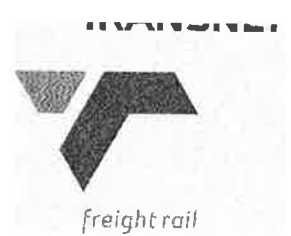


RFQ / TENDER

Tender No: BH01/2013



Vendor No: 11001386

BOARD LIST
BOARD LIST
TRANSNET FREIGHT RAIL
PROCUREMENT DEPARTMENT
2000

Purchaser : Buyisiwe Hlatshway
Telephone : 011 584 0665
Fax Number:

Please quote reference:
DJ2/6000585953

Deliver to:
TFR Head Office
Supply Chain Services
2000 Johannesburg

Closing Date : 29.01.2013
Validity Date : 30.04.2013
RFQ No : 6000585953

Currency: ZAR

RFQ/TENDER: BH 01/2013

SUPPLY AND DELIVERY OF SIGNALS EQUIPMENT TO TRANSNET FREIGHT RAIL'S
ELANDSFONTEIN DEPOT

TENDERS ARE HEREBY INVITED TO QUOTE AND SUBMIT QUOTATION/S AT
INYANDA HOUSE 1, 21 WELLINGTON ROAD, PARKTOWN-JOHANNESBURG, NOT
LATER THAN TUESDAY 29 JANUARY 2013 AT 10:00 AM, N.B. TENDER BOX IS
OPEN FOR 24 HOURS PER WEEK FOR DELIVERING YOUR QUOTATION/S.
NB: PLEASE QUOTE AS PER ATTACHMENT SPECIFICATIONS.

1. RETURN OF QUOTATION/S PLEASE FAX: 011 774 9129 OR 774 9186 OR

E-MAIL TO: thuli.mathebula@transnet.net

1.1 QUOTATION/S MUST BE SUBMITTED PUNCTUALLY AT 10:00 ON THE CLOSING DATE AND LATE QUOTATIONS WILL
NOT BE CONSIDERED.

1.2 IF DELIVERED BY HAND:

TRANSNET FREIGHT RAIL, SUPPLY CHAIN SERVICES
GROUND FLOOR
INYANDA HOUSE 1

21 WELLINGTON ROAD
PARKTOWN
2193

2. CONDITIONS:

2.2 ANY PURCHASE ORDER PLACED AS A RESULT OF YOUR QUOTATION WILL BE SUBJECT TO THE STANDARD TERMS
AND

CONDITIONS OF CONTRACT, FORM US7(LATEST), GENERAL TENDER CONDITIONS, FORM CSS5 (LATEST) AND
CONDITIONS MENTIONED HEREIN.

DATE:

SIGNATURE OF TENDERER(S):

CONTACT PERSON: TEL No:

RFQ / TENDER

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Date : 18.01.2013 2

BOARD LIST TRANSNET FREIGHT RAIL PROCUREMENT DEPARTMENT

2.3 TENDERERS MAY OFFER AN EARLIER VALIDITY DATE, BUT THEIR QUOTATION MAY, IN THAT EVENT, BE DISREGARDED FOR THIS REASON.

2.4 TENDERERS ARE REQUIRED TO OFFER ONLY FIRM PRICES. PRICES SUBJECT TO REVIEW IN TERMS OF CLAUSE 32 OF FORM US7 WILL ONLY BE CONSIDERED SHOULD THE DELIVERY PERIOD REQUIRED EXCEED 6 MONTHS.

2.5 BEST DELIVERY TIME MUST BE OFFERED.

2.6 DISCOUNT (TRADE DISCOUNT), VALUE ADDED TAX (VAT) MUCH BE SHOWN SEPARATELY.

2.7 TRANSNET RESERVES THE RIGHT TO NEGOTIATE PRICES AND COMMERCIAL ASPECTS AFTER THE CLOSING DATE OF THE QUOTATION.

2.8 DIRECT DELIVERY INTIMATES DELIVERY BEING EFFECTED INTO THE WAREHOUSE OR THE ACTUAL POINT OF SUPPLY AND SHOULD THEREFORE INCLUDE ANY TRANSPORTATION MODE DEEMED NECESSARY IN EXECUTING THIS METHOD OF DELIVERY BASIS IN ORDER TO MEET THE REQUIRED DELIVERY DATE. TAX CLEARANCE CERTIFICATES: The Regulations in

terms of the Public Finance Management Act, 1999: Framework for Supply Chain Management as published in Government Gazette No. 25767 dated 5 December 2003, Clause 9 (1) (d), stipulates that the accounting authority of an institution to which these regulations apply must reject any bid from a supplier who fails to provide written proof from the South African Revenue that the supplier either has no outstanding tax obligations or has made arrangements to meet outstanding tax obligations.

