



**SCOPE OF WORK FOR DESIGN,  
MANUFACTURE, SUPPLY,  
INSTALLATION, TESTING AND  
COMMISSIONING OF EMERGENCY  
RESCUE EQUIPMENT (ELECTRICALLY  
OPERATED) IN CONFINED SPACES FOR  
BAYHEAD WAGONS.**

**KINGS REST, BAYHEAD.**

**REFERENCE No: RS\_SHE\_DBN\_URS\_052**

**Date of release: MAY 2024**

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

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Signature & Date	 14/05/2024

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

## 1. INTRODUCTION / SCOPE of Work

This specification is for the:

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

Of the specified:

#	ITEM	REQUIRED
1	Design, manufacture, supply, installation, testing and commissioning of emergency rescue equipment (electrically operated) in confined spaces.	✓
2	The system to be installed at Wash bay area (2 off) and Barrel testing (1 off)	✓
3	Submission of project completion documents.	✓

This must be commissioned at Kings Rest, tank washout depot.

- **Material (metals) from the alterations unless otherwise stated, will become property of Transnet and all rubbish and debris shall be removed from TE premises and disposed of responsible by the contractor.**
- **Items described as “removed” shall mean removed from site.**
- **Transnet reserves the right to procure materials if it deems that as cost effective.**
- **THE CONTRACTOR TO NOTE THAT THE FOLLOWING MATERIALS SHALL NOT BE REMOVED FROM TRANSNET ENGINEERING PREMISES DURING AND AFTER THE IMPLEMENTATION OF THIS PROJECT: COPPER, BRASS, ALUMINIUM, STAINLESS STEEL, CABLING, CABLING CUT-OFFS, BUSSBARS, TAP OFF BOXES, MOTORS, GEAR BOXES, CONTROL BOXES, TRANSFORMERS, TRANSFORMER AND MOTOR WINDINGS AND ALL OTHER METALS.**

## 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.

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

- 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.

#### 4. TECHNICAL REQUIREMENTS

The following regulation and codes must be complied with:-

- The Occupational Health and Safety Act – Act 85 of 1993.
- 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 procuring equipment shall ensure that the information below is complied with. The information or requirement is binding.**

##### 5.1 Scope of work

<b><u>REQUIREMENTS</u></b>	
	<b>The below listed information is the minimum requirements, equivalent or superior product and accessories may be proposed. If the equivalent or superior product and accessories are proposed a bidder shall provide the detailed information and directly compare with the listed requirements.</b>
3.1	This scope of work shall be read with annexure 1 (Transnet Engineering safety, health and environmental management requirements).
3.2	The main purpose of this project is to ensure that a person that is working inside the tanker is speedily and effectively rescued during emergency eventualities, without further injury.
3.3	Design, manufacture, supply, installation, testing and commissioning of rescue equipment (electrically operated). In the barrel testing area, the supplier is to design a winch system which would be operated by an electric system to hoist someone in the event of an evacuation.

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

<b><u>REQUIREMENTS</u></b>	
	<b>The below listed information is the minimum requirements, equivalent or superior product and accessories may be proposed. If the equivalent or superior product and accessories are proposed a bidder shall provide the detailed information and directly compare with the listed requirements.</b>
3.4	The successful supplier shall design the rescue equipment that is suspended from the existing monorail, able to pull out a person from a confined tank space in case of an emergency.
3.5	The emergency equipment shall consist of the following items as a minimum:- <ul style="list-style-type: none"> <li>- The rescue tripod.</li> <li>- Tripod winch.</li> <li>- Full body harness.</li> <li>- Intrinsically safe headlamp.</li> <li>- Self-Contained Breathing Apparatus (3 off).</li> <li>- Breathing Apparatus Cylinder (3 off).</li> <li>- Respirator Cartridges.</li> <li>- Steel Carabiners.</li> <li>- Alloy Carabiners.</li> <li>- Tog bag.</li> <li>- Rescue Haulage System in Bag.</li> </ul>
3.6	The tank lid (at the top) is 43 cm wide, the rescue board shall be approximately 41cm wide to ensure that it passes through the 43cm wide lid hole.
3.7	The emergency equipment shall have 250kg capacity and be electrically powered and controlled (to have a remote control). <ul style="list-style-type: none"> <li>• The load test certificate shall be submitted on completion.</li> <li>• The rescuing board shall be made of durable material (e.g. hardened plastic/pvc, etc) to withstand a weight of a person.</li> <li>• The rescuing board shall be fitted with straps for securing the injured person whilst being pulled out of the tank.</li> </ul>
3.8	It shall be possible to manually operate the emergency equipment during power failures.
3.9	The equipment shall have ICASA approval, since it will be electronically operated.
3.10	The equipment shall not interfere with any electronic equipment.
3.11	All statutory safety requirements shall be adhered to.
3.12	<u>During bidding stage</u>  The proposed system of rescue and product literature shall be attached in the bid documents. <u>On project completion</u> <ul style="list-style-type: none"> <li>• The contractor shall submit operating manuals, maintenance manuals, spare/part list, blown out electrical and mechanical drawings in 1 set of hard copies and 2 sets of pdf files in disks.</li> <li>• There shall be a training of 4 operators, 5 Maintenance staff (Electrician) and 5 Maintenance staff (Mechanical).</li> <li>• The training manuals shall be submitted to the project manager, 2 weeks before the commencement of training.</li> <li>• The contractor shall conduct training on safe operation of the installation before handover.</li> </ul>
3.12	Test and commission.
3.13	Supply 4 (four) multi-gas detectors.

