TRANSNET

**Transnet freight rail**, a division of

**TRANSNET SOC LTD**

Registration Number 1990/000900/30

[hereinafter referred to as **Transnet**]

# REQUEST FOR QUOTATION [RFQ] No PTH/52931

| | |
|---|---|
| **FOR THE PROVISION OF:** | **THE REFURBISHMENT OF 6 (SIX) 132/25 kV,20MVA TRACTION TRANSFORMERS SITUATED AT STRYDOM-, STORMBERG-, GAIKA-, SOUTHDOWN-, ZWALU- AND PUTTERSKRAAL SUBSTATIONS** |
| **LOCATION:** | **EASTERN CAPE** |
| **ISSUE DATE:** | **22 MAY 2014** |
| **CLOSING DATE:** | **24 JUNE 2014** |
| **CLOSING TIME:** | **12:00** |

TRANSNET

## SCHEDULE OF DOCUMENTS



**ADDITIONAL ANNEXURES**

## Section 1

## NOTICE TO BIDDERS

Quotations are requested from interested persons, companies, close corporations or enterprises (hereinafter referred to as the "**Respondent(s)**") to supply the above-mentioned requirement to Transnet.

**On or after 22 May 2014 RFQ documents may be inspected at, and are obtainable from the Regional Supply Chain Office, 2nd Floor, Room 204, Fleming Street, Port Elizabeth**

**Arrangements for the collection of the RFQ documents can be made with Me. Ronelle Blom on telephone number 041 – 507 2720/21 or email: ronelle.blom@transnet.net or phumla.maldaka@transnet.net**

**NB: No RFQ documents will be issued after the compulsory information briefing session and site visits.**

No RFQ/tender fee is applicable and will be issued **"FREE OF CHARGE"** to all respondents.

**A compulsory information briefing session and site visits will be conducted on 04 – 05 June 2014. Attendance is compulsory and failure to attend will disqualify submissions from evaluation.** The compulsory information briefing session and site visits will be conducted over a period of 2 days, starting in East London and ending at Zwalu Substation near Bethulie on 05 June 2014.

**The compulsory information briefing session will start punctually at 08h00 and Respondents must please ensure that they arrive on time to prevent any delays.**

**Details of the compulsory information briefing session & site visits:**

**Date:** **04 June 2014**
**Venue:** **Transnet Freight Rail**
**Infra Boardroom (2nd Floor)**
**1A Cambridge Street**
**East London**
**Time:** **08h00**

**Immediately after the information briefing session, 4 substations will be visited between East London and Burgersdorp. Please take note that a sleep over at Burgersdorp will be required and respondents must arrange their own accommodation for the night of 04 June 2014.**

**(NB: On 05 June 2014 all will meet at the TFR Infra depot in Burgersdorp at 08h00 where after all will continue to visit the remaining 2 substation between Burgersdorp and Springfontein.**
**For directions, Mr. Evert Koffeman may be contacted on cell: 083 387 3615.**

**The above-mentioned session are to be used as an opportunity for the attendees to familiarise themselves with the scope of the requirements and furthermore for bidders to pose and for TFR to respond in terms of "questions and answers". It is hence required that prospective bidders are fully familiar with the entire tender pack prior to attending these sessions. All respondents are to provide their own transportation and accommodation to and from the abovementioned session and site visits and will be for their own expense. Transnet will not provide transport in any form.**

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

**METHOD:** Post and/or courier

**CLOSING VENUE:**

**Postal Address:**

Transnet SOC Limited

Secretariat of the Acquisition Council (ASO)

PO Box 13213

Humewood

Port Elizabeth

6013

**Physical Address:**

Transnet SOC Limited

Secretariat of the Acquisition Council, (ASO)

**Tender Box**, 2nd Floor Foyer

FC Sturrock Building

Fleming Street

Port Elizabeth

6001

**NB:** Quotations must be enclosed in a sealed envelope which must have inscribed on the outside:

| | |
|---|---|
| **RFQ No** | **: PTH/52931** |
| **Description** | **: Refurbishment of Transformers** |
| **Closing date and time** | **: 24 June 2014 at 12h00** |
| **Closing address (refer to abovementioned options)** | |

## 1 Responses to RFQ

Responses to this RFQ [**Quotations**] must not include documents or reference relating to any other quotation or proposal. Any additional conditions must be embodied in an accompanying letter. The original signed RFQ will serve as the legal binding document and no copies will be accepted for evaluation purposes.

## 2 Broad-Based Black Economic Empowerment [B-BBEE]

Transnet fully endorses and supports the Government's Broad-Based Black Economic Empowerment Programme and it would therefore prefer to do business with local business enterprises who share these same values. Transnet will accordingly allow a "preference" to companies who provide a valid B-BBEE Verification Certificate. All procurement transactions will be evaluated accordingly.

### 2.1 B-BBEE Scorecard and Rating

As prescribed in terms of the Preferential Procurement Policy Framework Act (PPPFA), Act 5 of 2000 and its Regulations, Respondents are to note that the following preference point systems are applicable to all bids:

- the 80/20 system for requirements with a Rand value of up to R1 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R1 000 000 (all applicable taxes included).
- Bidders are to note that if the 80/20 preference point system is stipulated in this RFP and all Bids received exceed R1 000 000.00, the RFP must be cancelled. Similarly, if the 90/10 preference point system is stipulated in this RFP and all Bids received are equal to or below R1 000 000.00, the RFP must be cancelled.

The value of this bid is estimated to exceed R1 000 000 (all applicable taxes included); and therefore the **90/10** system shall be applicable.

When Transnet invites prospective suppliers to submit Proposals for its various expenditure programmes, it requires Respondents to have their B-BBEE status verified in compliance with the Codes of Good Practice issued in terms of the Broad Based Black Economic Empowerment Act No. 53 of 2003.

The Department of Trade and Industry recently revised the Codes of Good Practice on 11 October 2013 [Government Gazette No. 36928]. The Revised Codes will replace the Black Economic Empowerment Codes of Good Practice issued on 9 February 2007. The Revised Codes provide for a one year transitional period starting 11 October 2013. During the transitional period, companies may elect to be measured in terms of the Revised Codes or the 2007 version of the Codes. After the first year of the implementation of the Revised Codes, B-BBEE compliance will be measured in terms of the Revised Codes without any discretion. Companies which are governed by Sector-specific Codes will be measured in terms of those Sector Codes.

As such, Transnet will accept B-BBEE certificates issued based on the Revised Codes. Transnet will also continue to accept B-BBEE certificates issued in terms of the 2007 version of the Codes provided it was issued before 10 October 2014. Thereafter, Transnet will only accept B-BBEE certificates issued based on the Revised Codes.

Respondents 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.**

*[Refer clause19 below for Returnable Documents required]*

## 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 any written enquiries relating to the RFQ to the following Transnet employee:

Name: Granville van der Merwe Email: granville.vandermerwe@transnet.net

Respondents may also, at any time after the closing date of the RFQ, communicate with the Secretariat of the Transnet Acquisition Council on any matter relating to its RFQ response:

Telephone 041 - 5072721 Email ronelle.blom@transnet.net

**4 Tax Clearance**

The Respondent's original and valid Tax Clearance Certificate must accompany the Quotation. Note that no business shall be awarded to any Respondent whose tax matters have not been declared by SARS to be in order.

**5 VAT Registration**

The valid VAT registration number must be stated here: _____ *[if applicable]*.

**6 Legal Compliance**

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

**7 Changes to Quotations**

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

**8 Pricing**

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

**9 Prices Subject to Confirmation**

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

**10 Negotiations**

Transnet reserves the right to undertake post-tender negotiations with selected Respondents or any number of shortlisted Respondents.

**11 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.

**12 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;
- reject all Quotations, if it so decides;
- place an order in connection with this Quotation at any time after the RFQ's closing date;

- award only a portion of the proposed goods / service/s which are reflected in the scope of this RFQ;
- split the award of the order/s between more than one Supplier/Service Provider; or
- make no award at all.

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

## 13 Transnet's supplier integrity pact

Transnet's Integrity Pact requires a commitment from suppliers and Transnet that they will not engage in any corrupt and fraudulent practices, anti-competitive practices; and act in bad faith towards each other. The Integrity Pact also serves to communicate Transnet's Gift Policy as well as the remedies available to Transnet where a Respondent contravenes any provision of the Integrity Pact.

Respondents are required to familiarise themselves with the contents of the Integrity Pact which is available on the Transnet Internet site [www.transnet.net/Tenders/Pages/default.aspx] or on request. Furthermore, Respondents are required to certify that they have acquainted themselves with all the documentation comprising the Transnet Integrity Pact and that they fully comply with all the terms and conditions stipulated in the Transnet Supplier Integrity Pact as follows:

| YES | | NO | |
|---|---|---|---|

Should a Respondent need to declare previous transgressions or a serious breach of law in the preceding 5 years as required by Annexure A to the Integrity Pact, such declaration must accompany the Respondent's bid submission.

## 14 Evaluation Criteria

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

| Criterion/Criteria | Explanation |
|---|---|
| **Phase 1:** **Administrative responsiveness** | Completeness of response and returnable documents = 100% |
| **Substantive responsiveness** | Prequalification criteria, if any, must be met and whether the Bid materially complies with the scope and/or specification given = 100% |

| | |
|---|---|
| **Phase2:**<br>**Final weighted evaluation based on 80/20 preference point system as indicated in paragraph 2** | • Pricing and price basis [firm] - whilst not the sole factor for consideration, competitive pricing and overall level of unconditional discounts[1] will be critical<br>• B-BBEE status of company - Preference points will be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table indicated in Annexure A. |

**15 Validity Period**

Transnet desires a validity period of 90 [ninety] days from the closing date of this RFQ.

This RFQ is valid until _____.

**16 Banking Details**

BANK: _____

BRANCH NAME / CODE: _____

ACCOUNT HOLDER: _____

ACCOUNT NUMBER: _____

**17 Company Registration**

Registration number of company / C.C. _____

Registered name of company / C.C. _____

**18 Disclosure of Prices Quoted**

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

YES ☐ NO ☐

**19 Returnable Documents**

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

a) Respondents are required to submit with their Quotations the **mandatory Returnable Documents,** as detailed below.

***Failure to provide all these 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 all these Documents are returned with their Quotations.***

[1] *Only unconditional discounts will be taken into account during evaluation. A discount which has been offered conditionally will, despite not being taken into account for evaluation purposes, be implemented when payment is effected.*

All Sections, as indicated in the footer of each page, must be signed, stamped and dated by the Respondent. Please confirm submission of these mandatory Returnable Documents by so indicating [Yes or No] in the table below:

| Mandatory Returnable Documents | Submitted [Yes or No] |
|---|---|
| SECTION 2 : Quotation Form | |
| | |

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 all these documents are returned with their Quotations.***

All Sections, as indicated in the footer of each page, must be signed, stamped and dated by the Respondent. Please confirm submission of these essential Returnable Documents by so indicating [Yes or No] in the table below:

| Essential Returnable Documents | Submitted [Yes or No] |
|---|---|
| SECTION 1 : Notice to Bidders | |
| - Valid and original B-BBEE Verification Certificate or certified copy thereof [Large Enterprises and QSEs]<br>Note: failure to provide a valid B-BBEE Verification Certificate at the closing date and time of the RFQ will result in an automatic score of zero for preference | |
| - Valid and original B-BBEE certificate/sworn affidavit or certified copy thereof from auditor, accounting officer or SANAS accredited Verification Agency [EMEs]<br>Note: failure to provide a valid B-BBEE Verification Certificate at the closing date and time of the RFQ will result in an automatic score of zero being allocated for preference | |
| - In the case of Joint Ventures, a copy of the Joint Venture Agreement or written confirmation of the intention to enter into a Joint Venture Agreement | |
| - Original valid Tax Clearance Certificate [Consortia / Joint Ventures must submit a separate Tax Clearance Certificate for each party] | |
| SECTION 3 : Standard Terms and Conditions of Contract for the Supply of Goods or Services to Transnet | |
| SECTION 4 : Background and Scope of Requirements | |
| SECTION 5 : Certificate of Attendance of RFQ Briefing Session | |
| SECTION 6 : Acknowledgement Form | |
| ANNEXURE A : B-BBEE Preference Points Claim Form | |
| ANNEXURE B : E7/1 Specification for work on, over, under or adjacent to railway lines and near high voltage equipment | |

| Essential Returnable Documents | Submitted [Yes or No] |
|---|---|
| ANNEXURE C : Safety Arrangements and Procedural Compliance with the Occupational Health and safety Act; Act 85 of 1993 and regulations | |
| ANNEXURE D : Painting of Steel Components of Electrical Equipment | |
| ANNEXURE E : Supplier Code of Conduct | |
| ANNEXURE F : RFQ Declaration Form | |
| LETTER OF GOOD STANDING ISSUED BY COMPENSATION COMMISIONER OR THE FEDERATED EMPLOYER'S MUTUAL ASSURANCE COMPANY LIMITED (FEM) | |
| PROOF OF THE APPRORIATE QUALIFICATIONS / EXPERIENCE NECESSARY FOR THIS TYPE OF WORK/OPERATION INCLUDING PREVIOUS REFERENCES | |
| DETAILED BREAKDOWN OF ALL LIFTING EQUIPMENT TO BE UTILISED FOR THE PROJECT | |

Respondents to complete this section:

NAME OF RESPONDENT .....

PHYSICAL ADDRESS .....

.....

Respondent's contact person: Name.....

Designation.....

Telephone.....

Cell Phone.....

Facsimile.....

Email.....

Website.....

