locally.

#### 5.10 Commissioning

- **A testing period of 1 month (744 hours for 24/7 shifts and 248 hours for 8 hour shifts) this shall depend on what shift the business requiring the specified items.**
- **No equipment will be accepted by Transnet without the satisfaction of the conditions above.**

#### **The following must be supplied on commissioning:**

1 set of PDF Files in a disk and 3 sets of hard copies.

- Performance test certificate.
- Parts catalogue.
- Operator and maintenance staff training for a minimum of 5 people.
- All required software.
- Engineering drawings and blown out electrical/mechanical components drawings.
- Operating and maintenance manuals and parts catalogues shall be supplied.
- Maintenance schedule for all components shall be supplied

**Note:** All work to be completed in each respect by suitably qualified person.

### 6. CONSTRUCTION INDUSTRY DEVELOPMENT BOARD (CIDB) REGISTRATION

There is no requirement for CIDB.

### 7. HEALTH AND SAFETY REQUIREMENTS

- 7.1 All repair work whether detailed in this scope of work or not shall comply with the requirements of the Occupational Health and Safety Act 85 of 1993 as amended and all other applicable legislation including specific set of regulations and local authority bylaws where applicable.

Signature of Bidder/s: \_\_\_\_\_

Date: \_\_\_\_\_



- 7.2 All the necessary safety equipment such as guards over rotating equipment shall be supplied and the equipment shall comply fully with all the requirements of the South African Occupational Health and Safety Act, Act 85 of 1993 and all other applicable legislation including specific set of regulations and local authority bylaws where applicable. At all times during the manufacture, assembly and testing of the equipment the contractor will be responsible for the safety of all persons on site and the equipment.

### 7.3 SHE SPECIFICATION

Prior to commencement of contract, the contractor shall be issued with a SHE specification in order to compile a SHE file in line with TE requirements. Prior to establishing on site, it is an explicit requirement of this contract that all of the Contractor's personnel directly involved with this contract, including those of sub-contractors, attend a **Safety induction course**.

Transnet will provide the course free of charge and attendance is compulsory for all personnel under the control of the Contractor who, during the duration of the contract, will be present on site whether on a full time or adhoc basis.

The contractor must allow for all additional charges because of these requirements as no claims for extras will be accepted in connection with the foregoing.

### 7.4 As part of the legislative and TE SHE requirements.

The successful contractor is required to conduct a Risk assessment to ascertain all potential risks associated with this project.

The completed risk assessment is to be formally submitted to the Risk department via the project manager at least two weeks prior to the commencement of the actual project. A safety file and associated documents will be required from a successful tenderer and such will be communicated by the Risk department.

## 8. SPECIALIST SUB-CONTRACTORS

- 8.1 Only specialist sub-contractors who have previously successfully completed work of the type and extent specified in this document should be engaged.

The tenderer shall provide the technical officer with sufficient proof of having suitable experience regarding the design and manufacturing of similar equipment. To this end, complete and detailed reference list shall be submitted with the tender. Reference list shall include addresses as well as contact person who may be visited for inspection of the equipment during the adjudication period.

- 8.2 The tender shall submit a complete list of proposed sub-contractors and suppliers of major components with his tender.
- 8.3 The tenderer shall be prepared to commit themselves in writing to the technical officer with an adequate, experienced and stable project team for the duration of the contract.
- 8.4 Transnet Engineering will not consider any Tenderer's offer that, in the sole opinion of Transnet Engineering, does not have adequate experience in the design and manufacture of such equipment.

Signature of Bidder/s: \_\_\_\_\_ Date: \_\_\_\_\_





- 8.5 Contractors shall do the installation simultaneously with other contractors on-site busy with other work and shall plan work that it integrates with other work performed.

## 9. MATERIAL AND WORKMANSHIP

- 9.1 The materials shall be offered complete in all respects.
- 9.2 The materials, as made and supplied, shall be complete in every respect, of modern design, using the most advanced proven technology extensively supported by reputable local companies, and be built to good engineering practices. Tenderers shall supply a list of all the main components proposed as well as the addresses of the local support companies
- 9.3 All materials shall be adequately protected against damage and corrosion during shipping, transport and storage.

## 10. GENERAL REQUIREMENTS

Operation will be in the following conditions:

Altitude	Sea level
Ambient temperature	0°C to 45°C
Relative humidity	50% to 100%
Atmosphere	Heavy saline

- 10.1 Tenderers shall indicate clause-by-clause either that they comply in every respect with the specific requirements, or if not, exactly how it differs.

