

TRANSNET FRAIGHT RAIL, a division of

TRANSNET SOC LTD

Registration Number 1990/000900/30 [thereinafter referred to as **Transnet**]

REQUEST FOR QUOTATION [RFQ] No: ERAC-W60-M162-22036

FOR THE PROVISION OF TESTING AND COMMISSION OF 3KV DC TRACTION AND 11KV DISTRIBUTION SUBSTATIONS ON ROUTINE AND AS AN WHEN REQUIRED BASIS, UNDER THE CONTROL DEPOT ENGINEER, WITBANK

BRIEFING SESSICO DATE: 01 SEPTEMBER 2016

TRANSNET

VENUE: ELECTRICAL MAINTENANCE BOARDROOM

28 PLEIN STREET MIDDLEBURG

TIME 10:00

FOR DIRECTIONS CONTACT PERSON: MPUMELELO PONYELA ON 083 401 8373

ISSUE DATE: 24 AUGUST 2016

CLOSING DATE: 08 SEPTEMBER 2016

CLOSING TIME: 10:00

VALIDITY DATE: 30 NOVEMBER 2016

Section 1 NOTICE TO BIDDERS

Quotations which must be completed as indicated in Section 2 of this RFQ are to be submitted as follows:

METHOD: Collection and Submission of tender document

CLOSING VENUE: Transnet Freight Rail, Tender Advice Centre

Nzasm Building, Ground Floor G16 Corner Minaar & Paul Kruger Streets

Pretoria 0001

NB: Tender box are only available from Monday to Friday from 07h00 to 16h00. Tender box is not available 24 hours.

1 Responses to RFQ

Responses to this RFQ [**Quotations**] must not include focume its or reference relating to any other quotation or proposal. Any additional conditions must be embedied in an accompanying letter.

2 Broad-Based Black Economic Empowerment [B-DDEE]

Transnet fully endorses and supports the tover ment's Broad-Based Black Economic Empowerment Programme and it would therefore prefer to business with local business enterprises who share these same values. As described in more etail in the attached B-BBEE Claim Form Transnet will allow a "preference" to companies who provide a valid B-BBEE Verification Certificate.

The value of this bid is estimated to below R1 000 000 (all applicable taxes included) and therefore tender will be evaluated 80 20 preference point system.

Responder's are required to complete Annexure A [the B-BBEE Preference Point Claim Form] and submit it together with proof of their B-BBEE Status as stipulated in the Claim Form in order to obtain preference points for their B-BBEE status.

Note: Failure to submit a valid and original B-BBEE certificate or a certified copy thereof at the Closing Date of this RFQ will result in a score of zero being allocated for B-BBEE.

2. B-BBEE Improvement Plan

2.1. Transnet encourages its Suppliers/Service Providers to constantly strive to improve their B-BBEE rating. Whereas Respondents will be allocated points in terms of a preference point system based on its B-BBEE scorecard to be assessed as detailed in paragraph 2.1 above, in addition to such scoring, Transnet also requests that Respondents submit a B-BBEE improvement plan. Respondents are therefore requested to indicate the extent to which the extent to which they will maintain or improve their B-BBEE status over the contract period. Respondents are requested to submit their B-BBEE Improvement Plan as an additional document with their Proposals by completion of *Annexure* A appended hereto.

3 Communication

Respondents are warned that a response will be liable for disqualification should any attempt be made by a Respondent either directly or indirectly to canvass any officer(s) or employee of Transnet in respect of this RFQ between the closing date and the date of the award of the business.

A Respondent may, however, before the closing date and time, direct and written enquiries relating to the RFQ to the following Transnet employee:

Name: Morris Mhlongo

Email: <u>morris.mhlongo@transnet.net</u>

Telephone: **(012) 315 4122**

Respondents may also, at any time **after the classing date of the RFQ**, communicate with the Buyer of the Transnet Freight Rail on any matter relating to a RFQ response:

Name: Matete Madish

Email: <u>matete.madis.hale.tr_msnet.net</u>

Telephone: (011) 38 7 70

4 FORMAL BRIEFING

A compulsory la ification meeting with representatives of the Employer will take place on Monday, 25 July 206, 10H00 at Transnet, Electrical Maintenance Boardroom, 28 Plein Street, Middleburg.

(Contact Person: Mpumelelo Ponyela ON 083 401 8373)

- 4.1. A Certificate of Attendance in the form set out in Section 14 hereto must be completed and submitted with your Quotation.
- 4.2. Respondents failing to attend the compulsory site meeting and/or RFQ briefing will be disqualified.

5 Legal Compliance

The successful Respondent shall be in full and complete compliance with any and all applicable national and local laws and regulations.

6 Changes to Quotations

Changes by the Respondent to its submission will not be considered after the closing date and time.

7 Pricing

All prices must be quoted in South African Rand on a fixed price basis, excluding VAT.

8 Prices Subject to Confirmation

Prices quoted which are subject to confirmation will not be considered.

9 Binding Offer

Any Quotation furnished pursuant to this Request shall be deemed to be an offer. Any exceptions to this statement must be clearly and specifically indicated.

10 Disclaimers

Transnet is not committed to any course of action as a result of its issuance of this RFQ and/or its receipt of a Quotation in response to it. Please note that Transnet reserves the right to:

- modify the RFQ's goods / service(s) and request Respondents to re-bid on any changes;
- reject any Quotation which does not conform to instructions and specifications which are detailed herein;
- disqualify Quotations submitted after the stated submission deadline;
- not necessarily accept the lowest priced Quotation an alternative bid;
- reject all Quotations, if it so decides;
- place an order in connection with this Out tation at any time after the RFQ's closing date;
- award only a portion of the proposal goods / service/s which are reflected in the scope of this RFQ;
- split the award of the orde /s network more than one Supplier/Service Provider should it at Transnet's discretion be more advantageous in terms of, amongst others, cost or developmental considerations;
- make no awayant a

Should a contract be awarded on the strength of information furnished by the Respondent, which after conclusion of the contract, is proved to have been incorrect, Transnet reserves the right to cancel the contract.

Transnet reserves the right to award business to the highest scoring bidder/s unless objective criteria justify the award to another bidder.

Transnet reserves the right to conduct Post Tender Negotiations (PTN) with selected Respondents or any number of short-listed Respondents, such PTN to include, at Transnet's discretion, any evaluation criteria listed in the RFQ document.

Should the preferred bidder fail to sign or commence with the contract within a reasonable period after being requested to do so, Transnet reserves the right to award the business to the next highest ranked bidder, provided that he/she is still prepared to provide the required goods at the guoted price.

11 SCOPE OF WORK

This specification covers the work and procedures for routine testing of protection equipment at Traction and Distribution substations. This specification also covers any other work arising out of or incidental to the above or required contractor for the proper completion of the works in accordance with the true meaning and intent of the contract document.

Routine tests: The purpose of routine testing is to verify that the electrical protection equipment is functioning correctly and that protection settings are according to relevant equipment ratings.

All equipment in Distribution Substations-, Traction Substations- and Tie Stations must be tested as follows:

- 11.1. **Commissioning tests**: The Contractor shall test all electrical protection equipment at all existing or newly built Signal and Distribution Supply, Traction Sib- and Tie Stations in which relevant equipment has been replaced on an emergency repair or newly installed basis as follows:
- **11.1.1. Current transformers**: Insulation test by 2.5 kV megger. Ratio (by primary injection at either rated current or a percentage thereof) and full magnetisation curve. Polarity tests where applicable.
- **11.1.2. Protection relays**: Current Injection tests on all phases and to earth at all percentages i.e. at 125, 200, 400 and 600% of set value for distribution equipment and at 200 and 400% for traction equipment of secondary rated current noting tripping times and indications as indicated on relevant test sheets. Where Distribution Ring feed systems are protected by Pilot Wire protection the SOLKOR /TRANSLAY relays must be tested by secondary injection to trip at the percentage values in the local and remote substations with a stability test by primary injection on one phase to earth or to a second phase, noting the milliamp current flow in the pilot wires.
- **11.1.3. AC, DC Farth and Frame Leakage systems**: Insulation values to earth and between separate systems/zones by suitable earth and insulation meggers. Tripping current values by Primary injection for relevant zone/systems to be noted to give required tripping, indications and lockout Systems shall be tested for possible parallel paths as well.
- **11.1.4. Transformer protection:** Buchholtz relays to be tested by air injection/test trip noting trip level to give lockout and indication. Oil and Winding Temperature Gauges to be tested by dial indication to give trip, indication and lockout as applicable. Where required a calibration test is to be done by heat simulation.

Pressure Relief Devices tested by test trip noting trip, lockout and indication.

Ratio test at all tap positions when required.