## Section 2

## QUOTATION FORM

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 Terms and Conditions for the Supply of Goods or Services to Transnet [Section 3 hereof]; 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 quoted, 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 services required, on a "delivered nominated destination" basis, excluding VAT:

**(BOQ's: Pages 12 – 35 to be completed)**

**Notes to Pricing:**

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.

c) 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.

d) A retention fee of 20% of the quoted price per transformer to be held for a period of 6 months, which will be released after final inspection.

e) Labour rates per day to be inserted below:

| Contractor labour rates | |
|---|---|
| Highly Skilled | |
| Skilled | |
| Semi Skilled | |
| Unskilled | |

**Time to Complete the Project from date of purchase order: _____ [months]**

# Putterskraal

## Refurbishment of a 132/25 kV, 20MVA Traction transformer

### Bill of quantities per transformer

| A | The dismantling, of the transformer fins and conservator tank with all associated brackets | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Close the main transformer valves leading to the cooling fins and conservator tank. Drain the oil from the cooling fins and conservator tank in a suitable container. (No leaks or spillage allowed and the container must be PCB free) | | | |
| 2 | Transformer fins; Remove the transformer cooling fins with all attachments and support brackets if applicable, place/stack the fins neatly on site. Ensure that all the valves and taps are properly closed. Blank off the main transformer valves with a suitable blanking plates to ensure that no oil leaks from the main tank may occur. (The transformer dimensions and weight is attached.) | | | |
| 3 | Specify the hydraulic crane lifting capacity at various reach distances. (Test certificates) | | | |
| 4 | Remove the oil conservator tank with attachments, assembly and support brackets and place neatly on site. Ensure that all the valves and taps are properly closed to prevent oil leaks | | | |

| B | Loading and off loading of the transformer fins and conservator tank with all associated brackets on site, and at the factory. | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Load the cooling fins, the cooling fins must be properly stacked and secure, bolted together "Sandwich type arrangement" in easy manageable stacks. (Not more than 5 fins per stack) to ensure that no damage to the fins will occur during transport. Suitable bolts with washers to be used on fin brackets for this purpose. Close the oil entry openings to keep moisture out. | | | |
| 2 | Specify the transport vehicle loading restrictions weight and square meter loading area and the hydraulic crane lifting capacity at various reach distances. (Test certificates) . | | | |
| 3 | Loading of the oil conservator tank, with attachments, assembly and support brackets on the truck. Ensure that all the valves and taps are properly closed. The tanks and support brackets must be properly secured to the truck before transportation. | | | |

| C | Transport of the transformer from the site to the factory and back to the site. | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Transport to the factory | | | |
| 2 | Transport to the site | | | |

| D | Transformer Core and Core windings | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Drain the oil from the transformer main tank into a suitable container PCB free. | | | |
| 2 | Remove the high and medium voltage bushing, care must be taken not to damage the CT's inside the main tank, stack the bushings neatly at an angle of 45° | | | |
| 3 | Remove the transformer tank main lid to allow the contractor and TFR staff to inspect the tap changer, core, core winding insulation and all exposed mechanical and electrical connections. | | | |
| 4 | Remove any foreign objects, repair any insulation or contactor damage, re-torque the core bolts to the correct torque settings of .....N.m. Repair all burnt or damage contacts, insulation damage, faulty terminations and faulty connections. | | | |
| 5 | Re-insulate the HV and MV leads to the various bushings with paper tape eight layers per conductor. | | | |
| 6 | During the mentioned process the transformer must be fitted with a suitable cover which will prevent dust, rain and any impurities from entering into the tank. | | | |
| 7 | Megger test the core insulation immediately after the cleaning and repair process | | | |
| 8 | Refit the 132 kV and new 52kV bushings. (Care must be taken not to damage the CT's inside the transformer main tank.) Allow to replace or modify the studs to fit the old and new bushings if required. | | | |
| 9 | Replace all gaskets, seals and fill the main tank with oil, vacuum of the main tank to be maintained at the correct vacuum of 5Torr | | | |
| 10 | Supply and fit new core/earth insulator on the outside of the main tank ,with new gaskets and cone rubber seal. | | | |

| E | The measurement and protection equipment | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish the mentioned equipment, oil and winding temperature probes and pockets.. | | | |
| 2 | Repair all leaks to the Bucholtz relay including the test valve and sight glass gaskets. | | | |
| 3 | Service and secure all control/protection - wiring/terminations inside the main tank before closing. | | | |
| 4 | Service transformer termination box ensure no loose connections or oil leaks | | | |

| F | Transformer cooling fins x 10 | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish all the cooling fins, attachment brackets, gaskets "type TF72", drain plugs, valves, O rings washers and seals | | | |
| 2 | The transformer cooling fins and support brackets, spot remove all rust/ corrosion areas plus an additional 30mm of the existing paint around the effected area, degrease check for surface damage clean and paint one coat NS4. | | | |
| 3 | The complete outside of the cooling fins and all attachment brackets must be must be lightly sanded to remove old lose/flake paint and corrosion, be degreased and be painted according to specification CEE 0045.90. (two coats) | | | |
| 4 | Clean the inside of each fin to ensure that no carbon, sludge or any other impurities are trapped inside the fins, which might contaminate the new oil. (Air blast and rinse with clean oil) | | | |
| 5 | All the cooling fins must be pressure tested to ensure that no leakage of the oil will occur. TFR staff to be present. | | | |
| 6 | Replace all the transformer cooling fin spacer bolts and nuts with hot dip galvanised bolts and nut of similar material and dimensions. | | | |

| G | Transformer main tank | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish the transformer main tank with all associate equipment, pipes and attachments, drain valves, plugs, washers, O-rings, gaskets, temperature control box, Bucholtz pipes and temperature probes. | | | |
| 2 | The outside of the transformer main tank and all attachment brackets, U bolts, bolts and nuts, spot repair remove all rust/corrosion, (weld, sealed weld ,...) plus an additional 30mm of the existing paint around the effected area, degrease check for surface damage clean and paint one coat NS4 red colour. | | | |
| 3 | The outside of the transformer main tank, must be sanded to remove loose paint, be degreased, and be painted according to specification CEE 0045.90.Painting of steel component of electrical equipment (Two coats) | | | |
| 4 | All the gaskets must be replaced with type TF72 of same thickness. Size 10mm gasket on the main lid. The stop and drain valves, drain plugs, washers and O-rings must be replaced. Fit new dowty washers to drain plugs on all the fins. | | | |
| 5 | Allow for the replacement of all broken or missing bolts and nuts as well as the bushing studs (16mm) | | | |
| 6 | Degrease and clean the transformer main tank plinth and paint 2 coats noxide. | | | |

| H | Transformer conservator oil tank | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish the transformer conservator tank with all pipes, attachment brackets (knee brace and conservator supports) , do spot repairs on all rust/corrosion areas, (weld, sealed weld....) plus remove an additional 30mm of the existing paint around the effected area, degrease check for surface damage clean and paint one coat NS4 red colour. Fit new knee brace and conservator tank support bolts and nuts, new gaskets. Repair rust and place gasket 6mm type 72 between the conservator mounting brackets . | | | |
| 2 | The outside of the transformer conservator tank, and all attachment brackets must be sanded down, degreased and be painted according to **specification CEE 0045.90**. (one coat) white NOXIDE. | | | |
| 3 | The conservator tank must be pressure tested to ensure that no leakage of the oil will occur. | | | |
| 4 | The inside of the conservator tank must be sandblasted and clean and be painted with gliptol or be replace with a 3CR12 S/Steel tank | | | |

| | | | | |
|---|---|---|---|---|
| 5 | All the gaskets must be replaced with type TF72 and all the stop valves and washers, O rings be refurbish or replaced. | | | |
| 6 | Supply and install new site glasses and site glass housings where required. | | | |
| 7 | Allow for the replacement of all broken or missing bolts and nuts as well as the bushing studs (16mm) | | | |
| 8 | Replace breather and breather pipe with support brackets | | | |

| I | Transformer oil and testing | Price | Unit | Total |
|---|---|---|---|---|
| 1 | The transformer oil drained from the main tank and fins must be cleaned via a vacuum filter process to ensure the removal of all dissolved gasses and impurities, Minimum dielectric strength must be at least 65kV with a water content of less than 10ppm at ....° C. No direct contact between the oil and heater elements will be allowed. Supply detailed filter process to be utilized and oil test specifications e.g. temperature, vacuum, type of filter cartridges, and different oil test to be performed "Specify". Contractor to supply own oil and generator plant. | | | |

| J | Reassemble the transformer on site | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Fit the conservator tank with support brackets and new gaskets complete | | | |
| 2 | Fit the cooling fins to the main transformer complete with gaskets and torque all bolts and nuts to specification employing standard torque settings. | | | |
| 4 | Fit new oil cooling fin support brackets (Contractor to provide design to TFR for approval), hot dip galvanised and paint as per specification CEE 0045.90. (two coats). Tension rods to ensure even distribution of the load. | | | |
| | Fit the existing 132kV bushings and new 25kV bushings. Bushings will be supplied by TFR. | | | |
| 6 | Fill the transformer with the existing oil , Test certificates to be made available. Oil must be PCB free (Sticker from test laboratories to certify the transformer is PCB free, less than 2.5ppm @ 20° Celsius . Allow for top-up oil. | | | |
| 7 | Check all gaskets, valve, stop cocks for oil leaks and repair on site | | | |
| 8 | Filter complete transformer 3 passes minimum to meet required standards and specifications | | | |
| 9 | Performed final test and energise: Winding resistance, Ratio, Insulation and oil, | | | |
| 10 | Clean site from any redundant parts, oil spillage etc (TFR to witness all test) | | | |
| | **Sub Total A** | | | |

| No | Site establishment | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Provide filter plant (PCB free) | | | |
| 2 | Provide generator plant | | | |
| 3 | Provide mobile crane to lift oil cooling fins and main tank lid (_____) ton | | | |
| | Provide Hydraulic jacks to raise the main transformer tank | | | |
| 5 | Provide reservoir (PCB free) | | | |
| 6 | Transport Cost | | | |
| 7 | Accommodation Cost | | | |
| 8 | P & G's | | | |
| 9 | | | | |
| | **Sub Total B** | | | |

| | Safety cost SHE plan | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Compile Safety File; Written safe working statement for each process: | | | |
| | Remove and assemble of the transformer cooling fins. | | | |
| | Remove and assemble of the transformer conservator tank and attachment brackets. | | | |
| | Remove and assemble of the transformer 132kV and 25kV Bushings | | | |
| | Remove and refit of the transformer main lid | | | |
| | The raise and lowering of the transformer main tank | | | |
| | | | | |
| 2 | Compile a risk assessment on: | | | |
| | Possible fire, causes, probability, estimate damage prevention, action plan | | | |

| | | | | |
|---|---|---|---|---|
| | Oil Pollution, Causes, probability, estimate cleanup cost, prevention, action plan | | | |
| | Lifting equipment failure, Cause of failure, Probability, Estimate damage, prevention and action plan | | | |
| | High Voltage shock, causes, probability, estimated cost, prevention and action plan | | | |
| | Level crossings accidents, causes, probability, estimated cost, prevention, action plan | | | |
| | | | | |
| | | | | |
| **3** | Fall protection plan when working on transformer and removing part of the transformer | | | |
| | | | | |
| **4** | Safety training; | | | |
| | Responsible person in charge | | | |
| | First aid number | | | |
| | Certified operators | | | |
| | | | | |
| **5** | Certification | | | |
| | Letters of appointment | | | |
| | Letters of competency | | | |
| | Letter of good standing with the claims commissioner | | | |
| | Tax clearance certificate | | | |
| | Qualified drivers and plant operators (Certificates) | | | |
| | Letter of medical fitness on staff | | | |
| | | | | |
| **3** | Site instruction book and Site Diary | | | |
| | | | | |

**Main Total A & B**

| No | Specify any additional recommended work or test | Price | Unit | Total |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |

**Additional option cost outside tender scope**

# Zwalu

## Refurbishment of a 132/25 kV, 20MVA Traction transformer

### Bill of quantities per transformer

| A | The dismantling, of the transformer fins and conservator tank with all associated brackets | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Close the main transformer valves leading to the cooling fins and conservator tank. Drain the oil from the cooling fins and conservator tank in a suitable container. (No leaks or spillage allowed and the container must be PCB free) | | | |
| 2 | Transformer fins; Remove the transformer cooling fins with all attachments and support brackets if applicable, place/stack the fins neatly on site. Ensure that all the valves and taps are properly closed. Blank off the main transformer valves with a suitable blanking plates to ensure that no oil leaks from the main tank may occur. (The transformer dimensions and weight is attached.) | | | |
| 3 | Specify the hydraulic crane lifting capacity at various reach distances. (Test certificates) | | | |
| 4 | Remove the oil conservator tank with attachments, assembly and support brackets and place neatly on site. Ensure that all the valves and taps are properly closed to prevent oil leaks | | | |

| B | Loading and off loading of the transformer fins and conservator tank with all associated brackets on site, and at the factory. | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Load the cooling fins, the cooling fins must be properly stacked and secure, bolted together "Sandwich type arrangement" in easy manageable stacks. (Not more than 5 fins per stack) to ensure that no damage to the fins will occur during transport. Suitable bolts with washers to be used on fin brackets for this purpose. Close the oil entry openings to keep moisture out. | | | |
| 2 | Specify the transport vehicle loading restrictions weight and square meter loading area and the hydraulic crane lifting capacity at various reach distances. (Test certificates) . | | | |
| 3 | Loading of the oil conservator tank, with attachments, assembly and support brackets on the truck. Ensure that all the valves and taps are properly closed. The tanks and support brackets must be properly secured to the truck before transportation. | | | |

| C | Transport of the transformer from the site to the factory and back to the site. | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Transport to the factory | | | |
| 2 | Transport to the site | | | |

