



**DESIGN, SUPPLY, DELIVERY, INSTALLATION,
TESTING, CALIBRATION AND COMMISSIONING OF
PIPE BENDING MACHINE FOR LOCOMOTIVES
BUSINESS (BT).**

**TRANSNET ENGINEERING (DURBAN MAIN CENTRE),
311 SOLOMON MAHLANGU DRIVE, ROSSBURGH.**

REFERENCE NO: OPS_LOC_DBN_SPEC_044

Date of release: June 2023

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Signature of Bidder/s: _____ Date: _____

Document Authorities

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Signature of Bidder/s: _____ Date: _____

1. INTRODUCTION

This specification is for the:

#	TASK	REQUIRED
1	Survey	
2	Design	✓
3	Supply	✓
4	Delivery	✓
5	Installation	✓
6	Documentation	✓
7	Calibration	✓
8	Testing	✓
9	Training	✓
10	Commissioning	✓

of the specified:

#	ITEM	REQUIRED
1	Design, supply, delivery, installation, testing, calibration and commissioning of pipe bending machine for Locomotives Business (BT).	✓

- **This is a fixed value contract so the tenderer shall ensure all the costs are factored into the tendering price.**

1.1 SITE LOCATION

The administration Building forms part of the Durban Main Centre, located at 311 Solomon Mahlangu Drive, Rossburgh.

2. SITE INSPECTION

- 2.1 All prospective Tenderers 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 the Transnet Engineering Project Manager.
- 2.3 The site inspection certificate shall be completed and countersigned by the Project 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.

Signature of Bidder/s: _____ Date: _____

- 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.

4. TECHNICAL REQUIREMENTS

The following **Legislation(s), Standards and Guidelines must be complied with:-**

- The Occupational Health and Safety Act – Act 85 of 1993.
 - SANS 10142.
- 4.1 Except where otherwise provided for in the specification, all work done will comply with the requirements of the relevant standard specifications of the SABS and SANS.
- 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 1993.

5. SPECIFIC REQUIREMENTS

Any person with the intention of procuring materials shall ensure that the information below is complied with.

5.1 Specification.

<u>Item no.</u>	<u>Requirements</u> This specification covers the minimum requirements.	<u>Compliance</u> Write “YES” or tick “✓” (if complying) or Write “NO” (if not complying).
5.1.1	Read this scope of work with Annexure 1 (Transnet contractor safety, health and environmental management specification guidelines TRN-IMS-GRP-GDL-014. 2).	
5.1.2	The service provider is required to submit a SHE Contractor Compliance file (Index to be provided to the successful service provider); - This file shall be submitted after the Purchase Order has been issued, not at tender stage.	

Signature of Bidder/s: _____ Date: _____

<u>Item no.</u>	<u>Requirements</u> This specification covers the minimum requirements.	<u>Compliance</u> Write “YES” or tick “✓” (if complying) or Write “NO” (if not complying).																											
5.1.3	- Bidders to note that currently the Business Unit requiring the new bending machine bends pipes with the following parameters: <table border="1"> <thead> <tr> <th>Pipe outside diameter</th><th>Thickness</th><th>CLR</th></tr> </thead> <tbody> <tr><td>12mm</td><td>1.5mm</td><td>76</td></tr> <tr><td>12mm</td><td>1.5mm</td><td>40</td></tr> <tr><td>18mm</td><td>1.5mm</td><td>115</td></tr> <tr><td>22mm</td><td>1.5mm</td><td>115</td></tr> <tr><td>28mm</td><td>1.5mm</td><td>115</td></tr> <tr><td>35mm</td><td>1.5mm</td><td>150</td></tr> <tr><td>35mm</td><td>1.5mm</td><td>230</td></tr> <tr><td>42mm</td><td>2mm</td><td>230</td></tr> </tbody> </table> - The new pipe bending machine shall be compatible with the existing dies (12mm to 42mm), these dies are still in good condition and available for bidders to view. - The new pipe bending machine shall come with dies bigger than 42mm up to 80mm.	Pipe outside diameter	Thickness	CLR	12mm	1.5mm	76	12mm	1.5mm	40	18mm	1.5mm	115	22mm	1.5mm	115	28mm	1.5mm	115	35mm	1.5mm	150	35mm	1.5mm	230	42mm	2mm	230	
Pipe outside diameter	Thickness	CLR																											
12mm	1.5mm	76																											
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28mm	1.5mm	115																											
35mm	1.5mm	150																											
35mm	1.5mm	230																											
42mm	2mm	230																											
5.1.4	Mild Steel Capacity (mm) (CLR 1.5D) : Ø76.2x2.0t																												
5.1.5	Stainless Capacity (mm): Ø76.2x1.5t (CLR 1.5D)																												
5.1.6	Max. Tube Length With Mandrel : 4600mm.																												
5.1.7	Max. Draw Bending Radius : 250mm																												
5.1.8	Max. Bending Radius Difference (R1-R2) : 80mm																												
5.1.9	Bending Accuracy: ±0.1°																												
5.1.10	Rotation Accuracy: ±0.1°																												
5.1.11	Feeding Accuracy (mm): ±0.1																												
5.1.12	Machine Dimension (mm): 7000 (l) x 2300 (w) x 2000 (h)																												
5.1.13	Touch screen (Industrial) controller.																												
5.1.14	Automatic mandrel lubrication																												
5.1.15	The required pipe bending machine is a Soco, model number SB-80x4A-2S machine or equivalent pipe bending machine or superior bending machine.																												
	Training																												
5.1.16	Provision shall be made for the complete training of all staff associated with the building, to assure that a thorough understanding of how the systems operate is understood by all. This training may involve multiple site visits after the system has been in operation.																												
5.1.17	The contractor shall submit, a full program showing all aspects of the work to be carried out as part of this contract. The program shall also be up-dated as the project evolves on site, to reflect the true situation of the site progress, on a weekly basis. With special attention being given to critical path items.																												