11.1.5. Indicating meters: By primary injection of Current and Voltage applicable.

- **11.1.6. Insulation levels:** Megger and Pressure test on complete installation in the case of distribution panels and Pressure test on rectifiers in the case of traction substation.
- **11.1.7. Main and auxiliary supplies failures:** Phase/AC fail relays to be tested and Battery under voltage relay to be calibrated to trip and lockout all circuit breakers.
- **11.1.8. 3 kV under voltage Protection:** To be calibrated by HV DC primary injection.
- **11.1.9. Rectifier Protection:** Over temperature, diode indication and attenuation circuit protection to be verified by simulation tests.
- 11.1.10. Wave filter equipment: To be measured and calibrated
- **11.1.11. Primary Circuit Breaker/Primary disconnects replacement:** To be tested strictly according to relevant commissioning sheet including speed and contact resistance tests on primary circuit breakers.
- **11.2. Routine tests**: The Contractor shall test all electrical protection equipment at all existing Signal and Distribution Supply, Traction Sub- and Tie Stations as follows:
- **11.2.1. Current transformers**: Magnetisation curve to be test on that a minimum of two points at knee-point voltage as depicted on previous routine or commissioning test reports If not according to commissioning values a full magnetisation curve must be done. If not within tolerances a ratio test must be performed to prove the integrity of the current transformer.
- **11.2.2. Protection relays**: Current Injection Tests at 20% and 600/800 percent indicated on relevant test sheets of secondary rated current total tripping times and indications. Where Distribution Ring-feed systems are protected by Rilot Wire protection the SOLKOR /TRANSLAY relays must be tested by secondary injection to trip at the percentage values in the local and remote substations with a stability test by primary injection on one phase to earth or to a second phase, noting the milliamp current flow in the pilot wires.
- **11.2.3. AC / DC Earth and Frame Leakage systems**: Insulation values to earth and between separate systems/zones b) suitable earth and insulation meggers . Tripping current values by Primary injection for relevant zone/systems to be noted to give required tripping, indications and lockout. Systems shall be usted for possible parallel paths as well.
- **11.2.4. Transformer protection:** Buchholtz relays to be tested by air injection/test trip noting trip level to give lockout and indication.

 Oil and

Winding Temperature Gauges to be tested by dial indication to give trip, indication and lockout as applicable. Where required a calibration test is to be done by heat simulation.

Pressure Relief Devices tested by test trip noting trip, lockout and indication.

- **11.2.5. Indicating meters**: By secondary injection of Current and Voltage applicable at full scale deflection. By exception, in DC traction substations the 4 kV DC indicating voltmeters must be tested by primary HV DC injection.
- **11.2.6. Insulation levels:** Pressure test not required.
- **11.2.7. Main and auxiliary supplies failures:** Phase/AC fail relays to be tested and Battery under voltage relay to be calibrated to trip and lockout all circuit breakers.

- **11.2.8. 3 kV Under voltage Protection:** To be calibrated by HV DC primary injection.
- **11.2.9. Rectifier Protection:** Over-temperature, diode indication and attenuation circuit protection to be verified by simulation tests.
- **11.2.10.** Wave filter equipment: To be measured and calibrated
- **11.2.11. Primary Circuit Breaker:** To be tested strictly according to relevant routine sheet regarding speed and contact resistance.
- **11.3.** The Contractor shall supply latest copy of calibration certificate of testing equipment.
- **11.4.** The Contractor shall do testing for minor repair work and re-testing where faulty equipment is identified during the above testing period. (Transnet will supply all material required for these repairs).
- **11.5.** The Contractor shall do commissioning tests as and when required at any Distribution Substation and Traction Sub- **Forfar to Machadodorp and Derwent to Rossenekal** for the next
- **12 months** when major repair/replacement work is conducted (Trangnet will supply all material required for these repairs) as well as Routine Testing where required.
- **11.6.** The Contractor shall complete the test sheet as applicable and defects report as applicable for Routine Testing and Commissioning.
- **11.7.** The technician/electrician who will assist during the contract as based in the relevant maintenance depot from where he will depart and accompany the contractor every morning.
- **11.8.** A technician/electrician from Transnet will provide access to the substations and will and issue applicable work/test permits to isolate and earth all equipment before handing it over for testing purposes. The contractor shall confirm the isolation and earthing applied as well as the work limits. No work shall be done in any substation without the presence of a Transnet representative.
- **11.9.** The Contractor shall supply the Project Manager with test sheets and defects report per substation tested.
- **11.10.** Transnet shall placed ecurity where necessary for the duration of the contract.

12. GUARANTE AND DEFECTS

- 12.1. The Contractor shall guarantee the satisfactory operation of the complete electrical installation supplied and erected by him and accept liability for maker's defects that may appear in design, materials and workmanship.
 - 12.2. The Contractor shall be issued with a completion certificate with the list of all defects to be repaired within 14 working days after commissioning.
 - 12.3. The guarantee period for these standby plants shall expire after: A period of 12 months commencing on the date of completion of the contract or the date the standby plant was handed over to Transnet Freight Rail.
 - 12.4. Any defects that may become apparent during the guarantee period shall be rectified to the satisfaction of Transnet Freight Rail, and to the account of the Contractor.

- 12.5. The Contractor shall undertake work on the rectification of any defects that may arise during the guarantee period within 7-days of him being notified by Transnet Freight Rail of such defects.
- 12.6. Should the Contractor fail to comply with the requirements stipulated above,

 Transnet Freight Rail shall be entitled to undertake the necessary repair work or
 effect replacement of defective apparatus or materials, and the Contractor shall
 reimburse Transnet Freight Rail the total cost of such repair or replacements,
 including the labour costs incurred in replacing defective material.
- 12.7. Any specific type of fault occurring three times within the guarantee period and which cannot be proven to be due to other faulty equipment not forming part of this contract e.g., faulty locomotive or overhead track equipment, etc., shall automatically be deemed an inherent defect. Such inherent defect shall be fully rectified to the satisfaction of the Project Manager or Supervisor and at the cost of the Contractor.
- 12.8. If urgent repairs have to be carried out by manual Freight Rail staff to maintain supply during the guarantee period, the Contractor shall inspect such repairs to ensure that the guarantee period if not affected and should they be covered by the guarantee, reimburse Transpet Freight Rail the cost of material and labour.

12.9. TENDERING PROCEDURE

- 1. An addendum reflecting changes to the project specification and 'Bill of Quantities' shall be forwarded to Contractors after the site meeting and Contractors should quote accordingly.
- Contractors shall duly fill in the attached 'Bill of Quantities'. The prices shall be fixed for the dulation of the contract (12 months) and no escalation will be allowed. Items not rejected in this Schedule, but covered in the project specification or agreed at site meetings, shall be added to the 'Bill of Quantities' by the Contractor and quoted for accordingly.
- 3. Contractors shall submit qualifications of the staff that will be performing the works. Only qualified technical personnel shall perform the works on the electrical equipment or installations. During the duration of the contract the successful Contractor will be required to inform the Technical Officer of any staff changes and provide the qualifications of the replacement staff for approval.
- 4. Contractors shall indicate clause-by-clause compliance with the specification. This shall take the form of a separate document listing all the specifications clause numbers indicating the individual statement of compliance or non-compliance. This document can be used by Contractors to elaborate on their clause.

- 5. Contractors shall motivate a statement of non-compliance.
- 6. Contractors shall duly fill the Tender SHE Management system questionnaire.
- 7. Contractors shall duly fill or Provide information on plant / equipment and Labour that you have available for this project.
- 8. Where equipment offered does not comply with standards or publications referred to in the specification, Contractors shall state which standards apply and submit a copy in English or certified translation.
- 9. Contractors shall submit descriptive literature consisting of detailed technical specifications, general constructional details and principal dimensions, together with clear illustrations of the equipment offered. During the duration of the contract period, the successful Contractor will be required to inform the Project Manager / Technical Officer of changes to equipment offered and submit detailed information on replacement equipment for approval prior to it being used on this contract.
- 10. Contractors shall submit equipment type test certific tes as specified with the Tender.

 These shall be in English or certified translation.
- 11. The Contractor will attend all site meetings convened by the Project Manager / Project Managers Deputy. Such meetings will be for the purpose of discussing progress, delays, materials, Conditions, specifications, etc. The meeting will be held under the chairmanship of the Project Manager / Project Managers Deputy.

12.10 Constraints on how the Contractor Provides the Works

- 12.10.1. The Contractor shall not make use of any Sub-Contractor to perform the works or parts there of without prior permission from the Project Manager.
- 12. 12. The contractor shall ensure that a safety representative is on site at all times.
- 12.10.3. Adopted from time to time and instructed by the Project Manager / Supervisor. Such compliance shall be entirely at his own cost, and shall be deemed to have been allowed for in the rates and prices in the contract.
- 12.10.4. The Contractor shall, in particular, comply with the following Acts and Transnet Specifications:-
- 12.10.5. The Compensation for Occupational Injuries and Diseases Act, No. 130 of 1993. The Contractor shall produce proof of his registration and good standing with the Compensation Commissioner in terms of the Act.
- 12.10.6. The Occupational Health and Safety Act (Act 85 of 1993).
- 12.10.7. The explosive Act No. 26 of 1956 (as amended). The Contractor shall, when applicable, furnish the Project Manager / Supervisor with copies of the permits

- authorising him or his employees, to establish an explosives magazine on or near the site and to undertake blasting operations in compliance with the Act.
- 12.10.8. The Contractor shall comply with the current Transnet Specification E.4E, Safety Arrangements and Procedural Compliance with the Occupational Health and Safety Act, Act 85 of 1993 and Regulations and shall before commencement with the execution of the contract, which shall include site establishment and delivery of plant, equipment or materials, submit to the Project Manager / Supervisor.
- 12.10.9. The Contractor shall comply with the current Specification for Works On, Over, Under or Adjacent to Railway Lines and near High Voltage Equipment E7/1, if applicable, and shall take particular care of the safety of his employees on or in close proximity to a railway line during track occupations as well as under normal operational conditions.
- 12.11. The Contractor's Health and Safety Programme shall to subject to agreement by the Project Manager / Supervisor, who may, in consultation with the Contractor, order supplementary and/or additional safety arrangements and/or different safe working methods to ensure full compliance by the Contractor with his obligations as an employer in terms of the Act.
- 12.12. In addition to compliance with chuse 4.4.4 hereof, the Contractor shall report all incidents in writing to the Project Manager / Supervisor. Any incident resulting in the death of or injury to any person on the works shall be reported within 24 hours of its occurrence and any other insident shall be reported within 48 hours of its occurrence.
- 12.13. The Contractor shall make necessary arrangements for sanitation, water and electricity at these relevant sites during the installation of the equipment's.
- 12.14. A penalty charge of **R500.00** per day will be levied for late completion.
- 12.15. The Contractor shall supply a **site diary** (with triplicate pages). This book shall be used to record any unusual events during the period of the work. Any delays to the work shall also be recorded such as delays caused by poor weather conditions, delays caused by permits being cancelled etc. The appointed Project Manager or Supervisor must countersign such delays. Other delays such as non-availability of equipment from 3rd party suppliers must be communicated to the Project Manager or Supervisor in writing.
- 12.16. The Contractor shall supply a **site instruction book** (with triplicate pages). This book shall be used to record any instructions to the Contractor regarding problems encountered on site for example the quality of work or the placement of equipment. This book shall be filled in by the Project Manager or Supervisor and must be countersigned by the Contractor.