| D | Transformer Core and Core windings | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Drain the oil from the transformer main tank into a suitable container PCB free. | | | |
| 2 | Remove the high and medium voltage bushing, care must be taken not to damage the CT's inside the main tank, stack the bushings neatly at an angle of 45° | | | |
| 3 | Remove the transformer tank main lid to allow the contractor and TFR staff to inspect the tap changer, core, core winding insulation and all exposed mechanical and electrical connections. | | | |
| 4 | Remove any foreign objects, repair any insulation or contactor damage, re-torque the core bolts to the correct torque settings of .....N.m. Repair all burnt or damage contacts, insulation damage, faulty terminations and faulty connections. | | | |
| 5 | Re-insulate the HV and MV leads to the various bushings with paper tape eight layers per conductor. | | | |
| 6 | During the mentioned process the transformer must be fitted with a suitable cover which will prevent dust, rain and any impurities from entering into the tank. | | | |
| 7 | Megger test the core insulation immediately after the cleaning and repair process | | | |
| 8 | Refit the 132 kV and new 52kV bushings. (Care must be taken not to damage the CT's inside the transformer main tank.) Allow to replace or modify the studs to fit the old and new bushings if required. | | | |
| 9 | Replace all gaskets, seals and fill the main tank with oil, vacuum of the main tank to be maintained at the correct vacuum of 5Torr | | | |
| 10 | Supply and fit new core/earth insulator on the outside of the main tank ,with new gaskets and cone rubber seal. | | | |

| E | The measurement and protection equipment | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish the mentioned equipment, oil and winding temperature probes and pockets.. | | | |
| 2 | Repair all leaks to the Bucholtz relay including the test valve and sight glass gaskets. | | | |
| 3 | Service and secure all control/protection - wiring/terminations inside the main tank before closing. | | | |
| 4 | Service transformer termination box ensure no loose connections or oil leaks | | | |

| F | Transformer cooling fins x 10 | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish all the cooling fins, attachment brackets, gaskets "type TF72", drain plugs, valves, O rings washers and seals | | | |
| 2 | The transformer cooling fins and support brackets, spot remove all rust/ corrosion areas plus an additional 30mm of the existing paint around the effected area, degrease check for surface damage clean and paint one coat NS4. | | | |
| 3 | The complete outside of the cooling fins and all attachment brackets must be must be lightly sanded to remove old lose/flake paint and corrosion, be degreased and be painted according to specification CEE 0045.90. (two coats) | | | |
| 4 | Clean the inside of each fin to ensure that no carbon, sludge or any other impurities are trapped inside the fins, which might contaminate the new oil. (Air blast and rinse with clean oil) | | | |
| 5 | All the cooling fins must be pressure tested to ensure that no leakage of the oil will occur. TFR staff to be present. | | | |
| 6 | Replace all the transformer cooling fin spacer bolts and nuts with hot dip galvanised bolts and nut of similar material and dimensions. | | | |

| G | Transformer main tank | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish the transformer main tank with all associate equipment, pipes and attachments, drain valves, plugs, washers, O-rings, gaskets, temperature control box, Bucholtz pipes and temperature probes. | | | |
| 2 | The outside of the transformer main tank and all attachment brackets, U bolts, bolts and nuts, spot repair remove all rust/corrosion, (weld, sealed weld ,...) plus an additional 30mm of the existing paint around the effected area, degrease check for surface damage clean and paint one coat NS4 red colour. | | | |
| 3 | The outside of the transformer main tank, must be sanded to remove loose paint, be degreased, and be painted according to specification CEE 0045.90.Painting of steel component of electrical equipment (Two coats) | | | |
| 4 | All the gaskets must be replaced with type TF72 of same thickness. Size 10mm gasket on the main lid. The stop and drain valves, drain plugs, washers and O-rings must be replaced. Fit new dowty washers to drain plugs on all the fins. | | | |
| 5 | Allow for the replacement of all broken or missing bolts and nuts as well as the bushing studs (16mm) | | | |
| 6 | Degrease and clean the transformer main tank plinth and paint 2 coats noxide. | | | |

| H | Transformer conservator oil tank | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish the transformer conservator tank with all pipes, attachment brackets (knee brace and conservator supports) , do spot repairs on all rust/corrosion areas, (weld, sealed weld....) plus remove an additional 30mm of the existing paint around the effected area, degrease check for surface damage clean and paint one coat NS4 red colour. Fit new knee brace and conservator tank support bolts and nuts, new gaskets. Repair rust and place gasket 6mm type 72 between the conservator mounting brackets . | | | |
| 2 | The outside of the transformer conservator tank, and all attachment brackets must be sanded down, degreased and be painted according to **specification CEE 0045.90**. (one coat) white NOXIDE. | | | |
| 3 | The conservator tank must be pressure tested to ensure that no leakage of the oil will occur. | | | |
| 4 | The inside of the conservator tank must be sandblasted and clean and be painted with gliptol or be replace with a 3CR12 S/Steel tank | | | |

| | | | | |
|---|---|---|---|---|
| 5 | All the gaskets must be replaced with type TF72 and all the stop valves and washers, O rings be refurbish or replaced. | | | |
| 6 | Supply and install new site glasses and site glass housings where required. | | | |
| 7 | Allow for the replacement of all broken or missing bolts and nuts as well as the bushing studs (16mm) | | | |
| 8 | Replace breather and breather pipe with support brackets | | | |

| I | Transformer oil and testing | Price | Unit | Total |
|---|---|---|---|---|
| 1 | The transformer oil drained from the main tank and fins must be cleaned via a vacuum filter process to ensure the removal of all dissolved gasses and impurities, Minimum dielectric strength must be at least 65kV with a water content of less than 10ppm at ....° C. No direct contact between the oil and heater elements will be allowed. Supply detailed filter process to be utilized and oil test specifications e.g. temperature, vacuum, type of filter cartridges, and different oil test to be performed "Specify". Contractor to supply own oil and generator plant. | | | |

| J | Reassemble the transformer on site | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Fit the conservator tank with support brackets and new gaskets complete | | | |
| 2 | Fit the cooling fins to the main transformer complete with gaskets and torque all bolts and nuts to specification employing standard torque settings. | | | |
| 4 | Fit new oil cooling fin support brackets (Contractor to provide design to TFR for approval), hot dip galvanised and paint as per specification CEE 0045.90. (two coats). Tension rods to ensure even distribution of the load. | | | |
| | Fit the existing 132kV bushings and new 25kV bushings. Bushings will be supplied by TFR. | | | |
| 6 | Fill the transformer with the existing oil , Test certificates to be made available. Oil must be PCB free (Sticker from test laboratories to certify the transformer is PCB free, less than 2.5ppm @ 20° Celsius . Allow for top-up oil. | | | |
| 7 | Check all gaskets, valve, stop cocks for oil leaks and repair on site | | | |
| 8 | Filter complete transformer 3 passes minimum to meet required standards and specifications | | | |
| 9 | Performed final test and energise: Winding resistance, Ratio, Insulation and oil, | | | |
| 10 | Clean site from any redundant parts, oil spillage etc (TFR to witness all test) | | | |
| | **Sub Total A** | | | |

| No | Site establishment | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Provide filter plant (PCB free) | | | |
| 2 | Provide generator plant | | | |
| 3 | Provide mobile crane to lift oil cooling fins and main tank lid (_____) ton | | | |
| | Provide Hydraulic jacks to raise the main transformer tank | | | |
| 5 | Provide reservoir (PCB free) | | | |
| 6 | Transport Cost | | | |
| 7 | Accommodation Cost | | | |
| 8 | P & G's | | | |
| 9 | | | | |
| | **Sub Total B** | | | |

| | Safety cost SHE plan | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Compile Safety File; Written safe working statement for each process: | | | |
| | Remove and assemble of the transformer cooling fins. | | | |
| | Remove and assemble of the transformer conservator tank and attachment brackets. | | | |
| | Remove and assemble of the transformer 132kV and 25kV Bushings | | | |
| | Remove and refit of the transformer main lid | | | |
| | The raise and lowering of the transformer main tank | | | |
| | | | | |
| 2 | Compile a risk assessment on: | | | |
| | Possible fire, causes, probability, estimate damage prevention, action plan | | | |

| | | | | |
|---|---|---|---|---|
| | Oil Pollution, Causes, probability, estimate cleanup cost, prevention, action plan | | | |
| | Lifting equipment failure, Cause of failure, Probability, Estimate damage, prevention and action plan | | | |
| | High Voltage shock, causes, probability, estimated cost, prevention and action plan | | | |
| | Level crossings accidents, causes, probability, estimated cost, prevention, action plan | | | |
| | | | | |
| | | | | |
| **3** | Fall protection plan when working on transformer and removing part of the transformer | | | |
| | | | | |
| **4** | Safety training; | | | |
| | Responsible person in charge | | | |
| | First aid number | | | |
| | Certified operators | | | |
| | | | | |
| **5** | Certification | | | |
| | Letters of appointment | | | |
| | Letters of competency | | | |
| | Letter of good standing with the claims commissioner | | | |
| | Tax clearance certificate | | | |
| | Qualified drivers and plant operators (Certificates) | | | |
| | Letter of medical fitness on staff | | | |
| | | | | |
| **3** | Site instruction book and Site Diary | | | |
| | | | | |

**Main Total A & B**

| No | Specify any additional recommended work or test | Price | Unit | Total |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |

**Additional option cost outside tender scope**

# Southdown

## Refurbishment of a 132/25 kV, 20MVA Traction transformer

### Bill of quantities per transformer

| A | The dismantling, of the transformer fins and conservator tank with all associated brackets | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Close the main transformer valves leading to the cooling fins and conservator tank. Drain the oil from the cooling fins and conservator tank in a suitable container. (No leaks or spillage allowed and the container must be PCB free) | | | |
| 2 | Transformer fins; Remove the transformer cooling fins with all attachments and support brackets if applicable, place/stack the fins neatly on site. Ensure that all the valves and taps are properly closed. Blank off the main transformer valves with a suitable blanking plates to ensure that no oil leaks from the main tank may occur. (The transformer dimensions and weight is attached.) | | | |
| 3 | Specify the hydraulic crane lifting capacity at various reach distances. (Test certificates) | | | |
| 4 | Remove the oil conservator tank with attachments, assembly and support brackets and place neatly on site. Ensure that all the valves and taps are properly closed to prevent oil leaks | | | |

| B | Loading and off loading of the transformer fins and conservator tank with all associated brackets on site, and at the factory. | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Load the cooling fins, the cooling fins must be properly stacked and secure, bolted together "Sandwich type arrangement" in easy manageable stacks. (Not more than 5 fins per stack) to ensure that no damage to the fins will occur during transport. Suitable bolts with washers to be used on fin brackets for this purpose. Close the oil entry openings to keep moisture out. | | | |
| 2 | Specify the transport vehicle loading restrictions weight and square meter loading area and the hydraulic crane lifting capacity at various reach distances. (Test certificates) . | | | |
| 3 | Loading of the oil conservator tank, with attachments, assembly and support brackets on the truck. Ensure that all the valves and taps are properly closed. The tanks and support brackets must be properly secured to the truck before transportation. | | | |

| C | Transport of the transformer from the site to the factory and back to the site. | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Transport to the factory | | | |
| 2 | Transport to the site | | | |

| D | Transformer Core and Core windings | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Drain the oil from the transformer main tank into a suitable container PCB free. | | | |
| 2 | Remove the high and medium voltage bushing, care must be taken not to damage the CT's inside the main tank, stack the bushings neatly at an angle of 45° | | | |
| 3 | Remove the transformer tank main lid to allow the contractor and TFR staff to inspect the tap changer, core, core winding insulation and all exposed mechanical and electrical connections. | | | |
| 4 | Remove any foreign objects, repair any insulation or contactor damage, re-torque the core bolts to the correct torque settings of .....N.m. Repair all burnt or damage contacts, insulation damage, faulty terminations and faulty connections. | | | |
| 5 | Re-insulate the HV and MV leads to the various bushings with paper tape eight layers per conductor. | | | |
| 6 | During the mentioned process the transformer must be fitted with a suitable cover which will prevent dust, rain and any impurities from entering into the tank. | | | |
| 7 | Megger test the core insulation immediately after the cleaning and repair process | | | |
| 8 | Refit the 132 kV and new 52kV bushings. (Care must be taken not to damage the CT's inside the transformer main tank.) Allow to replace or modify the studs to fit the old and new bushings if required. | | | |
| 9 | Replace all gaskets, seals and fill the main tank with oil, vacuum of the main tank to be maintained at the correct vacuum of 5Torr | | | |
| 10 | Supply and fit new core/earth insulator on the outside of the main tank ,with new gaskets and cone rubber seal. | | | |

| E | The measurement and protection equipment | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish the mentioned equipment, oil and winding temperature probes and pockets.. | | | |
| 2 | Repair all leaks to the Bucholtz relay including the test valve and sight glass gaskets. | | | |
| 3 | Service and secure all control/protection - wiring/terminations inside the main tank before closing. | | | |
| 4 | Service transformer termination box ensure no loose connections or oil leaks | | | |

| F | Transformer cooling fins x 10 | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish all the cooling fins, attachment brackets, gaskets "type TF72", drain plugs, valves, O rings washers and seals | | | |
| 2 | The transformer cooling fins and support brackets, spot remove all rust/ corrosion areas plus an additional 30mm of the existing paint around the effected area, degrease check for surface damage clean and paint one coat NS4. | | | |
| 3 | The complete outside of the cooling fins and all attachment brackets must be must be lightly sanded to remove old lose/flake paint and corrosion, be degreased and be painted according to specification CEE 0045.90. (two coats) | | | |
| 4 | Clean the inside of each fin to ensure that no carbon, sludge or any other impurities are trapped inside the fins, which might contaminate the new oil. (Air blast and rinse with clean oil) | | | |
| 5 | All the cooling fins must be pressure tested to ensure that no leakage of the oil will occur. TFR staff to be present. | | | |
| 6 | Replace all the transformer cooling fin spacer bolts and nuts with hot dip galvanised bolts and nut of similar material and dimensions. | | | |

