



PROVISION OF MAINTENANCE AND REPAIR OF HEATING, VENTILATION AND AIR CONDITIONING SYSTEM (HVAC) & PIPE LEAK DETECTION (PIPE SPECTROLINE) FOR MOBILE PLANT EQUIPMENT FOR 6 MONTHS AT RICHARDS BAY TERMINAL

### SCOPE OF WORK

## **PROVISION OF MAINTENANCE AND REPAIR OF HEATING, VENTILATION AND AIR CONDITIONING SYSTEM (HVAC) & PIPE SPECTROLINE FOR MOBILE PLANT EQUIPMENT FOR 6 MONTHS AT RICHARDS BAY TERMINAL**



**Figure 1: Transnet Cover Theme**

**CHANGE CONTROL**

**Works' Information Authorisation Signatures**

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**1. BACKGROUND**

6/7 series core business is the handling of dry bulk commodities, either entering or exiting via the Richards Bay harbour premises. A fleet of articulated hauler vehicles, lift trucks as well as mobile harbour cranes are utilised to move the cargo.

This fleet of vehicles is serviced by technical personnel in the maintenance workshops on a scheduled basis and requires a seamless supply chain of maintenance materials. The fleet comprises of haulers, excavators, skid steer loaders, dumpers and lifting equipment (cranes, high reach stackers and forklifts).

Failure of these equipment’s accessories and HVAC system units, create an unpleasant operating environment for the equipment operators which might lead to reduced productivity, citing the port climatic conditions. Acquiring these services will assist in the required maintenance’s execution on the HVAC system ensuring their reliable operation and timeous attendance to any problem that could occur reducing the mobile equipment HVAC system unavailability at any given time of the day.

**2. OBJECTIVES**

The main objective of this SOW is for the maintenance and repairs of HVAC systems and pipe spectrolines on mobile harbor equipment on an as and when required basis to maintain the fleet equipment to acceptable standard for a period of six months (6 Months).

**3. THE SCOPE**

**3.1. The *service provider* is required to provide the following services on mobile equipment:**

3.1.1. Maintenance of **HVAC system** on quarterly basis (every 3 months).

3.1.1.1 Check for correct functioning of control switches.

- Check if all electronic connections are secured.
- Inspect for any gas or oil leak.
- Inspect belt’s tension and belt drive.
- Clean condenser, fan and evaporator coils.
- Inspect mountings of components.
- Check and secure all covers.
- Apply corrosion resistance inside and outside of the unit.
- Check fan bearings and lubricate.
- Test and commission.

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- Blow drainage system clean.
- Check for loose wiring and tighten.
- Check operation of fan motor and blades.
- Note running amps and set overload.
- Check system for correct refrigerant charge.
- Note any defects and recommend on how critical it is.

3.1.2. Maintenance of **pipe sectroline** on quarterly basis (every 3 months).

- Inspect all air corn pipes for air leak
- Repair pipe gas seals
- Repair pipe bull nose fittings
- Repair pipe connectors
- Perform pipe sectorization on all leaking air corn pipes

3.1.3. Provide HVAC system and pipe sectorization repairs services on an as and when required basis.

3.1.4. Remove, supply new and fit HVAC system on an as and when required basis.

3.1.5. Inspect and recommend on required repairs on an as and when required basis

3.1.6. Response to call outs on emergency HVAC system failure.

3.1.7. Refilling of refrigerant gas on an as and when required basis.

3.1.8. As minimum, TPT requires the following crew for HVAC system maintenance:

- 3.1.8.1 Service provider must provide a practitioner with a valid gas licence which is approved by SARRACA OR SAQCC OR Department of Employment and Labour.
- 3.1.8.2 Submit one (1) trade test refrigeration mechanic (industrial) certificates. Domestic, residential & commercial certificates are not applicable to the plant equipment HVAC repairs, therefore they will not be considered
- 3.1.8.3 Submit 4 or more traceable references in a form of testimonial letters for HVAC systems service and maintenance done on mobile plant equipment in the past. period of a contract done in the past must be a minimum of 6 months, not a once off work/project. TPT reserve the right to contact service providers to verify provided testimonials. The references should be in a manner of a repairs and maintenance conducted and should include the period of a contract, 6 months and more period will only be accepted.

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3.1.8. One (1) trade hand/assistance.

3.1.9. As per above crew structure, the service provider will be expected to provide a minimum of two crews who would be shared between maintenance and standby.

3.1.10. The service provider will be expected to do a skill transfer to Transnet employees during the HVAC and pipe spectroline repairs 6 months contract.

### 4. PORT INFORMATION

The Port of Richards bay is situated to the south (approximate 7km) of the town centre and is a secure area with security control points. All entry is controlled and a permit for personnel is required on entry and is for the cost of the successful contractor. All transport cost similarly should be included in the price submitted. The climatic conditions at the facility are severe and suppliers must recognise this fact. These are:

<b>Relative Humidity</b>	Up to 95 %
<b>Temperature range</b>	Min 5 Deg C– Max 45 Deg C
<b>Corrosion</b>	Severe with metallic dust and sea fret/salt

Allowance for packaging and shelf life in this non conditioned atmosphere must be made and prospective tenderers must describe their methodology in their submission.

### 5. APPLICABLE TERMS AND CONDITIONS

5.1 All spares supplied must comply with manufacturer's specifications.

5.2 All spares supplied must comply with SANS standards.

5.3 Cost to supply, repair and service HVAC systems to be furnished as per list reflecting on the pricing schedule attached.