- 12.17. Both books mentioned in 4.9 and 4.10 shall be the property of Transnet Freight Rail and shall be handed over to the Project Manager or Supervisor on the day of energising or handing over.
- 12.18. The Contractor will remain liable for contractual delivery dates irrespective of deficiencies discovered during workshop inspections.
- 12.19. Transnet Freight Rail reserves the right to award the contract based on delivery period due to the urgency of this substation.
- 12.20. Transnet Freight Rail reserves the right to award the contract in portions pertaining different work execution specialisation.

12.21. Services and other things provided by the *Employer*

- Transnet Freight Rail shall have an electrician/technical assistant available for isolation and the erection of barriers to live electrical equipment and issuing of work permits.
- Transnet Freight Rail Reserve The Right To Inspect The Compatibility Of Machinery Utilised Before Site Establishment.
- Transnet Freight Rail Shall Inspect All Equipment Before Dispatching The Equipment To Site.

13.1 QUALITY AND INSPECTION

- 13.1.1 Transnet Freight Rail shall inspect the equipment under contract on the premises of the Manufacturer or successful Contractor.
- 13.1.2 The Contractor shall notify Nansnet Freight Rail 14 days in advance of such an inspection date.
- 13.1.3 The Contractor shall apply 14 days in advance for the date of energizing and ensure that all work is completed before any commissioning can take place.
- 13.1.4 The Contractor shall be responsible to issue a compliance certificate in terms of SANS 0142 for each site before energizing of the equipment shall take place.

13.2. TRAINING

- 13.2.1 The contractor's team performing the work could be required to attend an induction to familiarise them with hazards which may arise while working within the Transnet property.
- 13.2.2 The Contractor shall provide training to TFR staff during the contract period.
- 13.2.3 Transnet Freight Rail shall have an electrician/technical assistant available for isolation and the erection of barriers to live electrical equipment and issuing of work permits.
- 13.2.4 Upon successful completion of the works to the satisfaction of Transnet Freight Rail, Transnet Freight Rail shall perform necessary protection tests and commission the equipment.

14. SPECIFICATIONS

14.1. SOUTH AFRICAN NATIONAL STANDARDS:

14.1.1. SANS 1091 NATIONAL COLOUR STANDARD.

14.1.2. IEC 62053-21 WIRING CODE.

DC TRACTION SUBSTATIONS, SIGNAL SUPPLY & DISTRIBUTION SUBSTATIONS

The following test sheets are applicable as per annexures:

BBB0343 VER 2 Alternatively BBF 9001 ver 2 and BBF 9295

BBB0345 VER 2 Alternatively BBF 9296

BBB0346 VER 2 Alternatively BBF 9296 VER 2 and BBF 9297

BBC9921 VER 1 In accordance with Engineering Instruction G.018

BBB0347 VER 2 and BBB0348

BB0342 VER 2 ALTERNATIVELY BBF 8999 VER 2, BEF 9000

BBB0347: Substation Defect Report

BBB8128 Specification for Testing and commissioning

Transnet urges its clients, suppliers and the general public to report any fraud or corruption to TIP-OFFS ANONYMOUS: 0800 003 056

RFQ FOR THE PROVISION OF TESTING AND COMMISSION OF 3KV DC TRACTION AND 11KV DISTRIBUTION SUBSTATIONS ON ROUTINE AND AS AN WHEN REQUIRED BASIS, UNDER THE CONTROL DEPOT ENGINEER, WITBANK

CLOSING VENUE: TRANSNET FREIGHT RAIL TENDER ADVICE CENTRE,
NZASM BUILDING, GROUND FLOOR G16
CORNER MINAAR & PAUL KRUGER STREETS
PRETORIA
0001

CLOSING DATE & TIME: 08 SEPTEMBER 2016 AT 10:00
VALIDITY PERIOD: 90 DAYS

SECTION 2 EVALUATION CRITERA AND RETURNABLE BOS MENTS

Transnet will utilise the following criteria [not necessarily in the order] in choosing a Supplier/Service Provider, if so required:

Provider, ii so require	
Criterion/Criteria	Explanation
Administrative	Completeness of response and returnable documents
	Verify the validity of returnable documents
	Whether the kid has been lodged on time
	Whether the bis contains a priced offer with a completed schedule of prices.
Substantive	Completed Clause by clause compliance to specification
responsiveness	Nede Test Certificate or National Diploma- Electrical
	No. (Failure to complete/submit the above mentioned documents,
	der will not be evaluated to the next stage)
Functionality	Prequalification criteria, if any, must be met and whether the Bid materially
Threshold	complies with the scope and/or specification given.
	 Submit Health/Safety/Risk/Environmental Plan - 10% List Technical capacity/ Plant and Equipment/ resources – 40%
	Indicate the response time after call out - 10%
	Proven experience of testing of protection and commissioning of
	equipment substation – (40%)
	Respondents are to note that functionality is included as a technical threshold with
	a prescribed minimum percentage of 80% must be obtained in order to advance
	to next stage 3.

Final weighted	•	Pricing and price basis [firm]
evaluation based	•	B-BBEE status of company - Preference points will be awarded to a bidder for
on 80/20		attaining the B-BBEE status level of contribution in accordance with the table
preference point		indicated in Annexure A: B-BBEE Claim Form.
	1	

15. Validity Period

Transnet desires a validity period of 14 months from the closing date of this RFQ.

This RFQ is valid until 30 November 2016.

16. Disclosure of Prices Quoted

Respondents must indicate here whether Transnet may disclose their quoted prices and conditions to other Respondents:

YES	NO	

17. Returnable Documents

Returnable Documents means all the documents, Sections and Innexures, as listed in the tables below.

All Returnable Sections, as indicated in the header and fooler of the relevant pages, must be signed, stamped and dated by the Respondent

Respondents are required to submit with their Quotations the <u>mandatory Returnable</u>
 <u>Documents</u>, as detailed below.

Failure to provide all these Mandais y Returnable Documents at the Closing Date and time of this RFQ will result in a Respondent's disqualification. Respondents are therefore urged to ensure that <u>all</u> these Documents are returned with their Quotations.

Please confirm submission of these mandatory Returnable Documents by so indicating [Yes or No] in the tables below

Nandatory Returnable Documents	Submitted [Yes or No]
- SECTION 3 Quotation Form	
- Completed clause by Clause compliance to specification	
- Trade Test Certificate / National Diploma	

b) In addition to the requirements of section (a) above, Respondents are further required to submit with their Quotations the following **essential Returnable Documents** as detailed below.

Failure to provide all these Returnable Documents may result in a Respondent's disqualification. Respondents are therefore urged to ensure that <u>all</u> these documents are returned with their Quotations.

	Essential Returnable Documents	Submitted [Yes or No]
	SECTION 2 : Evaluation criteria and returnable documents	
-	SECTION 4: RFQ Declaration and Breach of Law Form	
-	Valid and original, or a Certified copy, of your entity's B-BBEE Verification Certification	
	as per the requirements stipulated in Annexure A: B-BBEE Claims Form	
	Note: failure to provide these required documents at the closing date and time of the	
	RFQ will result in an automatic score of zero being allocated for preference	
-	Original valid Tax Clearance Certificate [Consortia / Joint Ventures must submit a	
	separate Tax Clearance Certificate for each party]	
-	Submit Health/Risk and Safety Plan	
-	List of plant and equipment relevant to the project	
-	Indicate how long it will take to complete the project - Delivery period	

In terms of paragraph 5.6 of the NATIONAL TREASURE SCALINSTRUCTION NO 4 OF 2017/2017, which became effective on 1 May2016, Transnet may only a vard bids to suppliers after verifying that the supplier is registered as prospective suppliers as the National Treasury Central Supplier Database.

Supplier Number	Unique Registration Reference	Yes/No

If Yes column above, please confirm registration by providing National Treasury Unique Vendor Number

If No column above, leave register your company on the National Treasury Central Supplier

Database and confirm registration by submitting National Treasury with "MAAA" Supplier Reference number.

CONTINUED VALIDITY OF RETURNABLE DOCUMENTS

The successful Respondent will be required to ensure the validity of all returnable documents, including but not limited to its Tax Clearance Certificate and valid B-BBEE Verification Certificate, for the duration of any contract emanating from this RFQ. Should the Respondent be awarded the contract [the Agreement] and fail to present Transnet with such renewals as and when they become due, Transnet shall be entitled, in addition to any other rights and remedies that it may have in terms of the eventual Agreement, to terminate such Agreement forthwith without any liability and without prejudice to any claims which Transnet may have for damages against the Respondent.