| G | Transformer main tank | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish the transformer main tank with all associate equipment, pipes and attachments, drain valves, plugs, washers, O-rings, gaskets, temperature control box, Bucholtz pipes and temperature probes. | | | |
| 2 | The outside of the transformer main tank and all attachment brackets, U bolts, bolts and nuts, spot repair remove all rust/corrosion, (weld, sealed weld ,...) plus an additional 30mm of the existing paint around the effected area, degrease check for surface damage clean and paint one coat NS4 red colour. | | | |
| 3 | The outside of the transformer main tank, must be sanded to remove loose paint, be degreased, and be painted according to specification CEE 0045.90.Painting of steel component of electrical equipment (Two coats) | | | |
| 4 | All the gaskets must be replaced with type TF72 of same thickness. Size 10mm gasket on the main lid. The stop and drain valves, drain plugs, washers and O-rings must be replaced. Fit new dowty washers to drain plugs on all the fins. | | | |
| 5 | Allow for the replacement of all broken or missing bolts and nuts as well as the bushing studs (16mm) | | | |
| 6 | Degrease and clean the transformer main tank plinth and paint 2 coats noxide. | | | |

| H | Transformer conservator oil tank | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish the transformer conservator tank with all pipes, attachment brackets (knee brace and conservator supports) , do spot repairs on all rust/corrosion areas, (weld, sealed weld....) plus remove an additional 30mm of the existing paint around the effected area, degrease check for surface damage clean and paint one coat NS4 red colour. Fit new knee brace and conservator tank support bolts and nuts, new gaskets. Repair rust and place gasket 6mm type 72 between the conservator mounting brackets . | | | |
| 2 | The outside of the transformer conservator tank, and all attachment brackets must be sanded down, degreased and be painted according to **specification CEE 0045.90**. (one coat) white NOXIDE. | | | |
| 3 | The conservator tank must be pressure tested to ensure that no leakage of the oil will occur. | | | |
| 4 | The inside of the conservator tank must be sandblasted and clean and be painted with gliptol or be replace with a 3CR12 S/Steel tank | | | |

| | | | | |
|---|---|---|---|---|
| 5 | All the gaskets must be replaced with type TF72 and all the stop valves and washers, O rings be refurbish or replaced. | | | |
| 6 | Supply and install new site glasses and site glass housings where required. | | | |
| 7 | Allow for the replacement of all broken or missing bolts and nuts as well as the bushing studs (16mm) | | | |
| 8 | Replace breather and breather pipe with support brackets | | | |

| I | Transformer oil and testing | Price | Unit | Total |
|---|---|---|---|---|
| 1 | The transformer oil drained from the main tank and fins must be cleaned via a vacuum filter process to ensure the removal of all dissolved gasses and impurities, Minimum dielectric strength must be at least 65kV with a water content of less than 10ppm at ....° C. No direct contact between the oil and heater elements will be allowed. Supply detailed filter process to be utilized and oil test specifications e.g. temperature, vacuum, type of filter cartridges, and different oil test to be performed "Specify". Contractor to supply own oil and generator plant. | | | |

| J | Reassemble the transformer on site | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Fit the conservator tank with support brackets and new gaskets complete | | | |
| 2 | Fit the cooling fins to the main transformer complete with gaskets and torque all bolts and nuts to specification employing standard torque settings. | | | |
| 4 | Fit new oil cooling fin support brackets (Contractor to provide design to TFR for approval), hot dip galvanised and paint as per specification CEE 0045.90. (two coats). Tension rods to ensure even distribution of the load. | | | |
| | Fit the existing 132kV bushings and new 25kV bushings. Bushings will be supplied by TFR. | | | |
| 6 | Fill the transformer with the existing oil , Test certificates to be made available. Oil must be PCB free (Sticker from test laboratories to certify the transformer is PCB free, less than 2.5ppm @ 20° Celsius . Allow for top-up oil. | | | |
| 7 | Check all gaskets, valve, stop cocks for oil leaks and repair on site | | | |
| 8 | Filter complete transformer 3 passes minimum to meet required standards and specifications | | | |
| 9 | Performed final test and energise: Winding resistance, Ratio, Insulation and oil, | | | |
| 10 | Clean site from any redundant parts, oil spillage etc (TFR to witness all test) | | | |
| | **Sub Total A** | | | |

| No | Site establishment | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Provide filter plant (PCB free) | | | |
| 2 | Provide generator plant | | | |
| 3 | Provide mobile crane to lift oil cooling fins and main tank lid (_____) ton | | | |
| | Provide Hydraulic jacks to raise the main transformer tank | | | |
| 5 | Provide reservoir (PCB free) | | | |
| 6 | Transport Cost | | | |
| 7 | Accommodation Cost | | | |
| 8 | P & G's | | | |
| 9 | | | | |
| | **Sub Total B** | | | |

| | Safety cost SHE plan | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Compile Safety File; Written safe working statement for each process: | | | |
| | Remove and assemble of the transformer cooling fins. | | | |
| | Remove and assemble of the transformer conservator tank and attachment brackets. | | | |
| | Remove and assemble of the transformer 132kV and 25kV Bushings | | | |
| | Remove and refit of the transformer main lid | | | |
| | The raise and lowering of the transformer main tank | | | |
| | | | | |
| 2 | Compile a risk assessment on: | | | |
| | Possible fire, causes, probability, estimate damage prevention, action plan | | | |

| | | | | |
|---|---|---|---|---|
| | Oil Pollution, Causes, probability, estimate cleanup cost, prevention, action plan | | | |
| | Lifting equipment failure, Cause of failure, Probability, Estimate damage, prevention and action plan | | | |
| | High Voltage shock, causes, probability, estimated cost, prevention and action plan | | | |
| | Level crossings accidents, causes, probability, estimated cost, prevention, action plan | | | |
| | | | | |
| | | | | |
| **3** | Fall protection plan when working on transformer and removing part of the transformer | | | |
| | | | | |
| **4** | Safety training; | | | |
| | Responsible person in charge | | | |
| | First aid number | | | |
| | Certified operators | | | |
| | | | | |
| **5** | Certification | | | |
| | Letters of appointment | | | |
| | Letters of competency | | | |
| | Letter of good standing with the claims commissioner | | | |
| | Tax clearance certificate | | | |
| | Qualified drivers and plant operators (Certificates) | | | |
| | Letter of medical fitness on staff | | | |
| | | | | |
| **3** | Site instruction book and Site Diary | | | |
| | | | | |

**Main Total A & B**

| No | Specify any additional recommended work or test | Price | Unit | Total |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |

**Additional option cost outside tender scope**

# Gaika

## Refurbishment of a 132/25 kV, 20MVA Traction transformer

### Bill of quantities per transformer

| A | The dismantling, of the transformer fins and conservator tank with all associated brackets | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Close the main transformer valves leading to the cooling fins and conservator tank. Drain the oil from the cooling fins and conservator tank in a suitable container. (No leaks or spillage allowed and the container must be PCB free) | | | |
| 2 | Transformer fins; Remove the transformer cooling fins with all attachments and support brackets if applicable, place/stack the fins neatly on site. Ensure that all the valves and taps are properly closed. Blank off the main transformer valves with a suitable blanking plates to ensure that no oil leaks from the main tank may occur. (The transformer dimensions and weight is attached.) | | | |
| 3 | Specify the hydraulic crane lifting capacity at various reach distances. (Test certificates) | | | |
| 4 | Remove the oil conservator tank with attachments, assembly and support brackets and place neatly on site. Ensure that all the valves and taps are properly closed to prevent oil leaks | | | |

| B | Loading and off loading of the transformer fins and conservator tank with all associated brackets on site, and at the factory. | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Load the cooling fins, the cooling fins must be properly stacked and secure, bolted together "Sandwich type arrangement" in easy manageable stacks. (Not more than 5 fins per stack) to ensure that no damage to the fins will occur during transport. Suitable bolts with washers to be used on fin brackets for this purpose. Close the oil entry openings to keep moisture out. | | | |
| 2 | Specify the transport vehicle loading restrictions weight and square meter loading area and the hydraulic crane lifting capacity at various reach distances. (Test certificates) . | | | |
| 3 | Loading of the oil conservator tank, with attachments, assembly and support brackets on the truck. Ensure that all the valves and taps are properly closed. The tanks and support brackets must be properly secured to the truck before transportation. | | | |

| C | Transport of the transformer from the site to the factory and back to the site. | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Transport to the factory | | | |
| 2 | Transport to the site | | | |

| D | Transformer Core and Core windings | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Drain the oil from the transformer main tank into a suitable container PCB free. | | | |
| 2 | Remove the high and medium voltage bushing, care must be taken not to damage the CT's inside the main tank, stack the bushings neatly at an angle of 45° | | | |
| 3 | Remove the transformer tank main lid to allow the contractor and TFR staff to inspect the tap changer, core, core winding insulation and all exposed mechanical and electrical connections. | | | |
| 4 | Remove any foreign objects, repair any insulation or contactor damage, re-torque the core bolts to the correct torque settings of .....N.m. Repair all burnt or damage contacts, insulation damage, faulty terminations and faulty connections. | | | |
| 5 | Re-insulate the HV and MV leads to the various bushings with paper tape eight layers per conductor. | | | |
| 6 | During the mentioned process the transformer must be fitted with a suitable cover which will prevent dust, rain and any impurities from entering into the tank. | | | |
| 7 | Megger test the core insulation immediately after the cleaning and repair process | | | |
| 8 | Refit the 132 kV and new 52kV bushings. (Care must be taken not to damage the CT's inside the transformer main tank.) Allow to replace or modify the studs to fit the old and new bushings if required. | | | |
| 9 | Replace all gaskets, seals and fill the main tank with oil, vacuum of the main tank to be maintained at the correct vacuum of 5Torr | | | |
| 10 | Supply and fit new core/earth insulator on the outside of the main tank ,with new gaskets and cone rubber seal. | | | |

| E | The measurement and protection equipment | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish the mentioned equipment, oil and winding temperature probes and pockets.. | | | |
| 2 | Repair all leaks to the Bucholtz relay including the test valve and sight glass gaskets. | | | |
| 3 | Service and secure all control/protection - wiring/terminations inside the main tank before closing. | | | |
| 4 | Service transformer termination box ensure no loose connections or oil leaks | | | |

| F | Transformer cooling fins x 10 | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish all the cooling fins, attachment brackets, gaskets "type TF72", drain plugs, valves, O rings washers and seals | | | |
| 2 | The transformer cooling fins and support brackets, spot remove all rust/ corrosion areas plus an additional 30mm of the existing paint around the effected area, degrease check for surface damage clean and paint one coat NS4. | | | |
| 3 | The complete outside of the cooling fins and all attachment brackets must be must be lightly sanded to remove old lose/flake paint and corrosion, be degreased and be painted according to specification CEE 0045.90. (two coats) | | | |
| 4 | Clean the inside of each fin to ensure that no carbon, sludge or any other impurities are trapped inside the fins, which might contaminate the new oil. (Air blast and rinse with clean oil) | | | |
| 5 | All the cooling fins must be pressure tested to ensure that no leakage of the oil will occur. TFR staff to be present. | | | |
| 6 | Replace all the transformer cooling fin spacer bolts and nuts with hot dip galvanised bolts and nut of similar material and dimensions. | | | |

| G | Transformer main tank | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish the transformer main tank with all associate equipment, pipes and attachments, drain valves, plugs, washers, O-rings, gaskets, temperature control box, Bucholtz pipes and temperature probes. | | | |
| 2 | The outside of the transformer main tank and all attachment brackets, U bolts, bolts and nuts, spot repair remove all rust/corrosion, (weld, sealed weld ,...) plus an additional 30mm of the existing paint around the effected area, degrease check for surface damage clean and paint one coat NS4 red colour. | | | |
| 3 | The outside of the transformer main tank, must be sanded to remove loose paint, be degreased, and be painted according to specification CEE 0045.90.Painting of steel component of electrical equipment (Two coats) | | | |
| 4 | All the gaskets must be replaced with type TF72 of same thickness. Size 10mm gasket on the main lid. The stop and drain valves, drain plugs, washers and O-rings must be replaced. Fit new dowty washers to drain plugs on all the fins. | | | |
| 5 | Allow for the replacement of all broken or missing bolts and nuts as well as the bushing studs (16mm) | | | |
| 6 | Degrease and clean the transformer main tank plinth and paint 2 coats noxide. | | | |

| H | Transformer conservator oil tank | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish the transformer conservator tank with all pipes, attachment brackets (knee brace and conservator supports) , do spot repairs on all rust/corrosion areas, (weld, sealed weld....) plus remove an additional 30mm of the existing paint around the effected area, degrease check for surface damage clean and paint one coat NS4 red colour. Fit new knee brace and conservator tank support bolts and nuts, new gaskets. Repair rust and place gasket 6mm type 72 between the conservator mounting brackets . | | | |
| 2 | The outside of the transformer conservator tank, and all attachment brackets must be sanded down, degreased and be painted according to **specification CEE 0045.90**. (one coat) white NOXIDE. | | | |
| 3 | The conservator tank must be pressure tested to ensure that no leakage of the oil will occur. | | | |
| 4 | The inside of the conservator tank must be sandblasted and clean and be painted with gliptol or be replace with a 3CR12 S/Steel tank | | | |

| | | | | |
|---|---|---|---|---|
| 5 | All the gaskets must be replaced with type TF72 and all the stop valves and washers, O rings be refurbish or replaced. | | | |
| 6 | Supply and install new site glasses and site glass housings where required. | | | |
| 7 | Allow for the replacement of all broken or missing bolts and nuts as well as the bushing studs (16mm) | | | |
| 8 | Replace breather and breather pipe with support brackets | | | |

| I | Transformer oil and testing | Price | Unit | Total |
|---|---|---|---|---|
| 1 | The transformer oil drained from the main tank and fins must be cleaned via a vacuum filter process to ensure the removal of all dissolved gasses and impurities, Minimum dielectric strength must be at least 65kV with a water content of less than 10ppm at ....° C. No direct contact between the oil and heater elements will be allowed. Supply detailed filter process to be utilized and oil test specifications e.g. temperature, vacuum, type of filter cartridges, and different oil test to be performed "Specify". Contractor to supply own oil and generator plant. | | | |