Tenderers will be disqualified if a valid tax clearance certificate or written proof from the South African Revenue Service that supplier has made arrangements to meet outstanding tax obligations is not submitted with the tender. COMPANY DETAILS:

NAME OF COMPANY: _____ CONTACT PERSON: _____ TEL. _____

No. _____ FAX No. _____ REG. No. _____ BROAD BASE BLACK

ECONOMIC EMPOWERMENT (BBBEE) Transnet fully endorses and supports the Government's Broad-based Black Economic Empowerment Programme and it is strongly of the opinion that all South African Business Enterprises have an equal obligation to redress the past. Transnet will therefore prefer to do business with local business enterprises who share these same values.

Transnet will endeavour to do business enterprises that possess a BBBEE "recognition level" of at least a level 5. Transnet urges Tenderers (large enterprises and QSE's- see below) to have themselves accredited by any one of the various Accreditation Agencies available, who do their BBBEE ratings in accordance with the latest Codes (i.e. those promulgated on 9 February 2007) and whose names appear on the present ABVA (Association of BEE Verification Agencies)-"List of Full Members" as displayed on the ABVA website (www.abva.co.za) Although no agencies have, as yet, been accredited by SANAS (SA National Accreditation System), Transnet will, in the interim, accept rating certificates of tenderers who have been verified by any of the listed agencies. Enterprises will be rated by such agency based on the Following: 1. Large Enterprises (i.e. annual turnover > R 35 million: "Rating level base on all seven elements of the BBBEE scorecard. 2. Qualifying Small Enterprises-(QSE)(i.e. annual turnover > R5M but < R35m "Rating based on any four elements of the BBBEE scorecard. NB:

3. Emerging Micro Enterprises-(EME) (i.e. annual turnover < R5m) are exempted from being rated/verified: "Automatic rating of Level 4 BBBEE irrespective of race of ownership, i.e. 100% BBBEE recognition

"Black ownership > 50% or Black Women ownership > 30% automatically

qualifies as level 3 BBBEE, i.e. 110% BBBEE recognition.

"EME's should provide certified documentary proof of annual turnover

(i.e. audited financials) plus proof of Black ownership if Black

ownership > 50% or Black Women ownership > 30% from the EME's Auditor/

Accounting Officer.

4. In addition to the above, Tenderers who wish to enter into a Joint

Venture or subcontract portions of the contract to BBBEE companies,

must state in their tenders the percentage of the total contract value

that will be allocated to such BBBEE companies should they be successful

in being awarded any business. A rating certificate in respect of such

BBBEE JV-partners and /or sub-contractor/s, as well as a breakdown of

the distribution of the aforementioned percentage must also be furnished

DATE:

SIGNATURE OF TENDERER(S):

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BOARD LIST TRANSNET FREIGHT RAIL PROCUREMENT DEPARTMENT

In view of the high emphasis which Transnet places on Broad-based Black Economic Empowerment, Transnet will allow certain preference points for BBBEE in the evaluation of all responses. Depending upon the value of the ensuing business award (i.e. below or in excess of R2m), the 80/20 or 90/10 point preference systems will be utilized where BBBEE will count out of 20 or 10 respectively in the evaluation process.

EACH RESPONDENT IS REQUIRED TO FURNISH PROOF OF THE ABOVE TO TRANSNET
FAILURE TO DO SO WILL RESULT IN A SCORE OF ZERO BEING ALLOCATED FOR BBBE
Turnover: Kindly indicate your company's annual turnover for the past year R _____

"If annual turnover < R5m, please attach certified confirmation from your Auditor/Accounting Officer

"If annual turnover > R5m please attach original or certified copy of accreditation certificate and detailed scorecard by an ABVA accreditation agency (registered as a "Full Member")

PAYMENT TERMS

The following payment terms will apply as from 1 October 2008.
"All suppliers will be paid 30 days from receipt of month and statement.
i.e. payment term F055

CONDITIONS:

This quotation is subject to the provisions of the Standard Terms and Conditions of Contract, Form US7, (Latest) and the General Tender Conditions, Form CSS5 (Latest) and any other standard or special conditions mentioned and/or embodied in the quotation request.

SCHEDULE OF REQUIREMENTS

TENDERERS SHOULD INSERT THEIR PRICE/S UNDER THE APPROPRIATE HEADING HEREUNDER;

IN THIS REGARD THE TENDERER'S ATTENTION IS DIRECTED TO PARAGRAPH 16 OF FORM CSS5 (LATEST).