SECTION 3 QUOTATION FORM

$1/M_{ m P}$	- * * * *			
	I/We			

hereby offer to supply the goods/services at the prices quoted in the Price Schedule below, in accordance with the conditions related thereto.

I/We agree to be bound by those terms and conditions in:

- the Standard RFQ Terms and Conditions for the Supply of Goods or Services to Transnet; and
- any other standard or special conditions mentioned and/or embodied in this Request for Quotation.

I/We accept that unless Transnet should otherwise decide and so inform me/us, this Quotation [and, if any, its covering letter and any subsequent exchange of correspondence], together with Transnet's acceptance thereof shall constitute a binding contract between Transnet and me/us.

I/We further agree that if, after I/we have been notified of the acceptance of my/our Quotation, I/we fail to deliver the said goods/service/s within the delivery lead-time ruote. Transnet may, without prejudice to any other legal remedy which it may have, cancel the order and recover from me/us any expenses incurred by Transnet in calling for Quotations afresh and/or having to accept any less favourable offer.

Price Schedule

I/We quote as follows for the service required, on a "delivered nominated destination" basis, excluding VAT:

	DESCRIPTION	QTY	UNIT PRICE	TOTAL PRICE
Item 1				
Part A	Double unit 3 kV Substations			
1	Olifants Substation	1		
2	Middelburg Substation	1		
3	Pan Substation	1	~O,	
4	Belfast Substation	1)	
5	Fairview Substation			
6	Wonderfointein Substation	1		
	Sub-Total for Part A (Exc). Vat)			

	DESCRIPTION	QTY	UNIT PRICE	TOTAL PRICE
Item 1				
Part B	Emergencies, commissioning and oil sampling			
1	Double group 3 kV DC substations	3		
2	Single group 3kV DC substations	14		
3	11kV Distribution Substation	3	1	
4	Minor repairs	14	Q	
5	Oil sampling of transformer oil	28	O,	
	Sub-Total for Part B (Excl. Vat)	N		
	X			

Item 1	DESCRIPTION	QTY	UNIT PRICE	TOTAL PRICE
Part C	Single Group 3 kV Substation			
	Forfar			
A		1		
	Bronkhosrspruit			
1		1		
	Crown Douglas			
2		1		
	Wakefield			
3		1		
	Witbank		1	
4		1		
	Uitkyk			
5		1		
	Derwent			
6		1		
	Arnot	1		
7				
	Sunbury			
8				
	Dalmanutha	1		
9		*		
	Machadodorp	1		
10				
4.4	Niten	1		
11				
40	Kliendam	1		
12	*			
12	Wapadskloof	1		
13	Charles	1		
1./	Sterkloof	1		
14	Chaffbaug	1		
15	Stoffberg			
15	Futo	1		
16	Erts	1		
10	Loundwift	1		
17	Larsdrift	1		
17	Louaduith	1		
	Larsdrift	1		

18				
	Hanmien	1		
19				
	Rossennekal	1		
20				
	Sub-Total for Part C (Excl. Vat)			
Part D	ELP Substations			
	6.6 KV CTC Mini Substation			
1	6.6 KV CTC MIIII Substation			
	6.6 KV Witbank Loco Mini			
2	Substation			
	6.6 KV Lydophura Mini Substation			
3	6.6 KV Lydenburg Mini Substation			
	Sub-Total for Part D (Excl. Vat)			
	GRAND TOTAL FOR		\sim	
	PART A, B, C & D (Excluding VAT)			

Delivery Lead-Time from	dau	f purchase order :		[days/weeks]
(How long	ll ta ke	the respondent to d	complete the whole project	:)

Notes to ricing:

- a) All Prices must be quoted in South African Rand, exclusive of VAT
- b) To facilitate like-for-like comparison bidders must submit pricing strictly in accordance with this price schedule and not utilise a different format. Deviation from this pricing schedule could result in a bid being disqualified.

Please note that should you have offered a discounted price(s), Transnet will only consider such price discount(s) in the final evaluation stage if offered on an unconditional basis.

By signing this Quotation Form the Respondent is deemed to acknowledge that he/she has made himself/herself thoroughly familiar, and agrees, with all the conditions governing this RFQ, including those contained in any printed form stated to form part hereof, including but not limited to the documents stated below and Transnet SOC Ltd will recognise no claim for relief based on an allegation that the Respondent overlooked any such condition or failed properly to take it into account for the purpose of calculating tendered prices or otherwise:

- 1. Specifications and drawings included in this RFQ if applicable; and
- 2. The following documents all of which are available on Transnet's website or upon request:
 - 2.1. General Bid Conditions;
 - 2.2. Standard RFQ Terms and Conditions for the Supply of Goods or Services to Transnet;
 - 2.3. Supplier Integrity Pact;
 - 2.4. Non-disclosure Agreement; and
 - 2.5. Vendor Application Form and all supporting documents (first time vendors only)
 Alternatively, for all existing vendors, please provide vendor number(s) here:

Transnet Operating Division	Unique Vendor Number	Yes / No
Transnet Group		
TFR, etc.		

In the Yes/No column above, please confirm that all the information e.g. company address and contact details, banking details etc. are still correct as at the time of allocation of the vendor number(s). Alternatively, Respondents are required to provide the updated information with their bid submission.

SIGNED at on thi	s day of	20
SIGNATURE OF WITNESSES	ADDRESS OF WITNES	SSES
1		
Name		
2		
Name		
SIGNATURE OF RESPONDENT'S AUTHORISED REPI	RESENTATIVE:	
NAME:		
DESIGNATION:		

SECTION 4

le	OF ENTITY:			do hereby co	ertify that:
				do nereby ex	creity crees
1.	Transnet has supplied applicable] which were			-	ll questions [
2.	we have received all in Quotation [RFQ];	formation we d	eemed necessary for t	he completion of	this Request f
3.	we have been provided all relevant information Employees, and has h diligence of Transnet's Transnet will therefore related adjustment to p incorrect assumptions m	relevant to the ad sufficient tine operations and not consider opricing, service	Supply of the Goods as me in which to condu d business requirement or permit any pre- or levels or any other	s well as Transnet act and perform a ts and assets use post-contract ver ovisions/condition	information are thorough do by Transnerification or an
4.	at no stage have we re from Transnet sources, contact(s) as nominated	other than info	rmation for hally receive		
5.	we are satisfied, insofar by Transnet in issuing t this RFQ have been co	his RFO and th	e requirements reques	ted from Bidders i	
6.	furthermore, we declare exist [delete as application our entity and an ample may be involved in the o	ble] between a	an owner / member / onember of the Transner	director / partner , t Group including	/ shareholder
7.	In addition, we declare is / is not [delete as ap		-		
8.	If such a relationship as the following section:	indicated in pa	ragraph 6 and/or 7 exis	sts, the Responder	nt is to comple
	AME OF OWNER/MEMBER ER/SHAREHOLDER:	/DIRECTOR/		ADDRESS:	

[Failure to furnish complete and accurate information in this regard will lead to the disqualification of a response and may preclude a Respondent from doing future business with Transnet]

9. We declare, to the extent that we are aware or become aware of any relationship between ourselves and Transnet [other than any existing and appropriate business relationship with Transnet] which could unfairly advantage our entity in the forthcoming adjudication process, we shall notify Transnet immediately in writing of such circumstances.

BREACH OF LAW

10. We further hereby certify that I/we have/have not been [delete as applicable] found guilty during the preceding 5 [five] years of a serious breach of law, including but not limited to a breach of the Competition Act, 89 of 1998, by a court of law, tribunal or other administrative body. The type of breach that the Respondent is required to disclose excludes relatively minor offences or misdemeanours, e.g. traffic offences. This includes the imposition of an administrative fine or penalty.

Where found guilty of such a ser	rious breach, please discusse	
NATURE	OF	BREACH
DATE OF BREACH:	, 0	

Furthermore, I/we acknowledge that Tansnet SOC Ltd reserves the right to exclude any Respondent from the bidding process should that person or entity have been found guilty of a serious breach of law, tributal or regulatory obligation.

SIGNED at	on this day of 20
For and on behalf of duly authorised lere o	AS WITNESS:
Name:	Name:
Position:	Position:
Signature:	Signature:
Date:	Registration No of Company/CC
Place:	Registration Name of Company/CC

Section 5: SUPPLIER DECLARATION FORM

Respondents are to furnish the following documentation and complete the Vendor Application Form below:

- Original cancelled cheque OR letter from the Respondent's bank verifying banking details [with bank stamp]
- 2. **Certified copy** of Identity Document(s) of Shareholders/Directors/Members [where applicable]
- **3. Certified copies** of the relevant company registration documents from Companies and Intellectual Property Commission (CIPC)
- **4. Certified copies** of the company's shareholding/director's portfolio
- 5. **Original** letterhead confirm physical and postal addresses
- 6. **Original** valid SARS Tax Clearance Certificate [RSA entities only]
- 7. **Certified copy** of VAT Registration Certificate [RSA entities only]
- 8. **A valid and original** B-BBEE Verification Certificate / sworn ameters or certified copy thereof meeting the requirements for B-BBEE compliance as per the B-BBEE Codes of Good Practice; Certified copy of valid Company Registration Certificate [if applicable]

Note: No agreement shall be awarded to any South Afric in Respondent whose tax matters have not been declared by SARS to be in order

