

PART C3: THE SCOPE

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	For the Supply, transportation, rigging, installation, testing, commissioning of various Standby Diesel Generators within Transnet Freight Rail critical campuses, railway communication rooms and high sites for Central Region	8
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C3.1 Service Information

SECTION 1

1 Description of the service

1.1 *Employer's objectives*

The *Employer's* objectives are:

- 1.1.1 To acquire a contract with suitable supplier(s) for the provisioning of standby generators within TRIM critical campuses, railway communication rooms and high sites, nationally, for a period of three (3) years on an "As and When required" basis. The rail reform objectives and the digitalization strategy necessitate an increase in maintenance activities to improve train operations.
- 1.1.2 To ensure a seamless and sustainable power supply to the rail network infrastructure, systems, and operations through the installation of reliable backup generators. This initiative aims to enhance operational efficiency, minimize service disruptions and reduce high maintenance demands by replacing the aging backup power systems that are currently in place.
- 1.1.3 To allocate the generator sets across identified locations to support uninterrupted power supply for rail network infrastructure, enhance operational efficiency, and reduce downtime caused by load shedding and unreliable backup systems within Transnet Rail Infrastructure Manager.
- 1.1.4 To ensure that *works* is carried out in good quality and in a safety manner in line with Transnet Freight Rail Manager internal safety specification (E4E) and Occupational Health and Safety Act 85 of 1993 and its regulations. Preferred bidder will be required to adhere to the above.
- 1.1.5 **Standard for Developing skills through Infrastructure Contracts CIDB**

The Contractor shall determine the CSDG, expressed in Rand, which shall not be less than the sub-total multiplied by a percentage (%) factor of 0,25 for Electrical Engineering Works. The percentage (%) factor is stated in the Final Tender Summary section of C2.2 Pricing List.

Contract Skills Development Goal (CSDG (0.25% factor of the sub-total)

The contractor shall achieve in the performance of the contract the Contract Skills Development Goal (CSDG) established in **the cidb Standard for Developing Skills through Infrastructure Contracts**, published in Gazette Notice No.48491 of 28 April 2023

2 Project Aim

To Supply, Transportation, Rigging Installation, Testing, Commissioning of various Standby Diesel Generators within Transnet Rail infrastructure manager Critical Campuses, Railway communication rooms and high sites, Nationally, for a period of three years on an “As and When required” basis.

2.1 Project Objectives

The project objectives are:

- To supply and install fixed standby generator plants at TRIM Comms rooms as secondary power supply to Telecommunications equipment.
- To supply mobile standby generator plants, attached to a trailer, at TRIM Comms rooms and High-sites as secondary power supply to Telecommunications equipment.
- To supply and/or install generator change-over switch to TRIM Comms rooms and High-sites to supply power from the generator to the Telecommunications equipment.

2.2 Scope description

2.2.1 Fixed Generator Plants

Complete unit to be mounted on robust skid frame. Anti-vibration mountings to be used where required and shall conform to ISO 10816. Skid frame to be dimensioned to accommodate generator/alternator assembly, all accessories, soundproof canopy. Skid frame to be of rigid construction suitable for locating on level ground surfaces ranging from compacted earth, crushed rock, or a concrete pad. All exposed moving parts and belts shall be suitably protected by removable guards.

2.2.2 Mobile Generator Plants

When a mobile unit is required, the trailer and the generator shall be designed to be one unit. It is the manufacture's responsibility to ensure that the trailer is roadworthy prior to installation of the generator set. of anti-temper fixator solution.

2.2.3 Fuel Tanks

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- Built-in Fuel Tank:

A minimum capacity of not less than 12 hours full running time built in fuel tank shall be provided. Design shall be capable of preventing accidental spilling of fuel and hand pump feeding on emergencies shall be possible.

- External/bulk Fuel tank:

The external/bulk fuel tank capacity shall be provided as per appendix A. Provide pre-engineered aboveground or underground atmospheric tank system complete with tank, piping, secondary containment, gauges, and other accessories specified herein as a complete assembled system.

- Tank construction:

The above-ground tank construction shall conform to BS-EN 12285-2 standard and the underground tank construction shall conform to SANS 1535 standard. Fuel tank to have, lowest point drain facility for water and sludge, fuel level gauge direct mounted or remote electric, filler pipe and locking cap. Tank shall carry at least a ten (10) years warranty including materials and workmanship.

- Test:

The tank shall withstand an internal air pressure test of 35 kPa, and test certificate shall be submitted to Transnet Rail Infrastructure Manager.

2.2.4 Fuel Distribution Pipe and Pipe Fittings

The design criteria shall conform to the minimum requirements of SANS 10089-3 or equivalent international standard.

2.2.5 Fuel Pumps

Automation feed pumping system with fuel level feedback to control system.