NB. TENDERERS OFFERING GOODS FROM IMPORTED SUPPLIES MUST SUBMIT THEIR PRICES ON THE DELIVERY BASIS APPEARING UNDER COLUMN (C) OF THIS SCHEDULE OF REQUIREMENTS.

TRANSNET INSISTS ON HONESTY AND INTEGRITY BEYOND REPROACH AT ALL TIMES AND WILL NOT TOLERATE ANY FORM OF IMPROPER INFLUENCING, BRIBERY, CORRUPTION, FRAUD, OR ANY OTHER UNETHICAL CONDUCT ON THE PART OF BIDDERS /TRANSNET EMPLOYEES. IF, IN THE OPION OF TRANSNET,S CHIEF OPERATING OFFICER, A TENDERER/CONTRACTOR/SUPPLIER HAS OR CAUSED TO BE PROMISED, OFFER OR GIVEN TO ANY TRANSNET EMPLOYEE, ANY BRIBE, COMMISSION, GIFT LOAN ADVANTAGE OR OTHER CONSIDERATION,TRANSNET SHALL BE ENTITLED TO

DATE:

SIGNATURE OF TENDERER(S):

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BOARD LIST
TRANSNET FREIGHT RAIL
PROCUREMENT DEPARTMENT

REVOKE THE TENDER/CONTRACT BY FOLLOWING ITS INTERNAL POLICIES THAT GOVERN THE ECLUSION PROCESS.IN SUCH AN EVENT TRANSNET WILL BE ENTITLED TO PLACE ANY TENDERER/CONTRACTOR/SUPPLIER WHO HAS CONTRAVENED THE PROVISIONS OF TRANSNET'S BUSINESS ETHICS ON ITS LIST OF EXCLUDED TENDERERS.THIS LIST WILL ALSO BE DISTRIBUTED TO ALL OTHER STATE OWNED ENTERPRISES AND GOVERNMENT DEPARTMENTS.

TRANSNET INVITES ITS VALUED SUPPLIERS TO REPORT ANY ALLEGATIONS OF FRAUD, CORRUPTION OR OTHER UNETHICAL ACTIVITIES TO TRANSNET TIP-OFFS ANONYMOUS, AT ANY OF THE FOLLOWING ADDRESSES/ CONTACT NUMBERS:

TOLL-FREE ANONYMOUS HOTLINE-0800 003 056
EMAIL-transnet@tip-offs.com
FAX NUMBER-0800 007 788
FREEPOST DBN 298, UMHLANGA ROCKS, 4320

ADDITIONAL INFORMATION REQUIRED:(WHERE APPLICABLE)
3.1 THE FOLLOWING ADDITIONAL INFORMATION IS REQUIRED:

- (A) DISCOUNT:-----
- (B) SETTLEMENT DISCOUNT:-----
- (C) PRICE/S FIRM:-----
- (D) PRICE/S FIRM UNTIL:-----THEREAFTER SUBJECT TO REVIEW.
- (E) PRICE/S NOT FIRM:-----
- (F) SABS MARK:-----
- (G) SABS PERMIT NO:-----
- (H) BRAND/MAKE/TYPE:-----
- (I) FULL NAME AND ADDRESS OF MANUFACTURER:-----

(J) FULL NAME AND ADDRESS OF INSPECTION POINT:

(K) COUNTRY OF ORIGIN:-----

(L) YEAR 2000 CONTRACT COMPLIANCE:

Vendor/proposers shall indicate their year 2000 compliance with:

- A. Technology Products.
- B. Equipment, products, components or parts
- C. Products and Services

Non-compliance with either (A) or (B) shall result in your bid/ proposal being deemed non-responsive. Non-Compliance with (C) may cause you bid/proposal to be deemed non-responsive. If you indicate that none of the following apply, please provide a written justification for your determination. Transnet will review this justification and will make a final determination.

DATE:

SIGNATURE OF TENDERER(S):

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BOARD LIST TRANSNET FREIGHT RAIL PROCUREMENT DEPARTMENT

Year 2000 Compliance means that (A) the information Technology,
(B) Equipment/Products/Components/Parts (Collectively Products)
supplied.

(C) Products and Services contracted, will accurately process date and
time data from into and between the 20th and 21th centuries. The year
1999 and 2000 and for all leap year. Process date and time includes, but
is not limited to, data calculation, logistical functions, program
branching, format conversion, edits and validations and the use of dates
in comparasons, sorting sequencing, merging, retrieving, searching and
indexing. Furthermore year 2000 compliance when (A) used in combination
with other information technology, (B) used in combination with other
products, (C) used in combination with their(Vendor) other date required
interfaces, shall accurately process date and time data (A) if the other
technology, (B) If the other products, (C) either passed to or received
from their other customers/suppliers, properly exchange date and time
data with it/ them.