Company Trading	Name		1					
Company Register	ed Name		1					
Company Registra	tion Number Or	ID Number 7 A S	e Proprietor					
Form of entity	СС	Trust	Pty Ltd	Limite	d	Partnership	Sole F	Proprietor
How many year company been in b								
VAT number (if re	gistered)							
Company Telepho	e Mamber							
Company Fax Num	nber							
Company E-Mail Address								
Company Website	Address							
Bank Name			Branch code	n &	Branch			
Account Holder			Bank numbe		account			
Postal Address								
1 Ostal Madi Cos							Code	
Physical Address								
111,51cai 7 aai C35							Code	

Contact Person								
Designation								
Telephone								
Email								
Annual Turnover Ran	ge (Last Fina	icial Year)	< R5 Million	า	R5-35 million	ı	> R35 million	
Does Your Company	Provide		Products		Services		Both	
Area Of Delivery			National		Provincial		Local	
Is Your Company A P	ublic Or Priva	e Entity		•	Public		Private	
Does Your Company	Have A Tax D	rective Or IF	RP30 Certificat	:e	Yes		No	
Main Product Or Serv	rice Supplied (E.G.: Station	ery/Consulting	g)		1		
					4			
BEE Ownership De	tails				1			
% Black		% Black	women		% Disab	ed person/	s	
Ownership ownership				wnership)			
Does your company h	nave a BEE ce	rtificate		Yes		No		
What is your broad b	What is your broad based BEE status (Level 1 to 9 / Unknown)							
How many personnel does the firm employ Permanent						Part time		
Transnet Contact Per	son							
Contact number								
Transnet operating d	ivision							
		7						
Duly Authorised To	Sign For //	d On Beha	lf Of Firm / 0	Organis	ation			
Name					Designation			
Signature					Date			
Stamp And Signati	e Of Comn	issioner Of	Oath					
Name					Date			
Signature					Telephone			
								-

SECTION 6: CERTIFICATE OF ATTENDANCE OF SITE MEETING / RFQ BRIEFING

It is hereby certified that –	
1	
2	
Representative(s) of	[name of entity]
attended the site meeting / RFQ briefing in respect	the papered Services to be supplied in terms of
this RFQ on20	
TRANSNET'S REPRESENTATINE	RESPONDENT'S REPRESENTATIVE
DATE	DATE

ANNEXURE A: B-BBEE PREFERENCE POINTS CLAIM FORM

This preference form contains general information and serves as a claim for preference points for Broad-Based Black Economic Empowerment [**B-BBEE**] Status Level of Contribution.

1. INTRODUCTION

- 1.1 A total of 10 preference points shall be awarded for B-BBEE Status Level of Contribution.
- 1.2 Failure on the part of a Bidder to fill in and/or to sign this form and submit a B-BBEE Verification Certificate from a Verification Agency accredited by the South African Accreditation System [SANAS] or a Registered Auditor approved by the Independent Regulatory Board of Auditors [IRBA] or an Accounting Officer as contemplated in the Close Corporation Act [CCA] together with the bid will be interpreted to mean that preference points for B-BBEE Status Level of Contribution are not claimed.
- 1.3 Transnet reserves the right to require of a Bidder, either before a Bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences in any manner required by Transnet.

2. GENERAL DEFINITIONS

- 2.1 "all applicable taxes" include value-added tax par as ou earn, income tax, unemployment insurance fund contributions and skills development livies;
- 2.2 **"B-BBEE"** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment 1co.
- 2.3 **"B-BBEE status of contributor** means the B-BBEE status received by a measured entity based on its overall performance using the relevant scorecard contained in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act
- 2.4 **"Bid"** means a **Withen** offer in a prescribed or stipulated form in response to an invitation by Transnet or the provision of goods, works or services;
- 2.5 **"Broad Ba ed Black Economic Empowerment Act"** means the Broad-Based Black Economic Empowerment Act, 2003 [Act No. 53 of 2003];
- 2.6 **"comparative price"** means the price after the factors of a non-firm price and all unconditional discounts that can utilised have been taken into consideration;
- 2.7 "consortium or joint venture" means an association of persons for the purpose of combining their expertise, property, capital, efforts, skills and knowledge in an activity for the execution of a contract;
- 2.8 "contract" means the agreement that results from the acceptance of a bid by Transnet;
- 2.9 "EME" means any enterprise with an annual total revenue of R5 [five] million or less as per the 2007 version of the B-BBEE Codes of Good Practice and means any enterprise with an annual total revenue of R10 [ten] million or less as per the Revised Codes of Good Practice issued on 11 October 2013 in terms of Government Gazette No. 36928;
- 2.10 **"firm price"** means the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs and excise

- duty and any other duty, levy, or tax, which, in terms of the law or regulation, is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract;
- 2.11 "functionality" means the measurement according to predetermined norms, as set out in the bid documents, of a service or commodity that is designed to be practical and useful, working or operating, taking into account, among other factors, the quality, reliability, viability and durability of a service and the technical capacity and ability of a bidder;
- 2.12 "non-firm prices" means all prices other than "firm" prices;
- 2.13 "person" includes reference to a juristic person;
- 2.14 "QSE" means any enterprise with an annual total revenue between R5 [five] million and R35 [thirty five] million as per the 2007 version of the B-BBEE Codes of Good Practice and means any enterprise with an annual total revenue of between R10 [ten] million and R50 [fifty] million as per the Revised Codes of Good Practice issued on 11 October 2013 in terms of Government Gazette No. 36928
- 2.15 "**rand value**" means the total estimated value of a contract in Sout. African currency, calculated at the time of bid invitations, and includes all applicable takes and excise duties;
- 2.16 **"subcontract"** means the primary contractor's as igning or leasing or making out work to, or employing another person to support such primary contractor in the execution of part of a project in terms of the contract;
- 2.17 **"total revenue"** bears the same meaning assigned to this expression in the Codes of Good Practice on Black Economic Empowerment issued in terms of section 9(1) of the Broad-Based Black Empowerment Act and promulgated in the Government Gazette on 9 February 2007;
- 2.18 **"trust"** means the arrangement through which the property of one person is made over or bequeathed to a trustee the administer such property for the benefit of another person; and
- 3. "trustee" means any person, including the founder of a trust, to whom property is bequeathed in ADJUDICATION USING A POINT SYSTEM
- 3.1 The Bidder obtaining the highest number of total points for the evaluation criteria as enumerated in Section 2 of the RFP will be awarded the contract, unless objective criteria justifies the award to another bidder.
- 3.2 Preference points shall be calculated after prices have been brought to a comparative basis taking into account all factors of non-firm prices and all unconditional discounts.
- 3.3 Points scored will be rounded off to 2 [two] decimal places.
- 3.4 In the event of equal points scored, the Bid will be awarded to the Bidder scoring the highest number of preference points for B-BBEE.
- 3.5 However, when functionality is part of the evaluation process and two or more Bids have scored equal points including equal preference points for B-BBEE, the successful Bid will be the one scoring the highest score for functionality.
- 3.6 Should two or more Bids be equal in all respect, the award shall be decided by the drawing of lots.

4. POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTION

4.1 In terms of the Preferential Procurement Regulations, 2011, preference points shall be awarded to a Bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	Number of Points [Maximum 10]	Number of Points [Maximum 10]
		[Maximum 10]
1	20	10
2	18	9
3	16	8
4	12	5
5	8	4
6	6	3
7	4	2
8	2	1
Non-compliant contributor	0	0

- 4.2 Bidders who qualify as EMEs in terms of the 2002 version of the Codes of Good Practice must submit a certificate issued by an Accounting Office as contemplated in the CCA or a Verification Agency accredited by SANAS or a Registered Quality. Registered auditors do not need to meet the prerequisite for IRBA's approval for the purpose of conducting verification and issuing EME's with B-BBEE Status Level Certificates.
- 4.3 Bidders who qualify as EMEL in arms of the Revised Codes of Good Practice issued on 11 October 2013 in terms of Government Gazette No. 36928 are only required to obtain a sworn affidavit on an annual basis confirming that the entity has an Annual Total Revenue of R10 million or less and the entity's Level of B ack a mership.
- In terms of the 2007 version of the Codes of Good Practice, Bidders other than EMEs must submit their original and valid B-BBEE status level verification certificate or a certified copy thereof, substantiating their B-BBEE rating issued by a Registered Auditor approved by IRBA or a Verification Agency accredited by SANAS.
- In terms of the Revised Codes of Good Practice issued on 11 October 2013 in terms of Government Gazette No. 36928, Bidders who qualify as QSEs are only required to obtain a sworn affidavit on an annual basis confirming that the entity has an Annual Total Revenue of R50 million or less and the entity's Level of Black ownership. Large enterprises must submit their original and valid B-BBEE status level verification certificate or a certified copy thereof, substantiating their B-BBEE rating issued by a Registered Auditor approved by IRBA or a Verification Agency accredited by SANAS.
- 4.6 A trust, consortium or joint venture will qualify for points for its B-BBEE status level as a legal entity, provided that the entity submits its B-BBEE status level certificate.
- 4.7 A trust, consortium or joint venture will qualify for points for their B-BBEE status level as an unincorporated entity, provided that the entity submits their consolidated B-BBEE scorecard as if they were a group structure and that such a consolidated B-BBEE scorecard is prepared for every separate

bid.