| J | Reassemble the transformer on site | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Fit the conservator tank with support brackets and new gaskets complete | | | |
| 2 | Fit the cooling fins to the main transformer complete with gaskets and torque all bolts and nuts to specification employing standard torque settings. | | | |
| 4 | Fit new oil cooling fin support brackets (Contractor to provide design to TFR for approval), hot dip galvanised and paint as per specification CEE 0045.90. (two coats). Tension rods to ensure even distribution of the load. | | | |
| | Fit the existing 132kV bushings and new 25kV bushings. Bushings will be supplied by TFR. | | | |
| 6 | Fill the transformer with the existing oil , Test certificates to be made available. Oil must be PCB free (Sticker from test laboratories to certify the transformer is PCB free, less than 2.5ppm @ 20° Celsius . Allow for top-up oil. | | | |
| 7 | Check all gaskets, valve, stop cocks for oil leaks and repair on site | | | |
| 8 | Filter complete transformer 3 passes minimum to meet required standards and specifications | | | |
| 9 | Performed final test and energise: Winding resistance, Ratio, Insulation and oil, | | | |
| 10 | Clean site from any redundant parts, oil spillage etc (TFR to witness all test) | | | |
| | **Sub Total A** | | | |

| No | Site establishment | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Provide filter plant (PCB free) | | | |
| 2 | Provide generator plant | | | |
| 3 | Provide mobile crane to lift oil cooling fins and main tank lid (_____) ton | | | |
| | Provide Hydraulic jacks to raise the main transformer tank | | | |
| 5 | Provide reservoir (PCB free) | | | |
| 6 | Transport Cost | | | |
| 7 | Accommodation Cost | | | |
| 8 | P & G's | | | |
| 9 | | | | |
| | **Sub Total B** | | | |

| | Safety cost SHE plan | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Compile Safety File; Written safe working statement for each process: | | | |
| | Remove and assemble of the transformer cooling fins. | | | |
| | Remove and assemble of the transformer conservator tank and attachment brackets. | | | |
| | Remove and assemble of the transformer 132kV and 25kV Bushings | | | |
| | Remove and refit of the transformer main lid | | | |
| | The raise and lowering of the transformer main tank | | | |
| | | | | |
| 2 | Compile a risk assessment on: | | | |
| | Possible fire, causes, probability, estimate damage prevention, action plan | | | |

| | | | | |
|---|---|---|---|---|
| | Oil Pollution, Causes, probability, estimate cleanup cost, prevention, action plan | | | |
| | Lifting equipment failure, Cause of failure, Probability, Estimate damage, prevention and action plan | | | |
| | High Voltage shock, causes, probability, estimated cost, prevention and action plan | | | |
| | Level crossings accidents, causes, probability, estimated cost, prevention, action plan | | | |
| | | | | |
| | | | | |
| **3** | Fall protection plan when working on transformer and removing part of the transformer | | | |
| | | | | |
| **4** | Safety training; | | | |
| | Responsible person in charge | | | |
| | First aid number | | | |
| | Certified operators | | | |
| | | | | |
| **5** | Certification | | | |
| | Letters of appointment | | | |
| | Letters of competency | | | |
| | Letter of good standing with the claims commissioner | | | |
| | Tax clearance certificate | | | |
| | Qualified drivers and plant operators (Certificates) | | | |
| | Letter of medical fitness on staff | | | |
| | | | | |
| **3** | Site instruction book and Site Diary | | | |
| | | | | |

**Main Total A & B**

| No | Specify any additional recommended work or test | Price | Unit | Total |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |

**Additional option cost outside tender scope**

# Stormberg

## Refurbishment of a 132/25 kV, 20MVA Traction transformer

### Bill of quantities per transformer

| A | The dismantling, of the transformer fins and conservator tank with all associated brackets | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Close the main transformer valves leading to the cooling fins and conservator tank. Drain the oil from the cooling fins and conservator tank in a suitable container. (No leaks or spillage allowed and the container must be PCB free) | | | |
| 2 | Transformer fins; Remove the transformer cooling fins with all attachments and support brackets if applicable, place/stack the fins neatly on site. Ensure that all the valves and taps are properly closed. Blank off the main transformer valves with a suitable blanking plates to ensure that no oil leaks from the main tank may occur. (The transformer dimensions and weight is attached.) | | | |
| 3 | Specify the hydraulic crane lifting capacity at various reach distances. (Test certificates) | | | |
| 4 | Remove the oil conservator tank with attachments, assembly and support brackets and place neatly on site. Ensure that all the valves and taps are properly closed to prevent oil leaks | | | |

| B | Loading and off loading of the transformer fins and conservator tank with all associated brackets on site, and at the factory. | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Load the cooling fins, the cooling fins must be properly stacked and secure, bolted together "Sandwich type arrangement" in easy manageable stacks. (Not more than 5 fins per stack) to ensure that no damage to the fins will occur during transport. Suitable bolts with washers to be used on fin brackets for this purpose. Close the oil entry openings to keep moisture out. | | | |
| 2 | Specify the transport vehicle loading restrictions weight and square meter loading area and the hydraulic crane lifting capacity at various reach distances. (Test certificates) . | | | |
| 3 | Loading of the oil conservator tank, with attachments, assembly and support brackets on the truck. Ensure that all the valves and taps are properly closed. The tanks and support brackets must be properly secured to the truck before transportation. | | | |

| C | Transport of the transformer from the site to the factory and back to the site. | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Transport to the factory | | | |
| 2 | Transport to the site | | | |

| D | Transformer Core and Core windings | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Drain the oil from the transformer main tank into a suitable container PCB free. | | | |
| 2 | Remove the high and medium voltage bushing, care must be taken not to damage the CT's inside the main tank, stack the bushings neatly at an angle of 45° | | | |
| 3 | Remove the transformer tank main lid to allow the contractor and TFR staff to inspect the tap changer, core, core winding insulation and all exposed mechanical and electrical connections. | | | |
| 4 | Remove any foreign objects, repair any insulation or contactor damage, re-torque the core bolts to the correct torque settings of .....N.m. Repair all burnt or damage contacts, insulation damage, faulty terminations and faulty connections. | | | |
| 5 | Re-insulate the HV and MV leads to the various bushings with paper tape eight layers per conductor. | | | |
| 6 | During the mentioned process the transformer must be fitted with a suitable cover which will prevent dust, rain and any impurities from entering into the tank. | | | |
| 7 | Megger test the core insulation immediately after the cleaning and repair process | | | |
| 8 | Refit the 132 kV and new 52kV bushings. (Care must be taken not to damage the CT's inside the transformer main tank.) Allow to replace or modify the studs to fit the old and new bushings if required. | | | |
| 9 | Replace all gaskets, seals and fill the main tank with oil, vacuum of the main tank to be maintained at the correct vacuum of 5Torr | | | |
| 10 | Supply and fit new core/earth insulator on the outside of the main tank ,with new gaskets and cone rubber seal. | | | |

| E | The measurement and protection equipment | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish the mentioned equipment, oil and winding temperature probes and pockets.. | | | |
| 2 | Repair all leaks to the Bucholtz relay including the test valve and sight glass gaskets. | | | |
| 3 | Service and secure all control/protection - wiring/terminations inside the main tank before closing. | | | |
| 4 | Service transformer termination box ensure no loose connections or oil leaks | | | |

| F | Transformer cooling fins x 10 | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish all the cooling fins, attachment brackets, gaskets "type TF72", drain plugs, valves, O rings washers and seals | | | |
| 2 | The transformer cooling fins and support brackets, spot remove all rust/ corrosion areas plus an additional 30mm of the existing paint around the effected area, degrease check for surface damage clean and paint one coat NS4. | | | |
| 3 | The complete outside of the cooling fins and all attachment brackets must be must be lightly sanded to remove old lose/flake paint and corrosion, be degreased and be painted according to specification CEE 0045.90. (two coats) | | | |
| 4 | Clean the inside of each fin to ensure that no carbon, sludge or any other impurities are trapped inside the fins, which might contaminate the new oil. (Air blast and rinse with clean oil) | | | |
| 5 | All the cooling fins must be pressure tested to ensure that no leakage of the oil will occur. TFR staff to be present. | | | |
| 6 | Replace all the transformer cooling fin spacer bolts and nuts with hot dip galvanised bolts and nut of similar material and dimensions. | | | |

| G | Transformer main tank | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish the transformer main tank with all associate equipment, pipes and attachments, drain valves, plugs, washers, O-rings, gaskets, temperature control box, Bucholtz pipes and temperature probes. | | | |
| 2 | The outside of the transformer main tank and all attachment brackets, U bolts, bolts and nuts, spot repair remove all rust/corrosion, (weld, sealed weld ,...) plus an additional 30mm of the existing paint around the effected area, degrease check for surface damage clean and paint one coat NS4 red colour. | | | |
| 3 | The outside of the transformer main tank, must be sanded to remove loose paint, be degreased, and be painted according to specification CEE 0045.90.Painting of steel component of electrical equipment (Two coats) | | | |
| 4 | All the gaskets must be replaced with type TF72 of same thickness. Size 10mm gasket on the main lid. The stop and drain valves, drain plugs, washers and O-rings must be replaced. Fit new dowty washers to drain plugs on all the fins. | | | |
| 5 | Allow for the replacement of all broken or missing bolts and nuts as well as the bushing studs (16mm) | | | |
| 6 | Degrease and clean the transformer main tank plinth and paint 2 coats noxide. | | | |

| H | Transformer conservator oil tank | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish the transformer conservator tank with all pipes, attachment brackets (knee brace and conservator supports) , do spot repairs on all rust/corrosion areas, (weld, sealed weld....) plus remove an additional 30mm of the existing paint around the effected area, degrease check for surface damage clean and paint one coat NS4 red colour. Fit new knee brace and conservator tank support bolts and nuts, new gaskets. Repair rust and place gasket 6mm type 72 between the conservator mounting brackets . | | | |
| 2 | The outside of the transformer conservator tank, and all attachment brackets must be sanded down, degreased and be painted according to **specification CEE 0045.90**. (one coat) white NOXIDE. | | | |
| 3 | The conservator tank must be pressure tested to ensure that no leakage of the oil will occur. | | | |
| 4 | The inside of the conservator tank must be sandblasted and clean and be painted with gliptol or be replace with a 3CR12 S/Steel tank | | | |

| | | | | |
|---|---|---|---|---|
| 5 | All the gaskets must be replaced with type TF72 and all the stop valves and washers, O rings be refurbish or replaced. | | | |
| 6 | Supply and install new site glasses and site glass housings where required. | | | |
| 7 | Allow for the replacement of all broken or missing bolts and nuts as well as the bushing studs (16mm) | | | |
| 8 | Replace breather and breather pipe with support brackets | | | |

| I | Transformer oil and testing | Price | Unit | Total |
|---|---|---|---|---|
| 1 | The transformer oil drained from the main tank and fins must be cleaned via a vacuum filter process to ensure the removal of all dissolved gasses and impurities, Minimum dielectric strength must be at least 65kV with a water content of less than 10ppm at ....° C. No direct contact between the oil and heater elements will be allowed. Supply detailed filter process to be utilized and oil test specifications e.g. temperature, vacuum, type of filter cartridges, and different oil test to be performed "Specify". Contractor to supply own oil and generator plant. | | | |

| J | Reassemble the transformer on site | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Fit the conservator tank with support brackets and new gaskets complete | | | |
| 2 | Fit the cooling fins to the main transformer complete with gaskets and torque all bolts and nuts to specification employing standard torque settings. | | | |
| 4 | Fit new oil cooling fin support brackets (Contractor to provide design to TFR for approval), hot dip galvanised and paint as per specification CEE 0045.90. (two coats). Tension rods to ensure even distribution of the load. | | | |
| | Fit the existing 132kV bushings and new 25kV bushings. Bushings will be supplied by TFR. | | | |
| 6 | Fill the transformer with the existing oil , Test certificates to be made available. Oil must be PCB free (Sticker from test laboratories to certify the transformer is PCB free, less than 2.5ppm @ 20° Celsius . Allow for top-up oil. | | | |
| 7 | Check all gaskets, valve, stop cocks for oil leaks and repair on site | | | |
| 8 | Filter complete transformer 3 passes minimum to meet required standards and specifications | | | |
| 9 | Performed final test and energise: Winding resistance, Ratio, Insulation and oil, | | | |
| 10 | Clean site from any redundant parts, oil spillage etc (TFR to witness all test) | | | |
| | **Sub Total A** | | | |

| No | Site establishment | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Provide filter plant (PCB free) | | | |
| 2 | Provide generator plant | | | |
| 3 | Provide mobile crane to lift oil cooling fins and main tank lid (_____) ton | | | |
| | Provide Hydraulic jacks to raise the main transformer tank | | | |
| 5 | Provide reservoir (PCB free) | | | |
| 6 | Transport Cost | | | |
| 7 | Accommodation Cost | | | |
| 8 | P & G's | | | |
| 9 | | | | |
| | **Sub Total B** | | | |

| | Safety cost SHE plan | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Compile Safety File; Written safe working statement for each process: | | | |
| | Remove and assemble of the transformer cooling fins. | | | |
| | Remove and assemble of the transformer conservator tank and attachment brackets. | | | |
| | Remove and assemble of the transformer 132kV and 25kV Bushings | | | |
| | Remove and refit of the transformer main lid | | | |
| | The raise and lowering of the transformer main tank | | | |
| | | | | |
| 2 | Compile a risk assessment on: | | | |
| | Possible fire, causes, probability, estimate damage prevention, action plan | | | |

| | | | | |
|---|---|---|---|---|
| | Oil Pollution, Causes, probability, estimate cleanup cost, prevention, action plan | | | |
| | Lifting equipment failure, Cause of failure, Probability, Estimate damage, prevention and action plan | | | |
| | High Voltage shock, causes, probability, estimated cost, prevention and action plan | | | |
| | Level crossings accidents, causes, probability, estimated cost, prevention, action plan | | | |
| | | | | |
| | | | | |
| **3** | Fall protection plan when working on transformer and removing part of the transformer | | | |
| | | | | |
| **4** | Safety training; | | | |
| | Responsible person in charge | | | |
| | First aid number | | | |
| | Certified operators | | | |
| | | | | |
| **5** | Certification | | | |
| | Letters of appointment | | | |
| | Letters of competency | | | |
| | Letter of good standing with the claims commissioner | | | |
| | Tax clearance certificate | | | |
| | Qualified drivers and plant operators (Certificates) | | | |
| | Letter of medical fitness on staff | | | |
| | | | | |
| **3** | Site instruction book and Site Diary | | | |
| | | | | |