2.2.6 Drawings

The contractor should submit design drawings for the tank and fuel pipe distribution, location of fittings and accessories with specific dimensions, for approval by Transnet Freight Rail prior to product fabrication.

2.2.7 Concrete foundation / pad drawings

Detailed drawings of the concrete/pad foundations required for mounting/installation of all equipment including generator shall be provided with all necessary details to Transnet Freight Rail for approval.

2.2.8 Outdoor weather protective sound attenuating enclosure

The generator set shall be provided with sound attenuated housing which allows the generator set to operate at full rated load in the ambient conditions. The enclosure shall reduce the sound level of the generator set while operating at full rated load to below 95 dB at 1 meter from the generator

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set. Housing configuration and material used shall be oil and water resistant. No foam materials shall be used. The enclosure shall include hinged doors for access to both sides of the engine and alternator, and the control equipment. A panel viewing window shall be provided. Key locking door latches shall be provided for all doors. Door hinges shall be stainless steel.

The enclosure shall be provided with an exhaust silencer, which is mounted outside of the enclosure, and allows the generator set package to meet specified sound level requirements. Silencer and exhaust shall include a rain cap and rain shield.

If indicated on the schedule of requirements, further sound reducing measures must be taken to reduce the sound level at full load.

2.2.9 OTHER REQUIREMENTS

Generator set shall have Forklift Pockets within Base Frame (up to 350 kW).

Earthing studs need to be provided.

The diesel generator protection shall trip under following conditions.

- Low Oil Pressure
- High Engine Temperature / high coolant temperature
- Low Fuel Level
- Fail to start/crank
- Sensor fail
- Over/Under Speed
- Battery/Battery Charge Fail

2.2.10 TESTING AND INSPECTIONS

Transnet reserves the right to be present at all tests and inspections as called for in this clause.

The complete diesel generator unit shall be subjected to routing tests as per the standards specified, at the manufacturer's premises to verify that its performance is in accordance with the specifications. The supplier shall submit full details of the methods of testing including connection diagrams for approval. The responsibility of arranging the tests called for in this clause rests with the successful tenderer. A Transnet Rail Infrastructure Manager, Technology Management (Electrical Technology) representative may request any additional test deemed necessary to ensure compliance.

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3.1.1 The *Contractor* carries out the investigations on site as specified on the contract or as requested by the *Employer*.

3.2 Civil Engineering and Structural Works

3.2.1 All Civil engineering and structural works will be dealt with in accordance with Transnet's specification E7/1.

4 List of SPECIFICATIONS AND DRAWINGS**4.1 Specifications and Drawings issued by the *Employer***

The list of specifications and drawings issued by the *Employer* at or before the Contract Date, which apply to this contract is given below. The *Contractor* shall comply fully with all issued specifications and drawings.

4.1.1 BBH 2723 Version 3.

4.1.2 Change-over switch KM Version 1

5 Supervision

The service provider shall first submit the project programme to Transnet to be reviewed for approval prior the execution. The work shall be implemented in the presence of Transnet representative with site access certificate.

6 Reporting

The reporting of the service provider shall include the following but not limited:

- a) Develop project plan with the cash flow projection
- b) Attend the progress meeting
- c) Submit the project programme
- d) Produce the progress reports
- e) All construction work to be approved by Transnet representative.

SECTION 2

7 Management and start up

7.1 Management meetings

- 7.1.1** The *Contractor* will be expected to attend meetings relating to operations, contract management and other issues that may arise from time to time on monthly basis or any other prescribed terms. As far as is practicable, the *Contractor* will make all required persons available for these meetings.
- 7.1.2** The *Contractor* shall not submit claims for payment for staff attending any of these meetings. There will be minutes kept for this meeting for record purposes.
- 7.1.3** Risk reduction meetings: These meetings can form part of the regular/progress site meetings or be held as separate meetings. At these meetings the following issues will be discussed:
- (i) Compensation events
 - (ii) Early warnings
 - (iii) Contractual claims
 - (iv) Risk register
- 7.1.4** The *Contractor* shall attend ad hoc site meetings when convened by the Transnet Rail Infrastructure Manager *Contract Supervisor*. Such meetings will be for the purpose of discussing specific issues or problems relating to specifications and adherence thereto, quality and contractual matters.
- 7.1.5** *Contractor's* representatives at these meetings shall have the necessary delegated authority in respect of aspects such as planning, change management, health and safety.

7.2 Documentation Control

- 7.2.1** All contractual communications will be in the form of properly compiled letters or forms attached to e-mails and not as a message in the email itself.
- 7.2.2** The *Contractor* will submit inspection reports after each service in report format agreed between the *Service Manager* and the *Contractor*.