Comply: _____ Does not Comply: _____ Not Comply: _____

Justification:-----

(M) SURPLUS MATERIAL:

TENDERERS MUST INDICATE IF THEY WILL BE PREPARED TO PURCHASE BACK FROM
TRANSNET ANY SURPLUS MATERIAL WHICH MAY BECOME AVAILABLE FROM ANY
RESULTING PURCHASE ORDER/CONTRACT ORIGINATED FROM THE QUOTATION
SUBMITTED:

(N) PAYMENT OVERSEAS:

ONLY IF TRANSNET LIMITED IS REQUESTED BY THE TENDERER TO EFFECT PAYMENT
OVERSEAS DIRECT TO THE TENDERER'S PRINCIPAL/SUPPLIER THE FOLLOWING
INFORMATION IS REQUIRED:

* EXCHANGE RATE ON WHICH THE QUOTATION PRICE IS BASED:R 1.00 SA CURRENCY
BEING EQUAL TO-----(FOREING CURRENCY).

* PERCENTAGE IN RELATION TO THE QUOTATION PRICE TO BE REMITTED OVERSEAS:

* NAME OF COUNTRY TO WHICH PAYMENT IS TO BE MADE:

* APPLICABLE DATE OF EXCHANGE RATE:

* BENEFICIARY'S NAME AND FULL ADDRESS:

* BENEFICIARY'S BANKERS AND FULL ADDRESS:

DATE:

SIGNATURE OF TENDERER(S):

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BOARD LIST
TRANSNET FREIGHT RAIL
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* APPLICABLE ACCOUNT NUMBER:

(O) DELIVERY DATE:

TENDERERS MUST FURNISH THEIR ACTUAL DELIVERY AND MANUFACTURING PERIOD
HEREUNDER NOTWITHSTANDING THE DELIVERY DATES SPECIFIED BY TRANSNET.

THE FOLLOWING MUST ALSO BE FURNISHED IN REGARD TO THE ABOVE:

1. PERIOD REQUIRED TO OBTAIN RAW MATERIAL.------(DAYS)
2. MANUFACTURING PERIOD.------(DAYS)
3. PERIOD TO TRANSPORT MATERIAL TO DESTINATION.-(DAY)

| MATERIAL NO. | 1.(PERIOD) | 2. (PERIOD) | 3. (PERIOD) |
|--------------|------------|-------------|-------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Item | Qty | Material | Description |
|------------------------------------|-----|-----------------------|----------------|
| 00010 | 3 | CABLE FAULT LOCATOR | R..... Each |
| Delivery Date: 29.03.2013 | | | |
| FULL DETAILS OF DESCRIPTION | | | |
| 00020 | 1 | 3KVA PETROL GENERATOR | R..... Each |
| Delivery Date: 29.03.2013 | | | |
| FULL DETAILS OF DESCRIPTION | | | |
| 00030 | 1 | 6KVA PETROL GENERATOR | R..... Each |
| Delivery Date: 29.03.2013 | | | |
| FULL DETAILS OF DESCRIPTION | | | |
| 00040 | 3 | FREQUENCY GENERATOR | R..... Each |
| Delivery Date: 29.03.2013 | | | |

DATE:

SIGNATURE OF TENDERER(S):

.....

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| Item | Qty | Material | Description |
|------|-----|----------|-------------|
|------|-----|----------|-------------|

FULL DETAILS OF DESCRIPTION

00050 7 ANALOGUE INSULATION TESTER

R.....
Each

Delivery Date: 29.03.2013

FULL DETAILS OF DESCRIPTION

00060 2 BATTERY WATER DEIONISER

R.....
Each

Delivery Date: 29.03.2013

FULL DETAILS OF DESCRIPTION

“PREVIEW COPY ONLY”

DATE:

SIGNATURE OF TENDERER(S):



TRANSNET
freight rail

A Division of Transnet Limited

**RAIL NETWORK
INFRASTRUCTURE TECHNICAL
TRAIN AUTHORISATION SYSTEMS**

PURCHASE SPECIFICATION

CABLE FAULT LOCATOR

Author: Chief Engineering
Technician
Infrastructure Technical
(Train Authorisation
Systems)

P. Doorewaard

Date: 11 January 2012

Circulation Restricted To:

Transnet Freight Rail
Transnet and Relevant Third Parties

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1. SCOPE

1.1 Identification.

Cable fault locator.