### 6. SERVICE PROVIDER'S RESPONSIBILITIES

The *Service Provider* shall:

- 6.1. Provide all the necessary skills, resources, tools, equipment and expertise to carry out the works in this scope of work.
- 6.2. Review, familiarize and understand the proposed site including all constraints and environmental factors.
- 6.3. Review, familiarize and understand the operational requirements of the facilities in the Port of Richards Bay.
- 6.4. Supply complete method statement of new installation as well as any repairs as per scope of work.
- 6.5. Provide any other reasonable works required to successfully deliver the services to the *Employer* on time, on budget and at acceptable quality.

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- 6.6. Provide all necessary SHE compliance documentation as per Transnet Port Terminals SHE specifications, always including the submission and approval of a Safety File and SHE Officer on site.
- 6.7. Hand over all documentation including condition reports after services, repairs, and installation.
- 6.8. Train and mentor Transnet employees using Transnet HVAC tools and equipment, A report of the skills and knowledge shared with Transnet employees will be requested from the service provider.

### 7. CONTRACT MANAGEMENT

- 7.1. Daily report: A daily report must be submitted to the technical manager for all services/repairs for the day.
- 7.2. Weekly report: A weekly report must be submitted to the technical manager, this must contain detailed information of all defects noted.
- 7.3. Monthly report: A detailed status monthly report must be submitted to the technical manager every month, containing planned work, completions, and outstanding actions.
- 7.4. Service Level Agreement (SLA) meetings: Attendance in quarterly (every 3 months) intervals is compulsory.

### 8. GUARANTEES AND WARRANTIES

- 8.1. The *service provider* must submit a minimum of 12 months guaranty period on all supplied spares for HVAC & pipe spectroline system.
- 8.2. The *service provider* must submit a minimum of 12 months warranty period on workmanship for maintenance and repairs for HVAC system and pipe spectroline.

### 9. RESPONSE TIME

The *service provider* must submit and commit to response time for callouts. This time will be used to evaluate the service provider for the duration of the contract, and service provider will have to comply with it for the duration of the contract. Ideally, Transnet is expecting the response times for callouts to not exceed 1 hour. This is based on the operation requirements of the Port. i.e. when there are delays, all efforts are put to ensure the delays are solved in the shortest time. If the service provider does not comply to the response they committed to, then the non-conformant report (NCR) will be issued to the service provider, more to that, the certain percentage will be deducted from the invoice amount for the same month NCR was issued.

### 10. PROVISION OF AS-BUILD INFORMATION

The *service provider* requests As-Built Information and other technical data by submitting a request for information to the *employer*. The Employer will provide as much of the requested information as is possible. The *service provider* is responsible for verifying that the information provided to him/her is accurate.

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**11. QUALITY ASSURANCE REQUIREMENTS**

The *service provider* must submit (post award) the following quality management system documents to the *employer* as part of his programme before commencing with any work:

- 11.1 Quality Control Plan for the contract.
- 11.2. Work method to be used in completing the works.

**12. HEALTH AND SAFETY REQUIREMENTS**

The *service provider* shall comply with Transnet Port Terminals Health Safety and Environmental Specification number: Operations – SHE Service Provider Specification SHEQ PRO 021.

- The contractor shall ensure that he signs the **Permit to Work** before commencing any work at TPT.
- The contractor shall ensure that he signs the **Hot Work Permit** before commencing any hot work at TPT.
- The contractor must ensure that the **Safety File** is checked and approved by SHEQ department before commencing any work at TPT.
- The contractor must ensure that the **37.2 Mandatory Agreement** document under safety file is signed by both TPT personnel and the Contractor after contract is awarded before commencing any work at TPT.
- The contractor must ensure that the **Principal Contractor Appointment Letter** is completed and signed before commencing any work at TPT.
- The service provider will be required to submit the “letter of good standing” upon award stage

**13. DOCUMENT CONTROL**

The *service provider* will be expected to submit and keep (and make available to Transnet on request) inspection, maintenance and repairs reports for the duration of the contract, and 6 months after the contract term. All work to be in accordance with the SHEQ, environmental specification, quality and general requirement.

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**14. SPARES AND MATERIALS**

The *service provider* will be required to quote and supply all spares to be used during HVAC and pipe spectroline repairs. Service provider must give spares quotation on the pricing schedule provided on the tender documents.

**15. GOVERNING CODES, STANDARDS AND SPECIFICATIONS**

Title	Document No.
<b>National and international standards</b>	
Earth-moving machinery - Operator enclosure environment Part 4: Heating, ventilating and air conditioning (HVAC) test method and performance	SANS 1630-4
Earth-moving machinery - Safety Part 11: Requirements for earth and landfill compactors	SANS 20474-11
Air conditioners, liquid chilling packages and heat pumps with electrically driven compressors for space heating and cooling Part 1: Terms, definitions and classification	SANS 54511-1
Air conditioners, liquid chilling packages and heat pumps with electrically driven compressors for space heating and cooling Part 2: Test conditions	SANS 54511-2
Air conditioners, liquid chilling packages and heat pumps with electrically driven compressors for space heating and cooling Part 3: Test methods	SANS 54511-3
Air conditioners, liquid chilling packages and heat pumps with electrically driven compressors for space heating and cooling - Part 4: Operating requirements, marking and instructions	SANS 54511-4