**Main Total A & B**

| No | Specify any additional recommended work or test | Price | Unit | Total |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |

**Additional option cost outside tender scope**

# Strydom

## Refurbishment of a 132/25 kV, 20MVA Traction transformer

### Bill of quantities per transformer

| A | The dismantling, of the transformer fins and conservator tank with all associated brackets | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Close the main transformer valves leading to the cooling fins and conservator tank. Drain the oil from the cooling fins and conservator tank in a suitable container. (No leaks or spillage allowed and the container must be PCB free) | | | |
| 2 | Transformer fins; Remove the transformer cooling fins with all attachments and support brackets if applicable, place/stack the fins neatly on site. Ensure that all the valves and taps are properly closed. Blank off the main transformer valves with a suitable blanking plates to ensure that no oil leaks from the main tank may occur. (The transformer dimensions and weight is attached.) | | | |
| 3 | Specify the hydraulic crane lifting capacity at various reach distances. (Test certificates) | | | |
| 4 | Remove the oil conservator tank with attachments, assembly and support brackets and place neatly on site. Ensure that all the valves and taps are properly closed to prevent oil leaks | | | |

| B | Loading and off loading of the transformer fins and conservator tank with all associated brackets on site, and at the factory. | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Load the cooling fins, the cooling fins must be properly stacked and secure, bolted together "Sandwich type arrangement" in easy manageable stacks. (Not more than 5 fins per stack) to ensure that no damage to the fins will occur during transport. Suitable bolts with washers to be used on fin brackets for this purpose. Close the oil entry openings to keep moisture out. | | | |
| 2 | Specify the transport vehicle loading restrictions weight and square meter loading area and the hydraulic crane lifting capacity at various reach distances. (Test certificates) . | | | |
| 3 | Loading of the oil conservator tank, with attachments, assembly and support brackets on the truck. Ensure that all the valves and taps are properly closed. The tanks and support brackets must be properly secured to the truck before transportation. | | | |

| C | Transport of the transformer from the site to the factory and back to the site. | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Transport to the factory | | | |
| 2 | Transport to the site | | | |

| D | Transformer Core and Core windings | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Drain the oil from the transformer main tank into a suitable container PCB free. | | | |
| 2 | Remove the high and medium voltage bushing, care must be taken not to damage the CT's inside the main tank, stack the bushings neatly at an angle of 45° | | | |
| 3 | Remove the transformer tank main lid to allow the contractor and TFR staff to inspect the tap changer, core, core winding insulation and all exposed mechanical and electrical connections. | | | |
| 4 | Remove any foreign objects, repair any insulation or contactor damage, re-torque the core bolts to the correct torque settings of .....N.m. Repair all burnt or damage contacts, insulation damage, faulty terminations and faulty connections. | | | |
| 5 | Re-insulate the HV and MV leads to the various bushings with paper tape eight layers per conductor. | | | |
| 6 | During the mentioned process the transformer must be fitted with a suitable cover which will prevent dust, rain and any impurities from entering into the tank. | | | |
| 7 | Megger test the core insulation immediately after the cleaning and repair process | | | |
| 8 | Refit the 132 kV and new 52kV bushings. (Care must be taken not to damage the CT's inside the transformer main tank.) Allow to replace or modify the studs to fit the old and new bushings if required. | | | |
| 9 | Replace all gaskets, seals and fill the main tank with oil, vacuum of the main tank to be maintained at the correct vacuum of 5Torr | | | |
| 10 | Supply and fit new core/earth insulator on the outside of the main tank ,with new gaskets and cone rubber seal. | | | |

| E | The measurement and protection equipment | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish the mentioned equipment, oil and winding temperature probes and pockets.. | | | |
| 2 | Repair all leaks to the Bucholtz relay including the test valve and sight glass gaskets. | | | |
| 3 | Service and secure all control/protection - wiring/terminations inside the main tank before closing. | | | |
| 4 | Service transformer termination box ensure no loose connections or oil leaks | | | |

| F | Transformer cooling fins x 10 | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish all the cooling fins, attachment brackets, gaskets "type TF72", drain plugs, valves, O rings washers and seals | | | |
| 2 | The transformer cooling fins and support brackets, spot remove all rust/ corrosion areas plus an additional 30mm of the existing paint around the effected area, degrease check for surface damage clean and paint one coat NS4. | | | |
| 3 | The complete outside of the cooling fins and all attachment brackets must be must be lightly sanded to remove old lose/flake paint and corrosion, be degreased and be painted according to specification CEE 0045.90. (two coats) | | | |
| 4 | Clean the inside of each fin to ensure that no carbon, sludge or any other impurities are trapped inside the fins, which might contaminate the new oil. (Air blast and rinse with clean oil) | | | |
| 5 | All the cooling fins must be pressure tested to ensure that no leakage of the oil will occur. TFR staff to be present. | | | |
| 6 | Replace all the transformer cooling fin spacer bolts and nuts with hot dip galvanised bolts and nut of similar material and dimensions. | | | |

| G | Transformer main tank | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish the transformer main tank with all associate equipment, pipes and attachments, drain valves, plugs, washers, O-rings, gaskets, temperature control box, Bucholtz pipes and temperature probes. | | | |
| 2 | The outside of the transformer main tank and all attachment brackets, U bolts, bolts and nuts, spot repair remove all rust/corrosion, (weld, sealed weld ,...) plus an additional 30mm of the existing paint around the effected area, degrease check for surface damage clean and paint one coat NS4 red colour. | | | |
| 3 | The outside of the transformer main tank, must be sanded to remove loose paint, be degreased, and be painted according to specification CEE 0045.90.Painting of steel component of electrical equipment (Two coats) | | | |
| 4 | All the gaskets must be replaced with type TF72 of same thickness. Size 10mm gasket on the main lid. The stop and drain valves, drain plugs, washers and O-rings must be replaced. Fit new dowty washers to drain plugs on all the fins. | | | |
| 5 | Allow for the replacement of all broken or missing bolts and nuts as well as the bushing studs (16mm) | | | |
| 6 | Degrease and clean the transformer main tank plinth and paint 2 coats noxide. | | | |

| H | Transformer conservator oil tank | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Completely refurbish the transformer conservator tank with all pipes, attachment brackets (knee brace and conservator supports) , do spot repairs on all rust/corrosion areas, (weld, sealed weld....) plus remove an additional 30mm of the existing paint around the effected area, degrease check for surface damage clean and paint one coat NS4 red colour. Fit new knee brace and conservator tank support bolts and nuts, new gaskets. Repair rust and place gasket 6mm type 72 between the conservator mounting brackets . | | | |
| 2 | The outside of the transformer conservator tank, and all attachment brackets must be sanded down, degreased and be painted according to **specification CEE 0045.90**. (one coat) white NOXIDE. | | | |
| 3 | The conservator tank must be pressure tested to ensure that no leakage of the oil will occur. | | | |
| 4 | The inside of the conservator tank must be sandblasted and clean and be painted with gliptol or be replace with a 3CR12 S/Steel tank | | | |

| | | | | |
|---|---|---|---|---|
| 5 | All the gaskets must be replaced with type TF72 and all the stop valves and washers, O rings be refurbish or replaced. | | | |
| 6 | Supply and install new site glasses and site glass housings where required. | | | |
| 7 | Allow for the replacement of all broken or missing bolts and nuts as well as the bushing studs (16mm) | | | |
| 8 | Replace breather and breather pipe with support brackets | | | |

| I | Transformer oil and testing | Price | Unit | Total |
|---|---|---|---|---|
| 1 | The transformer oil drained from the main tank and fins must be cleaned via a vacuum filter process to ensure the removal of all dissolved gasses and impurities, Minimum dielectric strength must be at least 65kV with a water content of less than 10ppm at ....° C. No direct contact between the oil and heater elements will be allowed. Supply detailed filter process to be utilized and oil test specifications e.g. temperature, vacuum, type of filter cartridges, and different oil test to be performed "Specify". Contractor to supply own oil and generator plant. | | | |

| J | Reassemble the transformer on site | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Fit the conservator tank with support brackets and new gaskets complete | | | |
| 2 | Fit the cooling fins to the main transformer complete with gaskets and torque all bolts and nuts to specification employing standard torque settings. | | | |
| 4 | Fit new oil cooling fin support brackets (Contractor to provide design to TFR for approval), hot dip galvanised and paint as per specification CEE 0045.90. (two coats). Tension rods to ensure even distribution of the load. | | | |
| | Fit the existing 132kV bushings and new 25kV bushings. Bushings will be supplied by TFR. | | | |
| 6 | Fill the transformer with the existing oil , Test certificates to be made available. Oil must be PCB free (Sticker from test laboratories to certify the transformer is PCB free, less than 2.5ppm @ 20° Celsius . Allow for top-up oil. | | | |
| 7 | Check all gaskets, valve, stop cocks for oil leaks and repair on site | | | |
| 8 | Filter complete transformer 3 passes minimum to meet required standards and specifications | | | |
| 9 | Performed final test and energise: Winding resistance, Ratio, Insulation and oil, | | | |
| 10 | Clean site from any redundant parts, oil spillage etc (TFR to witness all test) | | | |
| | **Sub Total A** | | | |

| No | Site establishment | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Provide filter plant (PCB free) | | | |
| 2 | Provide generator plant | | | |
| 3 | Provide mobile crane to lift oil cooling fins and main tank lid (_____) ton | | | |
| | Provide Hydraulic jacks to raise the main transformer tank | | | |
| 5 | Provide reservoir (PCB free) | | | |
| 6 | Transport Cost | | | |
| 7 | Accommodation Cost | | | |
| 8 | P & G's | | | |
| 9 | | | | |
| | **Sub Total B** | | | |

| | Safety cost SHE plan | Price | Unit | Total |
|---|---|---|---|---|
| 1 | Compile Safety File; Written safe working statement for each process: | | | |
| | Remove and assemble of the transformer cooling fins. | | | |
| | Remove and assemble of the transformer conservator tank and attachment brackets. | | | |
| | Remove and assemble of the transformer 132kV and 25kV Bushings | | | |
| | Remove and refit of the transformer main lid | | | |
| | The raise and lowering of the transformer main tank | | | |
| | | | | |
| 2 | Compile a risk assessment on: | | | |
| | Possible fire, causes, probability, estimate damage prevention, action plan | | | |

| | | | | |
|---|---|---|---|---|
| | Oil Pollution, Causes, probability, estimate cleanup cost, prevention, action plan | | | |
| | Lifting equipment failure, Cause of failure, Probability, Estimate damage, prevention and action plan | | | |
| | High Voltage shock, causes, probability, estimated cost, prevention and action plan | | | |
| | Level crossings accidents, causes, probability, estimated cost, prevention, action plan | | | |
| | | | | |
| | | | | |
| 3 | Fall protection plan when working on transformer and removing part of the transformer | | | |
| | | | | |
| 4 | Safety training; | | | |
| | Responsible person in charge | | | |
| | First aid number | | | |
| | Certified operators | | | |
| | | | | |
| 5 | Certification | | | |
| | Letters of appointment | | | |
| | Letters of competency | | | |
| | Letter of good standing with the claims commissioner | | | |
| | Tax clearance certificate | | | |
| | Qualified drivers and plant operators (Certificates) | | | |
| | Letter of medical fitness on staff | | | |
| | | | | |
| 3 | Site instruction book and Site Diary | | | |
| | | | | |

**Main Total A & B**

| No | Specify any additional recommended work or test | Price | Unit | Total |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |

**Additional option cost outside tender scope**

Respondent's Signature

Date & Company Stamp

## Section 3

## STANDARD TERMS AND CONDITIONS FOR THE SUPPLY OF GOODS OR SERVICES TO TRANSNET

**A Supplier/Service Provider shall be obliged to adhere to the Standard Terms and Conditions for the Supply of Goods and Services to Transnet as expressed hereunder. Should the Respondent find any condition(s) unacceptable, it should indicate which condition(s) is/are unacceptable and offer an alternative(s). A Quotation submitted by a Respondent will be subjected to review and acceptance or rejection of its proposed contractual terms and conditions by Transnet's Legal Counsel, prior to consideration for an award of business.**

### 1 SOLE AGREEMENT

Unless otherwise agreed in writing, these terms [**Terms** and each **Term**] and Transnet's purchase order(s) [**Order** or **Orders**] represent the only conditions upon which Transnet SOC Ltd [**Transnet**] procures goods [**the Goods**] or services [**the Services**] specified in the Order from the person to whom the Order is addressed [**the Supplier/Service Provider**]. Transnet does not accept any other conditions which the Supplier/Service Provider may specify, unless otherwise agreed to by Transnet in writing. In the event of any inconsistency between these Terms and any Order, these Terms shall take precedence.

### 2 CONFORMITY WITH ORDER

Goods/Services shall conform strictly with the Order. The Supplier/Service Provider shall not vary the quantities specified and/or the specification, if any, stipulated in the Order, without the prior written consent of Transnet. The Supplier/Service Provider warrants that the Goods/Services shall be fit for their purpose and of satisfactory quality.