1.2 Item overview.

The Cable fault locator is required to locate faults on copper cables ranging from 2 core to 61 core and 0.9mm² to 35mm².

1.3 Document overview.

The Cable fault locator used within Transnet Freight Rail (Train Authorisation Systems) should comply with the characteristics set out in this document. This document may therefore be used for item purchasing and approval.

2. REQUIREMENTS

The requirements as set out below must be complied with. It is required that a statement be issued stating compliance as well as the actual guaranteed technical data of the equipment offered per clause/function.

Offers which include deviations of a minor nature from the terms of this specification will be considered at the discretion of Transnet Freight Rail (Train Authorisation systems)

2.1 Technical

2.1.1 The Cable fault locator shall be protected against overvoltage on the input circuits and power voltage variation including transients.

2.1.2 The following minimum features are required.

2.1.2.1 Minimum Range requirements– 0.5m-50m, 100m, 200m, 400m, 1km, 2km, 4km.

2.1.2.2 High resolution colour display to provide trace separation in dual trace mode.

2.1.2.3 Internal trace memory for storage and recall of test results.

2.1.2.4 PC software to provide up and download facilities between a PC and the Cable fault locator.

2.1.2.5 The power source shall be 230VAC with charger and rechargeable batteries.

2.1.2.6 The unit shall be portable.

2.2 Operating conditions.

2.2.1 Ambient temperature -10 deg. C to 55deg. C

2.2.2 Altitude 2000m

2.2.3 Relative humidity 10% to 90% including condensation

2.2.4 Vibration and shock MIL-PRF-28800 for class 2 instrument

2.2.5 EMC compatibility EN 61326-1

2.2.6 Drip and dust proof IP51 (IEC529)

2.2.7 LCD display must not be affected by light rain and damp conditions.

2.3 Safety.

2.3.1 IEC/EN 61010-1 2nd edition

2.4 Accessories.

The following items must be supplied with the instrument:

2.4.1 Test lead set.

2.4.2 Alligator clips for use with test lead set.

2.4.3 Safety grip, wide jaw alligator clips.

2.4.4 Carry case.

2.4.5 Software and cable.

2.5 **Documentation**

- 2.5.1 Detailed users manual.
- 2.5.2 Calibration certificate from accredited SANAS laboratory.
- 2.5.3 Guarantee certificate.

2.6 **Technical support**

- 2.6.1 Tenderers shall state the extent and location of technical support services country wide.
- 2.6.2 Full training at the tenderers premises or on site as required.

2.7 **Quality and acceptance testing**

- 2.7.1 Transnet Freight Rail reserves the right to verify the information as supplied by the tenderer. This will be done by means of actual testing of the instrument at a Transnet Freight Rail laboratory or/and site. The instrument may be tested at the tenderers premises if the test facilities can accommodate the tests required.

2.8 **Packaging and delivery**

- 2.8.1 The instrument shall be packed in a container that will prevent damage during transport.
- 2.8.2 The instrument shall be delivered to the location as set out in the contract documents.

END OF SPECIFICATION

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**RAIL NETWORK
INFRASTRUCTURE TECHNICAL
TRAIN AUTHORISATION SYSTEMS**

PURCHASE SPECIFICATION

3kVA PETROL GENERATOR (SINGLE PHASE)

Author: Chief Engineering
Technician
Infrastructure Technical
(Train Authorisation
Systems) P. Doorewaard

Date: 11 January 2012

Circulation Restricted To:

Transnet Freight Rail
Transnet and Relevant Third Parties

1. SCOPE

1.1 Identification.

3kVA petrol generator.

1.2 Item overview.

The generator is required to perform as a power supply for power tools in case of absence of power.

1.3 Document overview.

The generator used within Transnet Freight Rail (Train Authorisation Systems) shall comply with the characteristics set out in this document. This document may therefore be used for item purchasing and approval.

2. REQUIREMENTS

The requirements as set out below must be complied with. It is required that a statement be issued stating compliance as well as the actual guaranteed technical data of the equipment offered per clause/function.