7.3 Safety risk management

- 7.3.1** The safety management plan (SMP) will be site specific and will be dealt with in accordance with Transnet's specification E4E.
- 7.3.2** The *Contractor* ensures that its Subcontractors comply with the requirements of the SMP.

7.4 Environmental constraints and management

- 7.4.1** Environmental constraints and management shall be dealt with in accordance with Transnet specifications E7/1 and E4E.

7.5 Quality assurance requirements

- 7.5.1** The *Contractor's* Quality Management System shall conform to International Standard ISO 9001 (or an equivalent standard acceptable to the *Service Manager*).
- 7.5.2** The *Contractor* submits his Quality Management System documents to the *Service Manager* as part of his programme to include details of:
- Quality Plan for the contract.



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- Quality Policy
- Index of Procedures to be used; and
- A schedule of internal and external audits during the contract

7.5.3 The *Contractor* develops and maintains a comprehensive register of documents that will be generated throughout the contract including all quality related documents as part of its Quality Plan.

7.6 Training workshops and technology transfer

7.6.1 The *Contractor* shall provide Training to Transnet staff on any new equipment installed as specified on the contract specification.

7.6.2 Technology transfer from the *Contractor* to the *Employer* will be as required per contract specification.

7.7 People

7.7.1 Minimum requirements of people employed on the Affected Property will be work and site specific and will be determined by the duration of the service

7.7.2 The CONTRACTOR's LIABILITY is given as follows:

- a) The *Contractor* warrants that it will be liable to Transnet for any loss or damage caused by strikes, riots, lockouts or any labour disputes by and/or confined to the *Contractor's* employees, which loss will include any indirect or consequential damages.
- b) The *Contractor* warrants that no negotiations or feedback meetings by the *Contractor's* employees shall take place on Transnet premises, whether owned or rented by Transnet.
- c) The *Contractor* shall give notice to Transnet of any industrial action by the *Contractor's* employees immediately upon becoming aware of any actual or contemplated action that is or may be carried out on Transnet's premises, whether owned or rented, and shall notify Transnet of all matters associated with such action that may potentially affect Transnet.
- d) The *Contractor* is responsible for educating its employees on relevant provisions of the Labour Relations Act which deal with industrial action processes, and the risks of non-compliance.
- e) The *Contractor* is required to develop a Contingency Strike Handling Plan, which plan the *Contractor* is obliged to update on a three-monthly basis. The *Contractor* must provide Transnet with this plan and all updates to the Plan. The *Contractor* is responsible to communicate with its employees on site details of the plan.

7.7.3 INDUSTRIAL ACTION BY CONTRACTOR EMPLOYEES

- a) In the event of any industrial action by the *Contractor's* employees, the *Contractor* is required to provide competent contingency resources permitted in law to carry out any of the duties that are or could potentially be interrupted by industrial action in delivering the Service. The *Contractor* warrants that it will compensate Transnet for any costs Transnet incurs in providing additional security to deal with any industrial action by the *Contractor's* employees.
- b) In the event of any industrial action by the *Contractor's* employees, the *Contractor* is obliged:
 - i) To prepare and deliver to Transnet, within two (2) hours of the commencement of industrial action an Industrial Action Report. If the industrial action persists the *Contractor* is required to deliver the report at 8h30 each day.
- c) The Industrial Action Report must provide at least the following information:
 - i) Industrial incident report,

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- ii) Attendance register,
 - iii) Productivity / progress to schedule reports,
 - iv) Operational contingency plan,
 - v) Site security report,
 - vi) Industrial action intelligence gathered.
- d) The final Industrial Action Report is to be delivered 24 hours after finalisation of the industrial action.
- e) The management of the *Contractor* is required to hold a daily industrial action teleconference with personnel identified by Transnet to discuss the industrial action, settlement of the industrial action, security issues and the impact on delivery under the contract.
- f) The resolution of any disputes or industrial action by the *Contractor's* employees is the sole responsibility of the *Contractor*.
- g) Access to Transnet premises by the *Contractor* and its employees is only provided for purposes of the *Contractor* delivering its services to Transnet. Should the *Contractor* and its employees not, for any reason, be capable of delivering its services Transnet is entitled to restrict or deny access onto its premises and unless otherwise authorized; such person will be deemed to be trespassing.

7.8 Plant and Material

- 7.8.1** *Employer* provides no Plant and materials for the *Contractor* to use.
- 7.8.2** Procurement and use of Plant and material shall be sole responsibility of the *Contractor*.
- 7.8.3** Procurement shall be as specified on the contract.
- 7.8.4** Plant and material handling, shall be accordance with Transnet specification E4E and E7/1.

7.9 Tests and inspections before delivery

- 7.9.1** Tests and inspections will be site and work specific and will be dealt with in accordance with Transnet specification BBH 2723 v3.