## 11. DEFINITIONS AND ABBREVIATIONS

CLIENT	Transnet Engineering Durban
TECHNICAL OFFICER	Project Manager, Transnet Engineering Durban
CONTRACTOR	Contractor appointed under this scope of work document
SABS	South African Bureau of Standards
SANS	South African National Standards

## 12. GENERAL

- 12.1 The successful tenderer will be subjected to a workshop inspection by Transnet Engineering, to ensure that the facilities are to the satisfaction of the Transnet Engineering in terms of the quality control and equipment capabilities for manufacturing such type of equipment.
- 12.2 The tenderers shall guarantee that the rating and size etc. of the equipment offered, will be adequate to perform the duties required.

Signature of Bidder/s: \_\_\_\_\_

Date: \_\_\_\_\_



### 13. SITE ESTABLISHMENT

- 13.1 The contractor shall be solely responsible for safety of his staff and for providing security to safeguard his works and material on site, until such a time.
- 13.2 The contractor shall be required to attend site meetings when convened by the Project Leader controlling the contract.
- 13.3 The contractor will be responsible for any damages caused by his staff to the building and civil works on site.

### 14. PENALTY CLAUSES

- 14.1 Due to the criticality of this project, penalties will be levied for late deliveries.

Signature of Bidder/s: \_\_\_\_\_

Date: \_\_\_\_\_

Document Name: Specification  
Date: 18.05.2018

Document Number: MPE\_DBN\_SPEC\_002  
Revision: 001 Reference no.: RM\_DBN\_ESR\_SOW\_030  
PAGE 10 OF 13

**15.SCHEDULE OF PRICES:**

[illegible]

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_



## 16. TENDER EVALUATION CRITERIA

The following criteria will be used to award the tender. Should there be a criteria over and above the listed below, that will be used, such criteria will be specifically stated.

No.	<u>Pre-Qualification Criteria</u> <b>TECHNICAL DESCRIPTION (The technical evaluation will be used as a threshold. All bidders who do not meet the minimum threshold of 100% will not proceed to the final stage of evaluation.)</b>	Weightings
16.1	Lead time , project plan and methodology.  The methodology, standards and working procedures that will be used in the execution of this contract (detailed written Process and Project Plan to be supplied by bidder): <ul style="list-style-type: none"> <li>• The methodology that will be used in the execution of this contract.</li> <li>• A Process/ Project Plan for the execution of this contract.</li> </ul> 1.1 Project Plan final Lead time equals/less than 1 month – 30 points 1.2 Project Plan final Lead time more than 1 month but equal/less than 2 months – 20 points 1.3 Project Plan final Lead time greater than 2 months – 10 points  (Note: Project Plan must be submitted in either excel or MS project format) .	30 points
16.2	Adherence to TE specification. 1.1 Comply to scope of work – 45 points 1.2 Non-compliance to scope of work (including not completed) – 0 points	45 points
16.3	Specific knowledge relating to projects of this nature: <ul style="list-style-type: none"> <li>• Previous experience of supplying, delivering and testing and commissioning of <b>vacuum pressure impregnation systems</b> (only completed projects) in the past 6 years, with contactable references.</li> </ul> 1.1 3 or more submitted – 25 points 1.2 2 submitted – 20 points 1.3 1 submitted – 10 points 1.4 0 submitted – 0 points	25 points
<b>Total Weighting:</b>		<b>100 points</b>
<b>Minimum qualifying score required:</b>		<b>80 points</b>

Signature of Bidder/s: \_\_\_\_\_

Date: \_\_\_\_\_



# 17. VERIFICATION OF COMPLIANCE TO SPECIFICATION

ITS IS MANDATORY FOR ALL THE SUPPLIERS/BIDDERS TO COMPLETE THIS FORM. AN INCOMPLETE FORM WILL RESULT IN DISQUALIFICATION.

No.	Heading/Subsection	Comply			Comment
		Yes	No	N/A	
1	Scope of work				
4	Technical requirements				
5	Specific requirements				
5.1	Scope of work				
5.3	Markings				
5.4	Safety features				
5.5	Testing				
5.6	Maintenance				
5.7	Spares				
5.8	Warranty				
5.9	After sales service				
5.10	Commissioning				
8	Health and safety requirements				
10	Material and workmanship				
15	Penalty clauses				

Signature of Bidder/s: \_\_\_\_\_

Date: \_\_\_\_\_