### 3 DELIVERY AND TITLE

3.1 The delivery dates and addresses are those in the Order. Time shall be of the essence in respect of the Supplier's/Service Provider's obligations under the Order.

3.2 The Supplier/Service Provider will not be excused for delay in delivery or performance except due to circumstances outside its control and then only subject to the Supplier/Service Provider having notified Transnet in writing on becoming aware of such circumstances. Transnet may terminate an Order, in whole or in part, without incurring any liability to the Supplier/Service Provider if such a delay becomes, in Transnet's absolute opinion, significant.

3.3 If on delivery, the Goods/Services do not conform to the Order, Transnet may reject the Goods/Services and the Supplier/Service Provider shall promptly rectify any defects or in Transnet's opinion, supply appropriate replacement Goods/Services at the Supplier's/Service Provider's expense within the specified delivery times, without any liability due by Transnet.

### 4 PRICE AND PAYMENT

4.1 Prices specified in an Order cannot be increased. Payment for the Goods/Services shall be made by Transnet against an original undisputed invoice(s) [a Tax Invoice], supporting documentation and month-end statement from the Supplier/Service Provider. Tax Invoices plus supporting documentation shall be posted to the address shown in the Order.

4.2 Payment of the Supplier's/Service Provider's valid Tax Invoice(s) will be made by Transnet in the South African currency and on the terms stated in the Order, the standard payment terms being 30 [thirty] days from date of receipt by Transnet of a month-end statement, unless otherwise agreed to in writing. Transnet shall arrange for payment of such Tax Invoices and any pre-authorised additional expenses incurred, provided that the authorised expenses are supported by acceptable documentary proof of expenditure incurred [where this is available]. Any amounts due in terms of these Terms shall be paid to the Supplier/Service Provider, taking into account any deduction or set-off and bank charges.

## 5 PROPRIETARY RIGHTS LIABILITY

If any allegations should be made or any claim asserted against Transnet that ownership of, or any act or omission by Transnet in relation to Goods/Services or any written material provided to Transnet relating to any Goods/Services or pursuant to an Order being a violation or infringement of any third party's contractual, industrial, commercial or intellectual property rights including but not limited to any patent, registered design, design right, trade mark, copyright or service mark on any application thereof, the Supplier/Service Provider hereby indemnifies Transnet against and hold it harmless from any and all losses, liabilities, costs, claims, damages and expenses [including any legal fees] arising directly or indirectly from such allegation or claim provided that this indemnity shall not apply where the allegation or claim arises solely as a result of the Supplier/Service Provider following a design or process originated and furnished by Transnet. The Supplier/Service Provider shall either

a) procure for Transnet the right to continue using the infringing Goods; or

b) modify or replace the Goods/Services so that they become non-infringing,

provided that in both cases the Goods/Services shall continue to meet Transnet's requirements and any specifications stipulated in the Order. Should neither option be possible, the Supplier/Service Provider may remove, with Transnet's prior written consent, such Goods/Services and will pay to Transnet a sum equivalent to the purchase price. If Transnet refuses to give such consent, the Supplier/Service Provider shall have no liability in respect of any continued use of the infringing Goods/Services after Supplier's/Service Provider's prior written request to remove the same.

## 6 PROPRIETARY INFORMATION

All information which Transnet has divulged or may divulge to the Supplier/Service Provider and any information relating to Transnet's business which may have come into the Supplier's/Service Provider's possession whilst carrying out an Order, and the existence of the Order, shall be treated by the Supplier/Service Provider as confidential information and shall not, without Transnet's prior written consent, be disclosed to any third party, or be used or copied for any purposes other than to perform the Order. This clause does not apply to information which is public knowledge or available from other sources other than by breach of this Term. Upon request by Transnet, the Supplier/Service Provider shall return all materials issued pursuant to the Order and, pending this, shall protect Transnet's rights in any such materials. Such confidential information shall at all material times be the property of Transnet.

## 7 PUBLICITY

The Supplier/Service Provider shall not name Transnet or use its trademarks, service marks [whether registered or not] or Goods in connection with any publicity without Transnet's prior written consent.

## 8 TERMINATION OF ORDER

8.1 Transnet may cancel an Order in whole or in part at any time upon at least 7 [seven] days' written notice to the Supplier/Service Provider, or when there is a change in control of the Supplier/Service Provider or the Supplier/Service Provider commits any serious breach or any repeated or continued material breach of its obligations under these Terms and/or Order or shall have been guilty of conduct tending to bring itself into disrepute, on written notice to the Supplier/Service Provider when such work on the Order shall stop.

8.2 Transnet shall pay the Supplier/Service Provider a fair and reasonable price for justified work in progress, where such price reflects only those costs not otherwise recoverable by the Supplier/Service Provider, at the time of termination, and the Supplier/Service Provider shall give Transnet full assistance to check the extent of such work in progress. Payment of such price shall be in full and final satisfaction of any claims arising out of such termination and upon such payment the Supplier/Service Provider shall deliver to Transnet all work, including any materials, completed or in progress. The sum payable to the Supplier/Service Provider under this clause will not in any event exceed the total amount that would have been payable to the Supplier/Service Provider had the Order not been terminated.

8.3 In the event of termination the Supplier/Service Provider must submit all claims within 2 [two] months of termination after which time claims will only be met in what Transnet considers exceptional circumstances.

8.4 If the Goods or Services are not provided in accordance with an Order, the Order shall be deemed terminated and the Supplier/Service Provider shall compensate Transnet for any costs incurred in obtaining substitute Goods or any damage caused due to the failure or delay in the delivery.

## 9 ACCESS

The Supplier/Service Provider shall be liable for the acts, omissions and defaults of its personnel or agents who, for the purposes of the Order, shall be treated as if they are the Supplier's/Service Provider's employees. The Supplier/Service Provider shall ensure that any such personnel or agents, whilst on Transnet's premises, shall comply with Transnet's health and safety, security and system security rules and procedures as and where required.

## 10 WARRANTY

The Supplier/Service Provider warrants that it is competent to supply the Goods/Services in accordance with these Terms to the reasonable satisfaction of Transnet and that all Goods/Services delivered under the Order: (a) conform and comply in all relevant legislation, standards, directives and orders related to *[inter alia]* the Goods/Services in force at the time of delivery, and to any specifications referred to in the Order; (b) will not cause any deterioration in the functionality of any Transnet equipment; and (c) do not infringe any third party rights of any kind. The Supplier/Service Provider hereby indemnifies Transnet against all losses, liabilities, costs, claims, damages, expenses and awards of any kinds incurred or made against Transnet in connection with any breach of this warranty.

## 11 INSOLVENCY

If the Supplier/Service Provider shall have a receiver, manager, administrator, liquidator or like person appointed over all or any part of its assets or if the Supplier/Service Provider compounds with its creditors or passes a resolution for the writing up or administration of the Supplier/Service Provider, Transnet is at liberty to terminate the Order or Orders forthwith, or at its option, to seek performance by any such appointed person.

## 12 ASSIGNMENT

The Supplier/Service Provider shall not assign its obligations under an Order without Transnet's prior written consent, which consent shall not be unreasonably withheld or delayed.

## 13 NOTICES

Notices under these Terms shall be delivered by hand to the relevant addresses of the parties in the Order or may be served by facsimile or by email, in which event notice shall be deemed served on acknowledgement of receipt by the recipient.

## 14 LAW

Orders shall be governed by and interpreted in accordance with South African law and any disputes arising herein shall be subject to South African arbitration under the rules of the Arbitration Foundation of South Africa, which rules are deemed incorporated by reference in this clause. The reference to arbitration shall not prevent Transnet referring the matter to any South African courts, having jurisdiction, to which the Supplier/Service Provider hereby irrevocably submits but without prejudice to Transnet's right to take proceedings against the Supplier/Service Provider in other jurisdictions and/or obtaining interim relief on an urgent basis from a court of competent jurisdiction pending the decision in other courts or from instituting in any court of competent jurisdiction any proceedings for an interdict or any other injunctive relief. If the Supplier/Service Provider does not have a registered office in the South Africa it will at all times maintain an agent for service of process in South Africa and shall give Transnet the name and address of such agent as such may be amended, in writing, from time to time.

## 15 GENERAL

Completion or termination of an Order shall be without prejudice to any Term herein which by its nature would be deemed to continue after completion or termination, including but not limited to clauses **Error! Reference source not found.**, **Error! Reference source not found.**, **Error! Reference source not found.**, **Error! Reference source not found.** and **Error! Reference source not found.**. Headings are included herein for convenience only. If any Term herein be held illegal or unenforceable, the validity or enforceability of the remaining Terms shall not be affected. No failure or delay by Transnet to enforce any rights under these Terms will operate as a waiver thereof by Transnet. All rights and remedies available to either party under these Terms shall be in addition to, not to the exclusion of, rights otherwise available at law.

## 16 COUNTERPARTS

These Terms and conditions may be signed in any number of counterparts, all of which taken together shall constitute one and the same instrument. Any party may enter into this agreement by signing any such counterpart.

**Section 4**

**BACKGROUND AND SCOPE OF REQUIREMENTS**

TRANSNET

freight rail

**General Specification**
**Repair works to a 132/25kV, 20MVA single phase traction transformer.**

**BACKGROUND**

Transnet Freight Rail requires the provision of the refurbishment of 6 x 20MVA Traction Transformers situated at the Southdown-, Gaika-, Putterskraal-, Stormberg-, Zwalu and Strydon substations situated between East London and Springfontein for a period of 4 months.

**SCOPE OF REQUIREMENTS**

**1. REFERENCE LIST**

1.1 The following publications are referred to herein:

1.1.2 SANS 555. 1995: Insulating Oil for Transformer and Switchgear.
1.1.3 IEC 76 1993: Transformers
1.1.4 BSS 171 1987: Power Transformers
1.1.5 Transnet Freight Rail
CEE.0045.90 Painting of steel components of electrical equipment.
E.4E (April 1997). Safety Arrangements and procedural Compliance with the Occupational Health and Safety Act.
CEE. GI 012 Supervision and Maintenance of oil in electrical equipment
1.1.6 BBB 2007 Environmental guidelines and specifications for electrical construction work

**2. TENDERING**

2.1 In order to evaluate the offers for the contract, Tenderers are requested to submit a breakdown of prices **per transformer** for the various items to be performed (**Bill of quantities per transformer attached**).

2.2 Transnet Freight Rail shall not disclose the successful tender's tender price or any other tender prices, as this is regarded as confidential information.

2.3 Transnet Freight Rail (hereafter refer to as TFR) reserves the right to inspect the tenderers facilities, plant and equipment prior to awarding the contract in order to ensure that it is suitable for the type of operations required.

2.4 The Tenderer must indicate if a sub contractor will be utilized to perform portions of the work and ensure that the sub contractor is competent in performing the duties.

2.5 The sub contractor may only be appointed by the main contractor if approval has been obtained from TFR.

## 3. TENDER REQUIREMENTS.

3.1 The contractor shall conduct an inspection on site, to determine the actual site conditions namely the different access roads leading to the various substation sites, the condition of the access roads, overhead bridges and overhead transmission and communication lines, the nearest towns and possible suppliers of material and equipment to the site, the availability of water and electricity as well as the weather conditions.

3.2 The contractor will provide his own plant and equipment on site, (Oil filter plant, standby generators, security or any other plant and equipment required to execute the work safely)

3.3 The physical size and dimensions of the transformer and its associated parts. (See the attached file "25kV traction transformer.xls" as a reference, the transformer measurements and information provide must be verified by the contractor on site.)

3.4 The contractor shall submit a **schedule of the work to be performed** on each transformer. Included in his schedule shall be the costs as per the schedule of prices and a program for the complete repair work.

3.5 The contractor shall quote separate labour rates for work not specified in the schedule of prices.

## 4. WORK TO BE PERFORMED ON THE TRANSFORMER.

### 4.1 THE DISMANTLING OF THE TRANSFORMER COOLING FINS AND CONSERVATOR TANK WITH ALL ASOCIATED BRACKETS.

4.1.1 Close the main transformer tank oil valves leading to the cooling fins and conservator tank. Drain the oil from the cooling fins and conservator tank in a suitable container. (Contractor to specify container and container PCB free)

4.1.2 Remove all the transformer cooling fins, all their attachment brackets and support brackets if applicable from the main transformer tank, place/stack the fins neatly on site. Ensure that all the valves and taps are properly closed. Fin oil entry holes to be closed to stop water and debris entering it during this time.(the transformer dimensions and weight is attached)

4.1.3 Specify the hydraulic crane lifting capacity at various reach distances. (Dated test certificates).

4.1.4 Remove the oil conservator tank with attachment and support brackets and place neatly on site. Ensure that all the valves and taps are properly closed to prevent oil leaks

4.1.5 The Contractor must provide details on all the lifting equipment to be utilized with inspection sheets and appropriate certificates together with operator's certificate of competence.

### 4.2 THE TRANSPORTATION OF THE TRANSFORMER FINS AND CONSERVATORE TANK WITH ALL THE ATTACHMENT BRACKETS TO AND FROM SITE IF PREFERRED:

4.2.1 The loading of the transformer cooling fins, the cooling fins must be properly stacked and secure, bolted together (Sandwich type arrangement), in easy manageable stacks. Ensure that no damage will occur during the transport of the cooling fins, to the repair site and during the off loading of the cooling fins at the repair site. Close the oil entry openings to keep moisture out.

4.2.2 The loading of the transformer conservator tank with all the associated brackets, and support brackets on the truck. Ensure that all the oil valves and taps are properly closed. The tank and support brackets must be properly secure to the truck before transportation.

4.2.3 Contractor to provide detail on all the lifting and transport equipment to be utilized with inspection sheets and appropriate certificates.