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

- 5.1 Supply and delivery
- The equipment shall be supplied at Kings Rest, Bayhead.
- 5.2 Markings
- All labels and markings shall be indelible and only removable by deliberate intent.
- 5.3 Safety Features
- The equipment shall have a fail to safety protection system.
- 5.4 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.
- 5.5 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.
- 5.6 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.
- 5.7 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.**
- 5.8 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.
- 5.9 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.**

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

**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.
- 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.**

No CIDB Required.

**7. OTHER INFORMATION RELATED TO THE SCOPE**

- 7.1 This specification states the minimum requirements relating to the work and in no way absolves the contractor from responsibility for sound engineering practice. Any omissions or sub-standard requirements of this specification must be brought to the attention of Transnet Engineering at tender stage and optional prices for addressing such omissions must be provided.
- 7.2 Any matter relating to this work, which requires a decision from Transnet Engineering shall be presented to the Project Manager in charge.
- 7.3 All offers shall be completed in every respect with this specification. Only completed tenders shall be Considered.
- 7.4 The Technical Officer reserves the right to have the proposal checked independently by a third party.
- 7.5 Tenders must allow for monthly progress and clarification meetings on site initially and after commissioning for defect meetings when required. A meeting will be held after issuing of the tender to establish the exact scope and magnitude of the contract. No tender will be considered unless it has this Certificate signed by the Engineer or his representative.

**8. HEALTH AND SAFETY REQUIREMENTS**

- 8.1 All equipment and installation 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. All equipment shall be designed **to be fail safe.**
- 8.2 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.

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



### 8.3 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.

### 8.4 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.

## 9. SPECIALIST SUB-CONTRACTORS

- 9.1 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.
- 9.2 The tender shall submit a complete list of proposed sub-contractors and suppliers of major components with his tender.
- 9.3 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.
- 9.4 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
- 9.5 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.

## 10. MATERIAL AND WORKMANSHIP

- 10.1 The equipment shall be offered complete in all respects.
- 10.2 The equipment, 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 (mechanical, electrical etc.) proposed as well as the addresses of the local support companies
- 10.3 All parts and components shall be adequately protected against damage and corrosion during shipping,

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

transport and storage.

Should any of the items called for be standard equipment, then the words “Standard Equipment” shall appear against the item.

## 11. 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

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

## 12. DEFINITIONS AND ABBREVIATIONS

CLIENT	Transnet Engineering Durban
TECHNICAL OFFICER	Project Manager, Transnet Engineering Durban
CONTRACTOR	Contractor appointed under this specification document
SABS	South African Bureau of Standards
SANS	South African National Standard
ISO	International Organisation for Standardisation
PRODUCT	Emergency rescue equipment

## 13. GENERAL

13.1 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.

13.2 The tenderers shall guarantee that the rating and size etc. of the equipment offered, will be adequate to perform the duties required.

## 14. SITE ESTABLISHMENT

14.1 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.

14.2 The contractor shall be required to attend site meetings when convened by the Project Leader controlling the contract.

14.3 The contractor shall be responsible for any damages caused by his staff to the building and civil works on site.

## 15. PENALTY CLAUSES

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

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

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