- 4.8 Tertiary institutions and public entities will be required to submit their B-BBEE status level certificates in terms of the specialised scorecard contained in the B-BBEE Codes of Good Practice.
- A person will not be awarded points for B-BBEE status level if it is indicated in the Bid documents that such a Bidder intends subcontracting more than 25% [twenty-five per cent] of the value of the contract to any other enterprise that does not qualify for at least the same number of points that such a Bidder qualifies for, unless the intended subcontractor is an EME that has the capability and ability to execute the subcontract.
- 4.10 A person awarded a contract may not subcontract more than 25% [twenty-five per cent] of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level than the person concerned, unless the contract is subcontracted to an EME that has the capability and ability to execute the subcontract.
- 4.11 Bidders are to note that in terms of paragraph 2.6 of Statement 000 of the Revised Codes of Good Practice issued on 11 October 2013 in terms of Government Gazette No. 36928, any representation made by an entity about its B-BBEE compliance must be supported by suitable evidence or documentation. As such, Transnet reserves the right to request such evidence or documentation from Bidders in order to verify any B-BBEE recognition claime.

5. B-BBEE STATUS AND SUBCONTRACTING

5.1 Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:

B-BBEE Status Level of Contributor _____ = ____ [maximum of 10 points]

Note: Points claimed in respect of the paragraph 5.1 must be in accordance with the table reflected in paragraph 4.1 above and must be substantiated by means of a B-BBEE certificate issued by a Verification Alienta accredited by SANAS or a Registered Auditor approved by IRBA or a sworn affidavit in the case of an EME or QSE.

5.2 **Subcontracting**

Will any sol fon of the contract be subcontracted? If YES indicate:	YES/NO [delete which is not applicable]
If YES indicate:	

(i)	What percentage of the contract will be subcontracted?	%
(ii)	The name of the subcontractor	
(iii)	The B-BBEE status level of the subcontractor	
(iv)	Is the subcontractor an EME?	YES/NO

5.3 Declaration with regard to	Company,	'Firm
--------------------------------	----------	-------

i)	Name of Company/Firm
ii)	VAT registration number
iii)	Company registration number
iv)	Type of Company / Firm [TICK APPLICABLE BOX]

☐ Partnership/Joint Venture/Consortium

	☐One person business/sole propriety
	□Close Corporations
	□Company (Pty) Ltd
(v)	Describe Principal Business Activities
(vi)	Company Classification [TICK APPLICABLE BOX]
	□Manufacturer
	□Supplier
	□ Professional Service Provider
	□Other Service Providers, e.g Transporte, etc
(vii)	Total number of years the company rim has been in business

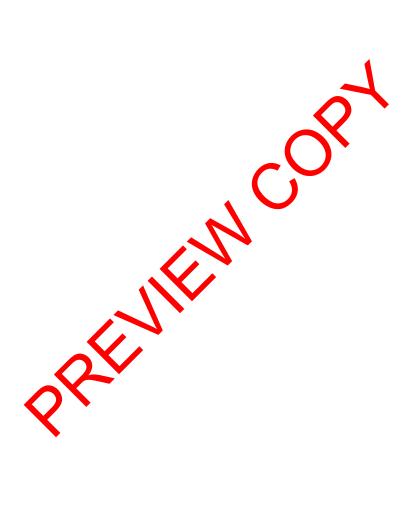
BID DECLARATION

I/we, the undersigned, who warrants that he is duly authorised to do so on behalf of the company/firm, certify that points claimed, based on the B-BBEE status level of contribution indicated in paragraph 4 above, qualifies the company/firm for the preference(s) shown and I / we acknowledge that:

- (i) The information furnished is true and correct.
- (ii) In the event of contract being awarded as a result of points claimed as shown in paragraph 6 above, the contractor may be required to furnish documentary proof to the satilfaction of Transnet that the claims are correct.
- Nothe B-BBEE status level of contribution has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, Transnet may, in addition to any other remedy it may have:
 - (a) disqualify the person from the bidding process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - (d) restrict the Bidder or contractor, its shareholders and directors, and/or associated entities, or only the shareholders and directors who acted in a fraudulent manner, from obtaining business from Transnet for a period not exceeding 10 years, after the audi alteram partem [hear the other side] rule has been applied; and/or

	obtaining basiness	or ion a pointed more extended in great years, and	
	the audi alteram partem [hear the oth	ner side] rule has been applied; and/or	
(e)	forward the matter for criminal prosec	cution.	
WITNESSES:			
Respondent's Signature			nı
cespondent s signature		Bate & company stan	''

1.		
	SIGNATURE OF BIDDER	
2.		
	DATE:	
	COMPANY NAME:	
	ADDRESS:	



ANNEXURE B: SCHEDULE OF PLANT, EQUIPMENT AND TEAMS

Schedule of major plant and equipment to be used in the execution of this agreement in terms of the Agreement Conditions and specifications. The respondent must state which plant is immediately available and which will be ordered for and plant to be acquired for.

Plant	mmediately ava	<u>ailable for work te</u>	ndered for :		
		_			
				8	
<u>Plant (</u>	on order and wh	nich will be availab	ole for work tende	ered for:	
			4		
			•		
<u>Plant t</u>	to he arguired f	or the work tende	red for :		
					

ANNEXURE C- REFERENCES

Please indicate below the company names and contact details of existing customers whom Transnet may contact to seek third party evaluations of your current service levels:

Company Name	Nature of work	Value of	Contact	Contact details	Year
		work	person	e.g. telephone	completed
				numbers	
			\sim		
			_() `		
		N			
		N.V.			
		Y			
	0				
<u> </u>	1	1		1	<u> </u>

ANNEXURE D

MINIMUM CONTENTS FOR SAFETY HEALTH/RISK AND ENVIRONMENTAL PLAN AND THE EQUIPMENTS RELEVANT TO THE PROJECT

The Respondents are required to submit the Health/Risk and Safety Plan relevant for Cleaning and Gardening project and shall take note of the following when compiling Health/Risk and Safety Plan.

INDEX

1. Contractor SHEQ Policy Statement

- 2. List of Contractor Employees
- 3. Project Management
- 3.1. Notification of Construction Work (Construction Regulation 3, Annexure A)
- 3.2 Registration with WCC
- 3.4. SHEQ Plan Review
- 3.5. Agreement with Mandataries (Section 37(2) of OHS Act)
- 3.6. Appointments of Contractor
- 3.7. Site Organisation
- 3.7.1. Assignment of Duties
- 3.7.2. Construction Work Supervisor (Construction Regulation 6)
- 3.7.3. Subordinate Construction Work Supervisor (Construction Regulation 6)
- 3.7.4. Construction Safety Onice (Construction Regulation 6(7)
- 3.7.5. List of subcontra cors already appointed List to be revised at least monthly
- 3.7.6. Health and Szety Representative (Section 17 of OHS Act)
- 3.7.7. Scaffold Inspector (Construction Regulation 8)
- 3.7.8. Portable Fire Equipment Inspector

4. Incident Management

- 4.1. Health, Safety and Environmental Performance Statistics
- 4.2. Incidents and or injuries
- 4.2.1. Reporting
- 4.2.2. Recording
- 4.2.3. Investigation
- 4.2.4. Medical Surveillance and certificate of fitness
- 4.2.5. Occupational Diseases

5. Audits

- 5.1. Legal Compliance Audits
- 5.1.1. Audit Report
- 5.1.2 Frequency of Audits
- 5.1.3. Findings and Analysis
- 5.1.4 Corrective Action

6. Substance Abuse Testing

6.1 Proof of testing

7. Logbooks and Registers

- 7.1. Electric Equipment / Tools Register Portable
- 7.2. Fire fighting appliance Register Portable
- 7.3. Personal Protective Equipment and Clothing
- 7.4 Schedule of Plant (E4D)
- 7.5 Other

8. Risk Management

- 8.1. Task descriptions
- 8.2. Risk Identification, Analysis, Mitigating Steps, Monitoring Steps and Review Plan
- 8.3. Risk Assessment (Construction Regulation 7)
- 8.4 Occupational Hygiene Surveys et Noise, Dust etc

9. Education and Training

- 9.1. Induction training (Construction Regulation 7(9)
- 9.2. Site Specific Training
- 9.3. Certificates of Competence e.g operator licences, welding certificates, etc
- 9.4 First Aid training and Equipment

10. Emergency Planning - Evacuation plan

- 10.1. Client procedure
- 10.2. Site Procedure
- 10.3 Emergency response numbers

11. SHE Communications

- 11.1 Safety/Toolbox talks
- 11.2 Incident Recall

12. Safe Working Procedures

- 12.1 Method Statements
- 12.2 Safe Operating Procedures
- 12.3 Task/Job observations

13. Fall Protection Plan

- 13.1 Documented fall protection plan
- 13.2 Rescue Plan
- 13.3 Training/Certification
- 13.4 Fall arrest and protection equipment

14. Personal Protective Equipment and Clothing

- 14.1 PPE required
- 14.2 PPE proof of issue

15. Project security

- 15.1 Security risks identified
- 15.2 Access control

16. Environmental Management Plan

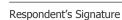
Note: TFR will obtain Environmental authorisation (EIA and EMP) and permits from the relevant authority (when necessary) pror to commencement of the project (e.g Construction)

Provide procedure of the following:

- 1. Control of Dist
- 2. Noise Pollution Control
- 3. Waste management
- 4. Environmental Incident Management (Sect 30 NEMA)
- 5. Contamination of surface and underground water
- 6. Soil Contamination
- 7. Storm Water Drainage
- 8. Environmental Cleanup and Rehabilitation
- 9. Environment monitoring

18. THE LIST OF PLANT AND EQUIPMENT

- 3 Phase Generator, Hand tools, Extension leads, Test Leads,
- Null Balance Digital Earth Megger
- 10kV Digital Megger
- 4 kV DC Hi Pot Test Set
- Primary Injection Test set variable 500/1000 Amps.
- Secondary Injection Test set, variable from 0 to 100 Amps
- AC / DC Injection Test Set, 200A, variable 0 to 250V
- -- Digital Millisecond Timer, 999 seconds
- 2 x Multimeters Digital (R.M.S.)
- DC Millivolt Injection Set, 100mV
- Bucholtz Pump (air compressed pump or bicycle pump)



ANNEXURE E - CLAUSE BY CLAUSE COMPLIANCE WITH SPECIFICATION

Testing and commission of 3kv dc traction and 11kv distribution substations on routine and as an when required basis requirements.