Offers which include deviations of a minor nature from the terms of this specification will be considered at the discretion of Transnet Freight Rail (Train Authorisation systems)

2.1 Technical

| | | |
|--------|--------------------------------------|-----------------|
| 2.1.1 | Rated frequency: | 50 |
| 2.1.2 | Rated voltage: | 230 AC |
| 2.1.3 | Rated current: | 10 |
| 2.1.4 | Battery charging facility: | 12VDC 8A |
| 2.1.5 | AC 230V outlet: | x2 |
| 2.1.6 | Starting system: | 12V Electric |
| 2.1.7 | Fuel type: | Unleaded petrol |
| 2.1.8 | Continuous running time @ Full load: | 5Hrs |
| 2.1.9 | Certification: | SABS/ISO9000 |
| 2.1.10 | Noise level: | 70dBA @ 10m |
| 2.1.11 | Low pressure alert system | |
| 2.1.12 | Low fuel cut out protection | |
| 2.1.13 | Overload alarm | |

2.2 Operating conditions.

| | | |
|-------|---------------------|-----------------------------------|
| 2.2.1 | Ambient temperature | -10 deg. C to 55deg. C |
| 2.2.2 | Altitude | 2000m |
| 2.2.3 | Relative humidity | 10% to 90% including condensation |

2.3 Documentation

- 2.3.1 Users manual.
- 2.3.2 Guarantee certificate.

2.4 Technical support

- 2.4.1 Tenderers shall state the extent and location of technical support services country wide.

2.5 Quality and acceptance testing

- 2.5.1 Transnet Freight Rail reserves the right to verify the information as supplied by the tenderer. This will be done by means of actual testing of the generator at a Transnet Freight Rail laboratory or/and site. The generator may be tested at the tenderers premises if the test facilities can accommodate the tests required. Sample generators shall be available for testing if required.

2.6 **Packaging and delivery**

- 2.6.1 The generator shall be packed in a container that will prevent damage during transport.
2.6.2 The generator shall be delivered to the location as set out in the contract documents.

END OF SPECIFICATION

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**RAIL NETWORK
INFRASTRUCTURE TECHNICAL
TRAIN AUTHORISATION SYSTEMS**

PURCHASE SPECIFICATION

6kVA PETROL GENERATOR (SINGLE PHASE)

Author: Chief Engineering
Technician
Infrastructure Technical
(Train Authorisation
Systems)

P. Doorewaard

Date: 11 January 2012

Circulation Restricted To:

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Transnet and Relevant Third Parties

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1. SCOPE

1.1 Identification.

6kVA petrol generator.

1.2 Item overview.

The generator is required to perform as a power supply for power tools in case of absence of power.

1.3 Document overview.

The generator used within Transnet Freight Rail (Train Authorisation Systems) shall comply with the characteristics set out in this document. This document may therefore be used for item purchasing and approval.

2. REQUIREMENTS

The requirements as set out below must be complied with. It is required that a statement be issued stating compliance as well as the actual guaranteed technical data of the equipment offered per clause/function.

Offers which include deviations of a minor nature from the terms of this specification will be considered at the discretion of Transnet Freight Rail (Train Authorisation systems).

2.1 Technical

| | | |
|--------|--------------------------------------|-----------------|
| 2.1.1 | Rated frequency: | 50 |
| 2.1.2 | Rated voltage: | 230 AC |
| 2.1.3 | Rated current: | 24 |
| 2.1.4 | Battery charging facility: | 12VDC 8A |
| 2.1.5 | AC 230V outlet: | x2 |
| 2.1.6 | Starting system: | 12V Electric |
| 2.1.7 | Fuel type: | Unleaded petrol |
| 2.1.8 | Continuous running time @ Full load: | 7Hrs |
| 2.1.9 | Certification: | SABS/ISO9000 |
| 2.1.10 | Noise level: | 70dBA @ 10m |
| 2.1.11 | Low pressure alert system | |
| 2.1.12 | Low fuel cut out protection | |
| 2.1.13 | Overload alarm | |
| 2.1.14 | Portable with wheels | |

2.2 Operating conditions.

| | | |
|-------|---------------------|-----------------------------------|
| 2.2.1 | Ambient temperature | -10 deg. C to 55deg. C |
| 2.2.2 | Altitude | 2000m |
| 2.2.3 | Relative humidity | 10% to 90% including condensation |

2.3 Documentation

- 2.3.1 Users manual.
- 2.3.2 Guarantee certificate.

2.4 Technical support

- 2.4.1 Tenderers shall state the extent and location of technical support services country wide.

2.5 **Quality and acceptance testing**

2.5.1 Transnet Freight Rail reserves the right to verify the information as supplied by the tenderer. This will be done by means of actual testing of the generator at a Transnet Freight Rail laboratory or/and site. The generator may be tested at the tenderers premises if the test facilities can accommodate the tests required. Sample generators shall be available for testing if required.