Signature of Bidder/s: _____ Date: _____

<u>Item no.</u>	<u>Requirements</u> This specification covers the minimum requirements.	<u>Compliance</u> Write “YES” or tick “✓” (if complying) or Write “NO” (if not complying).
	Site Access.	
5.1.18	The contractor shall be aware that the work to be completed during normal working hours, and in the event of unplanned necessitates, of during the process of plant commissioning, permission shall be obtained from the Project Manager, who shall arrange for special permission, and access for relevant staff onto the site.	
	Guarantee Period.	
5.1.19	The contractor shall allow for a guarantee period, of two calendar years after the installation has been accepted by Transnet. This guarantee will include for the entire installation and controls, associated with this contract, and shall include for parts and labour.	
	Maintenance.	
5.1.20	The contractor shall provide for maintenance of the entire installation for a 24 months period and shall transfer knowledge to two Transnet Engineering maintenance employees.	
	Documentation.	
	Documentation required before any work commence:	
5.1.21	Detailed electrical drawings regarding electrical control panel and wiring to equipment.	
	Documentation on day of commissioning:	
5.1.22	1 set of hard copies with a disc/USB memory stick containing documentation in PDF Format for each of the following: • Operating Manual. • Maintenance Manual. • Electrical and mechanical schematics, with blown out components. • The design package documents. • Electrical certificate of compliance, issued in accordance with SANS 10141. • Parts list and part numbers. • Hard Copy of PLC Program. • Hard copy of Parameters of all systems including PLC, CNC and Drives. • Calibration certificate(s), if applicable. The calibration certificates shall have a SANAS logo, calibration laboratory number and SANAS accreditation number.	

Signature of Bidder/s: _____ Date: _____

<u>Item no.</u>	<u>Requirements</u> This specification covers the minimum requirements.	<u>Compliance</u> Write “YES” or tick “✓” (if complying) or Write “NO” (if not complying).
5.1.23	<u>Documentation:</u> <u>The following documentation shall be supplied at tender stage:</u> • Bidders to supply full colour brochure for the proposed equipment. • 1 set of hard copies, • Operating manual. • Parts list.	

5.2 Environment

- Indoors.

6. CONSTRUCTION INDUSTRY DEVELOPMENT BOARD (CIDB) REGISTRATION

The contractor to be appointed under this contract must be registered with the CIDB at grading of **4 ME minimum or above**. To this end, Transnet Engineering Durban does not award contracts to any company without proof of this registration.

7. HEALTH AND SAFETY REQUIREMENTS

- 7.1 All equipment whether detailed in this specification 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.
- 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.

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.
- 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.

Signature of Bidder/s: _____ Date: _____

9. EQUIPMENT

- 9.1 The required items shall be complete in all respects.
- 9.2 Tenderers shall supply a list of all materials proposed as well as the addresses of the local support companies.

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

11. DEFINITIONS AND ABBREVIATIONS

CLIENT Transnet Engineering Durban

TECHNICAL OFFICER: Project Manager, Transnet Engineering Durban

CONTRACTOR Contractor appointed under this specification document

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.

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: _____

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> TECHNICAL DESCRIPTION (The technical evaluation will be used as a threshold. All bidders who do not meet the minimum threshold of 80 points will not proceed to the final stage of evaluation.)	Weightings
16.1	1. Delivery Plan and Final Lead time 1.1.1 Project Plan final Lead time equals/less than 60 working days 25 points 1.1.2 Project Plan final Lead time between 61 – 70 working days 15 points 1.1.3 Project Plan final Lead time 71 – 90 working days 5 points 1.1.4 Project Plan final Lead time more than 90 working days 0 (Note: Project Plan must be submitted either in excel or MS project format)	25 points
16.2	1.2 Organogram 1.2.1 Submitted organogram showing key employees and proof of their qualifications that will work on this project. 20 points 1.2.2 No submitted organogram / submitted organogram with no proof of Qualifications. 0	20 points
16.3	Compliance to scope of work 2.1 Compliance to scope of work on page 5 to page 8 and page 8 by writing “YES” or ticking “✓” (to indicate compliance). 30 points 2.2 Non-compliance to scope of work by writing “No” or not fully completing the compliance tables (including not fully completing the bid document) 0	30 points
16.4	Specific knowledge relating to projects of this nature 3.1 Previous experience for supply, delivery, installation, testing, calibration and commissioning of industrial machines (only completed projects) in the past 10 years, with contactable references. 3.1.1 3 or more submitted 25 points 3.1.2 2 submitted 15 points 3.1.3 1 submitted 10 points 3.1.4 0 submitted 0 Each reference letter shall have 2 dates (date of project completion and date showing as to when the letter was signed), otherwise it will not be acceptable and zero (0) score will be allocated for such rejected letter. Each reference letter shall have contactable contact person(s) and working contact numbers, otherwise it will not be acceptable and zero (0) score will be allocated for such rejected letter.	25 points

Total Weighting:	100 points
Minimum qualifying score required:	80 points

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				
2	Site inspection				
4	Technical requirements				
5	Specific requirements				
5.1	Machine specification				
5.2	Environment				
8	Health and Safety				
14	Penalty clauses				

Signature of Bidder/s: _____ Date: _____