N_{CO}

11. Description of Work

Complies / does not comply

11.1. Commissioning tests:

- 11.1.1. Complies / does not comply
- 11.1.2. Complies / does not comply
- 11.1.3. Complies / does not comply
- 11.1.4. Complies / does not comply
- 11.1.5. Complies / does not comply
- 11.1.6. Complies / does not comply
- 11.1.7. Complies / does not comply
- 11.1.8. Complies / does not comply
- 11.1.9. Complies / does not comply
- 11.1.10. Complies / does not comply
- 11.1.11. Complies / does not comply

11.2. Routine tests:

- 11.2.1. Complies / does not comply
- 11.2.2. Complies / does not compl
- 11.2.3. Complies / does ot comply
- 11.2.4. Complies / does not comply
- 11.2.5. Complies / do s not comply
- 11.2.6. Complies does not comply
- 11.2.7. Complies Tools not comply
- 11.2.8. Complies / does not comply
- 11.2.9. Complies / does not comply
- 11.2.10. Complies / does not comply
- 11.2.11. Complies / does not comply
- 11.3. Complies / does not comply
- 11.4. Complies / does not comply
- 11.5. Complies / does not comply
- 11.6. Complies / does not comply
- 11.7. Complies / does not comply
- 11.8. Complies / does not comply

Date & Company Stamp

- 11.9. Complies / does not comply
- 11.10. Complies / does not comply

11.11. DC TRACTION & DISTRIBUTION SUBSTATIONS (ELECTRICAL TEST SHEETS):

12. GUARANTEE AND DEFECTS

- 12.1 Complies / does not comply
- 12.2. Complies / does not comply
- 12.3. Complies / does not comply
- 12.4. Complies / does not comply
- 12.5. Complies / does not comply
- 12.6. Complies / does not comply
- 12.7. Complies / does not comply
- 12.8. Complies / does not comply

12.9. TENDERING PROCEDURE

- 1. Complies / does not comply
- 2. Complies / does not comply
- 3. Complies / does not comply
- 4. Complies / does not comply
- 5. Complies / does not comply
- 6. Complies / does not comply
- 7. Complies / does not comply
- 8. Complies / does not comply
- 9. Complies / does not omply
- 10. Complies / does not comply
- 11. Complies / does not comply

12.10 Constraints on how the Contractor Provides the Works

- 12.10.1 Complies / does not comply
- 12.10.2 Complies / does not comply
- 12.10.3 Complies / does not comply
- 12.10.4 Complies / does not comply
- 12.10.5 Complies / does not comply
- 12.10.6 Complies / does not comply

Respondent's Signature

- 12.10.7 Complies / does not comply
- 12.10.8 Complies / does not comply
- 12.10.9 Complies / does not comply
- 12.10.10 Complies / does not comply
- 12.10.11 Complies / does not comply
- 12.10.12 Complies / does not comply
- 12.10.13 Complies / does not comply
- 12.10.14 Complies / does not comply
- 12.10.15 Complies / does not comply
- 12.10.16 Complies / does not comply
- 12.10.17 Complies / does not comply
- 12.10.18 Complies / does not comply
- 12.10.19 Complies / does not comply
- 12.10.20 Complies / does not comply

13.1. QUALITY AND INSPECTION

- 13.1.1 Complies / does not comply
- 13.1.5 Complies / does not compl
- 13.1.6 Complies / does not comply
- 13.1.7 Complies / does not comply

14.2. TRAINING

- 13.2.1 Complies does not comply
- 13.2.2 Complies / does not comply
- 13.2.3 Complies / does not comply
- 13.2.4 Complies / does not comply

15. SPECIFICATIONS

14.1. SOUTH AFRICAN NATIONAL STANDARDS:

- 14.1.1 Complies / does not comply
- 14.1.2 Complies / does not comply

Respondent's Signature

cc of air in relay.

Date:

Transnet Request for Quotation No. ERAC-WGO-MM62-22306 **Rail Network Maintenance Version 2 BBF 8999 3 kV DC Traction Substations Test Sheet FP04** Auxilliary Xformer: Current Xformers, Overload TRANSNET Relay and Buccholtz relay. freight rail Substation DC Earth Leakage Protection. **Substation Routine Testing:** Commissioning: CT Mag curve Aux.Xformer **CT Primary CT Secondary Current Rating** Full Load Current Rating Current Marked Marked Blue Amps Volts Red Amps White Amps Thermal Overload Setting la,b,c > = 1 xFull load/CT Primary Tripping time (sec) la,b,c > setting on relay White Blue la,b,c >xt setting from relay curve Calcula Sec. Injected current @ 2 X FL Actual Instantaneous Overload Setting la,b,c >>=3 xFull load/CT Primary la,b,c >> setting on relay Tripping time (sec) la,b,c >>xt setting min on relay White Blue Red

Output Relays					El	lem	ent	No.					Current	settin	gs
		la> &	la>>	2	lb> 8	k Ib		3	c> &	lc>	,	4 lc>>	Element 1	Pri.	Sec.
	1	2 3	4 5	1	2 3	4	5	1 2	2 3	4	5		Element 2	Pri.	Sec.
Start	0	0 0	0 0	0	0 0	0	0	0	0 0	0	0	Disabled	Element 3	Pri.	Sec.
Trip	1	0 0	0 0	1	0 0	0	0	1	0 0	0	0		Element 4	Disa	bled

Aux. Xformer Buccholtz: Relay trips PCB giving Lockout & Indication with

la,b,c >> xt setting on relay ran

Sec. Injected current @

Witnessed by: Name:

Calculated

Actual

DC Earth Leakag	e Protection	Tested by DC current injection									
Relay operates a	at amps trip	oping PCB and HS	CB's to lockou	t with flag indi	cation from the	e following:					
Rectifier Frame	Wave Filter Equip	Reactor Base	Chequer plates	HSCB Cells	Control Panels	UVR Base					
Battery charger	Telecontrol Panel	Anode wall Plates	Positive Isolator								
Tested by:	Name:		Signature:		Date:						

Signature:

Rail Net	work Ma	intenanc	e								BBF9	000 Vers	ion 3
3 kV DC 1	Traction S	ubstation	s Test She	eet: Main	and Auxil	liary Tran	sformer p	rotection					
Current t	transform	ers Ratio	and Magr	netisation	n Curves. C	Overload r	elays:The	rmal & Ins	stantaneo	ous.		TRANS	MET
			_			ıre, Pressu	-						NEI
Substatio	on:			Single	e/A/BU	nit	Routine	: Com	nmissioni	ng:		freight rail	
CT Ratios													
	current/Met	ering IFL	=	Auxilliary (Overcurrent	I _{FL} =		AC earth Le	akage		Winding Ov	ertemp/	
Marked		1easured		Marked	Measured Marked Measured						Marked	Measu	red
Magnetizat				Da-: Da-+-			a 1111			1.0	.1		
Main Overo	Red	White	Blue	Main Mete Volts	Red	Blue	Auxilliary C Volts	Red	Blue	AC earth Le Volts	Amps	Winding O Volts	Amps
VOICS	neu	Wille	Dide	Voits	neu	Бис	VOILS	neu	Blue	Voits	7111105	VOIES	7 timps
Overcurren	t Relay elem	ents	Relay make	s and types	. Mains:	<u> </u>		Auxilliary:	<u>I</u>		AC Earh Lea	kage:	
Main therm		lset= xli			Main Instan	itaneous	lset= xIn		0	AC Earth Le			et
Operating	Multiple	Amps	Specified	Actual	Operating	Multiple	Amps	Specified	Actual	Relay Trips	Primary Circ	uit	Primary
time	2 x IFL	·			time	3.5 x I FL		·		N .	Lockout and		trip amps
in seconds	3 x IFL				in seconds	4 x I FL					CT bases,Ma r Tank & Aux		
Trip PCB giv	ing indicatio	n:	Yes	/No	Trip PCB giv	ing indication	n:	Yes	/No	ansforme		.iiiidi y	
Auxilliary th	hermal	lset= xli	n Tset=	:	Auxilliary In	stantaneous	lset= xIn	T se	0	Test for	PCB structure		
Operating	Multiple	Amps	Specified	Actual	Operating	Multiple	Amps	Specified	Actual	parallel	CT stru	ıcture	
time	2 x IFL				time	3.5 x I FL				paths to	Main Tran	nsformer	
in seconds					in seconds					main earth	Aux tran	sformer	
Trip PCB giv	ing indicatio	n:	Yes	/No	Trip PCB giv	ing indicatior	n:	res	/No	from:	fen	ce	
Main Transf	former Prote	ection			•					-		,	
		CB giving Lo	ckout & Indi	cation with	СС	of air.	Pressure Re	lief Device:	Simulation	trips PCB giv	ing Lockout	& Indicatio	n. Yes/No
		ps PCB givin			°C dail setti					g Lockout & I	_		dail setting.
			5 marcation	<u> </u>	e dun setti	ПБ.	Bover ten	ip. neray arr	331 CD BIVIII	6 LOCKOUT & I	indication at	~	dun setting.
	<mark>ransformer l</mark> Polay trips D	CB giving Lo	ckout 8. Indi	cation with		of als.							
		CB giving Lo	CKOUL & IIIUI	cation with									
Tested by: N	Name:		Signature:		With ssea	v: Na lie:			Signature:			Date:	
		<	5 ₅	K	,								
			\	•									