2.6 **Packaging and delivery**

2.6.1 The generator shall be packed in a container that will prevent damage during transport.

2.6.2 The generator shall be delivered to the location as set out in the contract documents.

END OF SPECIFICATION

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TRANSNET

freight rail

A Division of Transnet Limited

**RAIL NETWORK
INFRASTRUCTURE TECHNICAL
TRAIN AUTHORISATION SYSTEMS**

PURCHASE SPECIFICATION

FREQUENCY GENERATOR

Author: Chief Engineering
Technician
Infrastructure Technical
(Train Authorisation
Systems)

P. Doorewaard

Date: 11 January 2012

Circulation Restricted To:

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Transnet and Relevant Third Parties

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1. **SCOPE**

1.1 **Identification.**

Frequency generator.

1.2 **Item overview.**

The Frequency generator is required to perform electronic circuit testing.

1.3 **Document overview.**

The Frequency generator used within Transnet Freight Rail (Train Authorisation Systems) shall comply with the characteristics set out in this document. This document may therefore be used for item purchasing and approval.

2. **REQUIREMENTS**

The requirements as set out below must be complied with. It is required that a statement be issued stating compliance as well as the actual guaranteed technical data of the equipment offered per clause/function.

Offers which include deviations of a minor nature from the terms of this specification will be considered at the discretion of Transnet Freight Rail (Train Authorisation systems)

2.1 **Technical**

2.1.1 Output function: Sine, Square, Triangle, TTL

2.1.2 Frequency range (Sine, Square) 0.1Hz ~ 10Mhz

2.1.3 Frequency range (Triangle) 0.1 ~ 1Mhz

2.1.4 Frequency resolution: 0.1Hz maximum

2.1.5 6 Digit LED display. (with voltage display)

2.1.5 The following information must be submitted by the tenderer:

Frequency stability
Frequency Accuracy
Amplitude range
Amplitude Accuracy
Impedance
Attenuator
DC offset
Rise or fall time
Sweep operation
Amplitude modulation
Frequency modulation
Frequency counter
Store/recall function

2.2 **Operating conditions.**

2.2.1 Ambient temperature -10 deg. C to 55deg. C

2.2.2 Altitude 2000m

2.2.3 Relative humidity 10% to 90% including condensation

2.2.4 Vibration and shock MIL-PRF-28800 for class 2 instrument

2.2.5 EMC compatibility EN 61326-1

2.3 **Safety.**

2.3.1 IEC61010

2.4 **Accessories.**

2.4.1 Test lead set

2.5 **Documentation**

2.5.1 Detailed users manual.

2.5.2 Calibration certificate from accredited SANAS laboratory.

2.5.3 Guarantee certificate.

2.6 **Technical support**

2.6.1 Tenderers shall state the extent and location of technical support services country wide.

2.7 **Quality and acceptance testing**

2.7.1 Transnet Freight Rail reserves the right to verify the information as supplied by the tenderer. This will be done by means of actual testing of the instrument at a Transnet Freight Rail laboratory or/and site. The instrument may be tested at the tenderers premises if the test facilities can accommodate the tests required. Sample instruments shall be available for testing if required.

2.8 **Packaging and delivery**

2.8.1 The instrument shall be packed in a container that will prevent damage during transport.

2.8.2 The instrument shall be delivered to the location as set out in the contract documents.

END OF SPECIFICATION

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TRANSNET
freight rail

A Division of Transnet Limited

**RAIL NETWORK
INFRASTRUCTURE TECHNICAL
TRAIN AUTHORISATION SYSTEMS**

PURCHASE SPECIFICATION

ANALOGUE INSULATION TESTER

Author: Chief Engineering
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Infrastructure Technical
(Train Authorisation
Systems)

P. Doorewaard

Date: 11 January 2012

Circulation Restricted To:

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1. SCOPE

1.1 Identification.

Analogue insulation tester.

1.2 Item overview.

The Insulation tester is required to perform tests on copper cables.

1.3 Document overview.

The Insulation tester used within Transnet Freight Rail (Train Authorisation Systems) shall comply with the characteristics set out in this document. This document may therefore be used for item purchasing and approval.

2. REQUIREMENTS

The requirements as set out below must be complied with. It is required that a statement be issued stating compliance as well as the actual guaranteed technical data of the equipment offered per clause/function.