3 kV DC Tra	ork Mair	ntenance								BBF9	001 Vers	ion 3
DC Earth Le	eakage, N	letering,	Wave Filt	er Equip	OC Protection ment, Diode tage Relay.	& Rectifie		nperature.		*	TRANSN	Eľ
Substation		<u> </u>					tine :	Commissioni	ng:		freight rail	
DC Earth Leak	age Protecti	on	Tested by [OC current i	njection							
Relay tested t	o operate	at	amps trippi	ng PCB and	d HSCB's to lock	out with indic	ation from th	ne following:				
Control Panels	Rectifier screen	Rectifier Base	Anode Wall Plates	Positive Isolator	LV Distribution board	Wave Filter Room	Chequer plates	HSCB Cells	Battery charger	Telecontrol Panel	3 kV DC UVR Base	3 kV DC Busbar Chamber
4 kV DC Voltm	neters				4 kA DC Amme	ter		Wave Filter Equ	ipment			
Substandard	Rectifier	% Error	Pos.Isolator	% Error	Indication	Mv	% Error	Harmonic	6th	12 th	18 th	24 th
1000		,,,		, -	1000		,,,	Frequency	(300 hz)	(600 hz)	(900 hz)	(1200 hz)
2000					2000			Capacitance uF	(===)	((====)	(,
3000					3000			Inductance mH				
4000					4000			Coil Spacing mm				
								Discharge Resisto	r:	kOhm		Fuse:
Rectifier Prote	ection											
Rectifier Press	sure tested	on Commiss	ioning at 10	.5 kV AC fo	r 60 sec.	Passed	/Failed			4		
Rectifier diod	e Monitorin	g	Tested by f	ibre optic	simulation test							
Diode failure i	indication s	witch on wit	h PCB trip to	lockout w	ith indication:	<u>Yes/No</u>						
Rectifier temp	perature cor	ntrol	Tested by f	ibre optic	simulation test							
Fans switch or	n at 50 ° C:					Yes/ No	Primary Circ	uit Breaker trip at	with	indication:		Yes/No
Fan failure trip	p Primary Ci	rcuit Breake	r to lockout	with indic	ation :	Yes/No	Fan switch c		$\overline{}$	mVe	olt injection	Yes/No
Rectifier Atte					ith indication b		triker pin fus			nd 3kV circuits		Yes/No
3kV DC Under	voltage Pro	tection	Tested by a	pplied DC	High Voltage							
					<u> </u>		- UCCDI:+	li and i				
Relay tested t			volts and d			volts trippin	g HSCH'S WIT		CD === 4 LICCI	Na i ala i a ali a a	.: 1 1	
Battery under				•		nd dropout at	1	volts tripping Po		s s with indica	tion and Locke	out.
Phase Fail Pro	tection:	Relay tested	l to trip PCB	giving lock	out and indicati	on on simulat	iol phas	il.	Yes / No			
Tested by: Na	me:		Signature:			With ssed b	y: Ne 22:		Signature:			Date:

Rail Ne	twork N	laintena	ance									BBF9	296 Vers	ion2
Frame Le Insulation	akage Pro n Resistan	tection. C ce and Pro	urrent Tra essure Tes	t Sheet E nsformer F its. Voltage th Resistan	Ratio and e Transfo	Mag Cur	d Indicatio	•	•	pping.		*	1RANS	
Substatio	n:			Panel No:		Designa	tion:			Routine : Cor	mmissioning:		freight rai	
Current Tra	ansformers	Zone 1	Zone 2	Zone 3	Frame I	eakage	Make/Typ	e of relay:			Tested by Pri/Sec	/TW		
CT D-4'-	Marked				Zor	nes	Zone 1	Zone 2	Zone 3	Parallel paths test	Zone 1 to Zo	ne 2		
CT Ratio	Measured				I	set =				at Iset amps	Zone 1 to Zo			
Mag curves	Volts	Amps	Amps	Amps	l trip ((amps)				at iset airips	Zone 2 to Zo	ne 3		
							,			Insulation	Zone 1 to Mair	n Earth		
					Intertripp	oing tests				Resistance	Zone 2 to Mair	n Earth		
					Zone 1	tripping	Zone 1	Zone 2	Zone 3		Zone 3 to Mair	n Earth		
					Zone 21	tripping	Zone 1	Zone 2	Zone 3		Zone 1 to Zo	ne 2		
					Zone 31	tripping	Zone 1	Zone 2	Zone 3		Zone 1 to Zo	ne 3		
											Zone 2 to Zo	ne 3		
	esistance Tes							1			- 1 . l			
Megger test	ts at 2500 volt				Red	White			Red	t @ 18 kV for 60 sec(\) White+Blue+Earth			lue+Earth	
	Red White	Earth Earth		1	White	Blue			White	Red+Blue Earth	mA White		ue+Earth	
	Blue	Earth		1	Blue	Red			Blue	White+Re +Ear 1	mA Blue		led+Earth	
			ı				ı							
Battery und	lervoltage pr	otection:		Relay tested	to pickup a	t	and drop	out at _		V ts trippin, all VCI	B's with indication a	and Lockou	t	
Earth Resist	ance test:	Re	sistance bety	ween spikes:		ohms		Resistano	etwee	n spikes and Substat	ion Earth	ohms		
General Rer	marks							_)				
Gerierai nei								$\neg ackslash$						
							•							
Tested by: I	Name			Signature:			Witness of	by Nam	e:	Signatu	re:	Date:		
			<	5 ₅	K	J,	\							

Signal and	twork IV d Distibuti			est Sheet	Ring,	Transmis	sion Line	and Tran	sformer	Feeder VO	CB's			E	BF 9297	that come	n 2
	ransforme n Relays:		-			-		Protectio	n. Transfe	ormer Pro	tection					NSNET	
Substatio				Panel N		Designat				Routine :		nmission	ing.	1	freight	rail	
Jubstatio	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Protection	Class 10P1		Ī	Metering C					ANSLAY C		ь.	LE	D Configurat	ion	
		Red	White	Blue		Red	White	Blue	i	Red	White	Blue		1	D Cominguiat		
	Marked				Marked				Marked				LED 1				
CT Ratio	Measured				Measured				Measured				LED 2				
lag curves	Volts	Red A	White A	Blue A	Volts	Red A	White A	Blue A	Volts	Red A	White A	Blue A	LED 3				
													LED 4				
													LED 5	1			
													LED 6	1			
													LED 7				
													LED 9				
Pola	rities																
rotectio	n Relays:	Make/Ty	pe:		/												
ercurrent	Elements		Tested by	Pri/ Sec/ TW				Tested by	Pri/Sec/TW	,				Output	t relay Config	uration	
MT (NI)		I set=		T set=		Instantane	nus	I set =	., _ 20, . •	T set =			B01	Lacput	,	,	
Operating	Multiple	Amps	R to W	R to B	B to W	Operating		Amps	R to W	R to B	B to W		B01	 			
time in	1.25 x Iset					times in	4.00 x Iset						B03				
seconds	2.00 x Iset						6.00 x Iset						B04				
arth Fault E	lamanta.		Tooko d b	Dei /Coo/TIA				Tootod b	Pri/Sec/TW	,				Tastad bu	D=: /C = = /T\A/		
MT (NI)	iements		et=	Pri/Sec/TW	set=	Instantane	nus	_	set=		et=	Sensitive E			Pri/Sec/TW set=	T.	set=
Operating	Multiple	Amps	R to E	W to E	B to E	Operating		Amps	R to E	W to E	B to E	Operating		Amps	R to E	W to E	B to
time in	1.25 x Iset					times in	4.00 x Iset						1.00 x set				
seconds	2.00 x Iset					seconds	6.00 x Iset					seconds	1.25 x t				
eeder Prot	ection				Solkor:Ove	erall Fault se	tting	Tested h	y Pri/Sec/T	W	Translav:O	all Fau	setting	Tested h	y Pri/Sec/TV	V	
cucilion	cction						Local sub	Local sub.	Distant sub	Distant sub.	Transiay.o		oc terrig	rested b	111/300/11	Ì	
ilot Cable					Phases	Expected %	Trip Amps	m Amps	Trip Amps	m Amps	F	Cui nt	Relay C	Output		Pilot	mAmps
oop Resist	tance	T1+T2		Ohm	R-E	22					R-E						
		T1-E		MOhm	W-E	27.5					W-E						
Insulation	Resistance	T2-E		MOhm	B-E	37					E						
		T1-T2		MOhm	R-W	110					R-W						
					W-B B-R	110 55					-B						
							viniection	Red to Whit	e in Locasi	ub with Sho.		istant sub					
					Current in		, ,	Amps	mAmps	n pilot wire			Yes	No			
															_		
ransformer	r Protection							ć : A	ai .								
		Buccholtz:	Relay trips	VCB giving I	Lockout & Ir	dication wit	h c	c of air			Relay trips					dail settin	
ransformer ransformer		Buccholtz:	Relay trips '	VCB giving I	Lockout & Ir	ndication wit	hc	c of air		erature: Over tempera							
	No:	Buccholtz:	Relay trips '	VCB giving I		ndication wit	h c		ne ng C								g. dail set

Respondent's Signature