Offers which include deviations of a minor nature from the terms of this specification will be considered at the discretion of Transnet Freight Rail (Train Authorisation systems)

2.1 Technical

2.1.1 Test range from 250V to 1000V.

2.1.2 Auto discharge after test.

2.1.3 Live circuit warning.

2.1.4 All measuring ranges shall be stated with percentage accuracy.

2.2 Operating conditions.

2.2.1 Ambient temperature -10 deg. C to 55deg. C

2.2.2 Altitude 2000m

2.2.3 Relative humidity 10% to 90% including condensation

2.2.4 Vibration and shock MIL-PRF-28800 for class 2 instrument

2.2.5 EMC compatibility EN 61326-1

2.2.6 Dust and drip proof IP54

2.3 Safety.

2.3.1 IEC61010-1 - Measurement category III, 300V, pollution degree 2

2.3.2 IEC61010-1 - Measurement category II, 600V, pollution degree 2

2.3.3 IEC61010-2-31 – Safety requirements for hand held probe assemblies

2.4 Accessories.

2.4.1 Test lead set

2.4.2 Carry case.

2.5 Documentation

2.5.1 Detailed users manual.

2.5.2 Calibration certificate from accredited SANAS laboratory.

2.5.3 Guarantee certificate.

2.6 Technical support

2.6.1 Tenderers shall state the extent and location of technical support services country wide.

2.7 **Quality and acceptance testing**

2.7.1 Transnet Freight Rail reserves the right to verify the information as supplied by the tenderer. This will be done by means of actual testing of the instrument at a Transnet Freight Rail laboratory or/and site. The instrument may be tested at the tenderers premises if the test facilities can accommodate the tests required. Sample instruments shall be available for testing if required.

2.8 **Packaging and delivery**

2.8.1 The instrument shall be packed in a container that will prevent damage during transport.

2.8.2 The instrument shall be delivered to the location as set out in the contract documents.

END OF SPECIFICATION

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**RAIL NETWORK
INFRASTRUCTURE TECHNICAL
TRAIN AUTHORISATION SYSTEMS**

PURCHASE SPECIFICATION

BATTERY WATER DEIONISER

Author: Chief Engineering
Technician
Infrastructure Technical
(Train Authorisation
Systems)

P. Doorewaard

Date: 11 January 2011

Circulation Restricted To:

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1. SCOPE

1.1 Identification.

Battery water deioniser.

1.2 Item overview.

The Battery water deioniser is required to provide deionised water for vented lead acid battery cells in Signal relay rooms.

1.3 Document overview.

The Battery water deioniser used within Transnet Freight Rail (Train Authorisation Systems) shall comply with the characteristics set out in this document. This document may therefore be used for item purchasing and approval.

2. REQUIREMENTS

The requirements as set out below must be complied with. It is required that a statement be issued stating compliance as well as the actual guaranteed technical data of the equipment offered per clause/function.

Offers which include deviations of a minor nature from the terms of this specification will be considered at the discretion of Transnet Freight Rail (Train Authorisation systems)

2.1 Technical

2.1.1 Deioniser 2, 5 Litre.

2.1.2 Recirculation unit with built in conductivity meter.

2.1.3 Storage drum with 220 Litre capacity fitted with auto shut off.

2.1.4 Inlet float valve.

2.1.5 Outlet valve.

2.1.6 Steel stand (Galvanised) for storage drum.

2.1.7 Conductivity meter specifications:

2.1.7.1 Range : 0-50µS/cc

2.1.7.2 Temp compensation : Automatic 10-45 deg. C

2.1.7.3 Response time : 2 minutes

2.1.7.4 Meter : 3.5 Digital LCD Display

2.1.7.5 Accuracy : 5% of full scale

2.1.7.6 Max. sample temperature : 60 deg. C

2.1.7.7 Resin : Amberlite MB20 resin.

2.2 Operating conditions.

2.2.1 Ambient temperature 10 - 40deg. C

2.2.2 Altitude 2000m

2.3 Safety.

2.3.1 IEC/SANS 60079-15:2001 – Electrical apparatus for explosive gas atmospheres, part 15: Type of protection “n”.

2.3.2 IEC/SANS 60079-0:2000 – Electrical apparatus for explosive gas atmospheres, part 0: General requirements.

2.4 Accessories.

2.4.1 Pipes and fittings for complete installation.

2.5 Documentation

2.5.1 Detailed users manual.

2.5.2 Guarantee certificate.

2.6 **Technical support**

2.6.1 Tenderers shall state the extent and location of technical support services country wide.

2.7 **Quality and acceptance testing**

2.7.1 Transnet Freight Rail reserves the right to verify the information as supplied by the tenderer. This will be done by means of actual testing of the instrument at a Transnet Freight Rail laboratory or/and site. The instrument may be tested at the tenderers premises if the test facilities can accommodate the tests required. Sample instruments shall be available for testing if required.

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