## 4.3 TRANSFORMER CORE, CORE WINDINGS, WINDING INSULATION, ELECTRICAL CONNECTIONS AND MECHANICAL CONNECTIONS INSIDE THE MAIN TANK.

4.3.1 Drain the oil from the transformer main tank completely.

4.3.2 Remove the High and Medium Voltage bushings and blank off openings. The bushings must be neatly stacked at an angle of 45º. TFR will provide new Medium Voltage 52kV bushings to be fitted. (Care to be taken not to damage the CT's on removal and re-fitment of the bushings)

4.3.3 Remove the transformer tank main lid to allow the Contractor and TFR staff to inspect the tap changer, core and core winding insulation and all exposed mechanical and electrical connections for damage

4.3.4 Remove any unwanted objects, repair any insulation damage and contact damage on the tap changer and re-torque the core bolts to the correct torque settings 135N.m. Repair all burnt or damage contacts, insulation damage, faulty terminations and faulty connections.

4.3.5 Re-insulate the HV and MV leads to the various bushings with paper tape eight layers per conductor.

4.3.6 This process should not exceed a time period of more than 24hrs to limit the exposure of the core and windings to the atmosphere. During this phase the transformer must be covered with a suitable cover which will prevent rain dust and any impurities form entering the main tank.

4.3.7 Megger test core insulation immediately after the cleaning and repair process these readings to comply to SANS standards

4.3.8 Refit the 132 kV and new 52kV bushings. (Care must be taken not to damage the CT's inside the transformer main tank.) Allow to replace or modify the studs to fit the old and new bushings if required.

4.3.9 Replace all the gaskets, seals and fill main tank with oil, vacuum the main transformer tank to the correct Torr.

4.3.10 Supply and fit new core/earth insulator on the outside of the main tank and replace this insulators cone rubber.

4.3.11 Check and service all earth connections.

## 4.4 THE MEASUREMENT AND PROTECTION EQUIPMENT.

4.4.1 Service oil and winding temperature pockets, fill with new oil, remove rust apply 1 coat NS4.

4.4.2 Repair all leaks to Bucholtz relay including the test valve and sight glass gaskets.

4.4.3 Service and secure and seal all control/ protection wiring inside the main tank before closing.

## 4.5 THE TRANSFORMER COOLING FINS:

4.5.1 Complete refurbish all the cooling fins, attachment support brackets, gaskets "Type TF 72", drain plugs, valves, O rings, washers and seals.

4.5.2 O Rings to be fitted to all the valve stem seals and dowty washers to be fitted to all the cooling fin drain plugs

4.5.3 The Contractor to remove all the rust and 30mm of the existing paint around the rust effected area, or any other form of corrosion or damage.

4.5.4 Do a spot repair on the rusted areas, remove all the rust and 30mm of the existing paint around the rust effected area, degrease the treated effected area, apply one coat NS4 red colour

4.5.5 Remove all lose paint (Specify method)

4.5.6 Clean the inside of the cooling fins of any carbon or sludge, air blast and rinse with new oil and pressure test each fin to ensure that no oil leaks will occur.

4.5.7 If hole or leaks are detected on the cooling fins, specify repair method to be utilised as not to damage or weaken the current mechanical condition of the cooling fin material.

4.5.8 Clean and degrease the outside of the cooling fin and paint the outside of the cooling fins complete with two coats of Noxide "Airless spray" as per specification CEE.0045.90. Painting of steel components of electrical equipment. An airless spray machine must be used – not a normal spray compressor.

4.6 **THE TRANSFORMER MAIN TANK:**

4.6.1 Complete refurbishment of the transformer main tank with all associated equipment, drain valves and plugs, washers, O-rings, gaskets, temperature control box, Bucholtz pipes, and temperature probes.

4.6.2 Remove all the rust or any other form of corrosion from the main tank, the rusted area as well as an additional 30mm of the existing paint surrounding the rusted area, degrease the treated effected area, apply one coat NS4 red colour.

4.6.3 Clean the tank "degrease" and repaint the outside of the tank with two coats Noxide "Airless spray or hand brush" as per specification CEE.0045.90. Painting of steel components of electrical equipment.

4.6.4 All the gaskets must be replaced with type TF 72 of same thickness. Size 10mm gasket on the main lid. The stop and drain valves, drain plugs, washers and O-rings must be replaced. Fit new dowty washers to drain plugs on all the fins.

4.6.5 Allow for the replacement of all broken or missing bolts and nuts as well as the bushing studs (16mm)

4.6.6 Raise the transformer main tank from the plinth if applicable, secure the main tank, remove all the rust or any other form of corrosion from the main tank, the rusted area as well as an additional 30mm of the existing paint surrounding the rusted area, degrease the treated effected area, apply one coat NS4 red colour. Clean the tank "degrease" and repaint the outside of the tank with two coats of Noxide "Airless spray or hand brush" as per specification CEE.0045.90. Painting of steel components of electrical equipment. Fit malthoid 3 layers and lower the main tank back into existing position.

4.7 **THE CONSERVATOIL TANK WITH SUPPORTING BRACKETS:**

4.7.1 Complete refurbishment of the transformer conservator tank. Remove all the rust and or any other form of corrosion, with 30mm of the existing good paint surrounding the rust effected areas, degrease the treated effected area, and apply one coat NS4 red colour. Lift the conservator off its stand and mounting brackets, de-rust and paint these areas and fit a 6mm type 72 packing on this bracket and re secure same.

4.7.2 Clean the tank "degrease" and repaint the inside of the tank with NS4/gliptol and degrease outside of the tank and supporting brackets and paint with 2 coats of

Noxide by means of "Airless spray" as per specification CEE.0045.90. Painting of steel components of electrical equipment.

4.7.3 Pressure test the conservator tank to ensure that no oil leaks will appear.

4.7.4 The inside of the conservator tank must be sandblasted and clean and be painted with gliptol or be replace with a 3CR12 S/Steel tank

4.7.5 All the gaskets must be replaced with type TF72 and all the stop valves refurbish and washers, O rings are replaced.

4.7.6 Supply and install new site glasses and site glass housings where required.

4.8 **THE COMPLETE REASSEMBLY OF THE TRANSFORMER:**

4.8.1 Re-gasket the transformer with type TF 72, 10mm thick for the main lid (torque main lid bolts 55Nm) and 6 mm for the rest of the gaskets

4.8.2 Fit the cooling fins to the main transformer complete with new gaskets and torque all bolts and nuts to the minimum specified torque settings for the appropriate bolts.

4.8.3 Install new fin support brackets, hot dip galvanised and painted as per specification CEE 0045.90 two coats. Tension the support bracket rod to ensure an even distribution of the oil fin loads.

4.8.4 Fit the conservator tank with all attachment brackets

4.8.5 Services oil, and winding temperature gauges and Bucholtz relay.

4.8.6 Fill the transformer with the existing oil under a vacuum process.

4.8.7 Top up the transformer with virgin oil " Conservator tank sigh glass indication" and filter the transformer oil a minimum of 3 passes to ensure a 65kV dielectric strength and a water content of less than

**4.9 GRENERAL REPAIRS AND REQUIREMENTS.**

4.9.1 Allow for the replacement of studs, nuts and bolts with equal quality studs, bolts and nuts as and when required. Welding of stud may be required (Provision)

4.9.2 Secure all cables and pipes

4.9.3 Overlap the gasket joints (Lap joint) to ensure that no oil leaks will appear.

4.9.4 Draw a vacuum. Fill the transformer with the existing transformer oil PCB free under vacuum condition.

4.9.5 Check all gaskets, valves, stop taps for any oil leaks, and repair if leaks are identified.

4.9.6 Filter the transformer oil, a minimum of 4 passes at 70 degree Celsius under a vacuum of 5 Torr. Contractor to supply their own generator and filter plant.

4.9.7 Re-torque all bolts and nuts after a four month period form completion

## 5. SERVICE CONDITIONS

The transformer must perform to its rated design after testing for continuous operation for a period of 24 hours to ensure no damaged was cause to the transformer during transport.

## 6. DRYING THE TRANSFORMERS IF REQUIRED

6.1 The following methods of drying out the transformer may be used:
6.1.1 The vapour phase process.
6.1.2 The oven dry process.
6.1.3 The vacuum dry out process

6.2 Tenderers who offer a vapour phase process to clean and dry transformers must ensure that the process does not cause any deterioration on the aged insulation.

6.3 For the vapour phase process the moisture level shall be less than 1, 0 percent.

6.4 The tendered shall indicate what dry-out process is to be implemented and the method used to determine the specified moisture level.

## 7. INSULATING OIL

7.1 TFR will make the last test results of the transformer oil available to the contractor.

7.2 The contractor shall ensure that the mineral insulating oil used for topping up the requirements specified in SABS 555.1995. and be PCB free. Top up oil to be supplied by contractor. Top up level as indicated by conservator sight level indicator at 21degree C. Use virgin oil.

7.3 TFR will make a test certificate available concerning PCB contamination before the disassembling of the transformer may proceed, to ensure that it is within the maximum allowable specification.

7.4 The contractor shall arrange via the "Contract Manager" to have oil samples taken from the transformer when it is filled and filtered on site. The oil samples shall be taken by the Maintenance Electrical Protection Staff for tests to ensure that the oil complies with the specified requirements of SABS 555.1995 before the transformer is energised and placed on load.

7.5 Transformer must not be energised before CT's and transformer protection are tested by testing officer in TFR to ensure that it is in full operation

## 8. TESTS ON REPAIRED TRANSFORMER

8.1 The power transformer shall withstand the routine tests specified in specification IEC 76.1993 or BSS 171.1987 which ever one is applicable. The cost for the tests shall be included in the tender.

8.2 The previous test results will be made available to all Tenderers

8.3 The contractor shall submit test certificates of the test results to the TFR staff witnessing the tests and to the "Contract Manager".

## 9. INSPECTION

9.1 TFR reserves the right to be present during the transport, repair work and testing and must be timeously advised of the dates of commencement of the repair work and of testing.

9.2 Arrangements must be made timeously via the "Contract Manager" for the TFR protection staff, to witness and authorise the tests for the transformer repaired.

9.3 Each phase of the repair work must be inspected and approved by TFR before the next phase may proceed.

9.4 Calibration certificates less than 12 months old issued by a recognised authority for all instruments to conduct tests on transformers shall be available for inspection, if requested by TFR.

## 10. CORROSION PROTECTION AND PAINT FINISH

10.1 All exterior metal surfaces of the transformer, and associated apparatus, damaged during the transportation of the transformer and subject to corrosion, shall be prepared for corrosion-proofing and painted in accordance with the practice recommended in SABS 064.1979 and as specified in TFR's Specification No. CEE.0045.90

10.2 The transformer base must be inspected for rust and any defects to the metal surface. All the defects detected must be repaired before the placing of the transformer.

10.3 All external surfaces shall be finished with an acceptable outer coat colour to match the existing finish.

## 11. PACKING

11.1 The transformer fins and conservator tank shall be loaded in such a manner that it shall not sustain damage during handling and transportation, and precautions shall be taken to ensure that moisture cannot enter the equipment.

11.2 The transformer fins and conservator tank transport to the new site, filling with oil under vacuum and filter process must be a continuous operation with no break in the process to ensure that no moisture enters the transformer.

11.3 The contractor will specify the safe method and equipment utilising for raising and lowering of the transformer main lid, fins and conservator tank on to and from the truck. (Safe working statement)

11.4 The rating of the crane and jacks to be used for the lifting and lowering process must be specified in the tender documents and exceed the load of the equipment.

## 12. GUARANTEE

12.1 The contractor shall guarantee the transformer against faulty workmanship for a period of twelve months from the date the transformer has been energised.

12.2 The "Contract Manager" shall notify the contractor in writing of the date when the transformer shall be energised.

## 13. CERTIFICATE OF ACCEPTANCE

13.1 The issuing of an inspection certificate will be authorised by the Quality Assurance Section of Transnet Freight Rail after final acceptance of the transformer.

## 14. QUALITY ASSURANCE

14.1 The Tenderer shall indicate at the tendering stage what steps have been taken to implement a Quality System in terms of ISO 9002 and shall submit a Quality Plan.

## 15. SAFE WORKING ON TRANSNET FREIGHT RAIL SUBSTATION SITES

15.1 The contractor or his sub-contractor shall be required to work on site in accordance with TFR safety specification E4E of April 1997 and the Occupational Health and Safety Act 85 of 1993.

15.2 The contractor shall be required to work under direct supervision of TFR's appointed "Electrical Officer and Technical officer Contracts" on site and shall work only in the area which shall be demarcated by suitable barriers if required.

15.3 The contractor must submit a written safe working statement on the work to be performed including a fall protection plan before any work may commence.

15.4 The contractor must appoint a competent supervisor on site who must always be present during the construction work.

15.5 The contractor must ensure that all the production staff are trained and certified to perform the duties required to execute the work.

15.6 The contractor must ensure that all the staff under his control holds a medical certificates to prove that they are fit to perform the work

15.7 The contractor must ensure that all the sub contractors, riggers and scaffold erectors are certified and that all scaffold work is inspected and certified accordingly by an inspector.

15.8 The contractor must ensure that the correct slings and chains are utilised, and that the equipment inspection sheets and certificates are made available on site in the safety file.

15.9 No work may commence before all the mentioned appointment letters, medical certificates, written safe working statement and all legal documents are submitted in a safety file to the Contract Manager.

15.10 The complete safety file must be made available within three weeks of notification that the contract has been awarded failure to deliver the file in time will let to the cancellation of the contract.

15.11 All site should be left clean in accordance to environmental specification BBB 2007

## 16. RISK AND POSSIBLE HAZARDS CONDITIONS

16.1 Hazardous materials to be properly stored (Petrol, diesel and cleaning materials).

16.2 No work may be done under live conditions.

16.3 The contractor must ensure that all the transformer oil containers are in good order and that no oil spills will occur.

16.4 Transformer oil is highly flammable and no welding may take place that might ignite the transformer oil.

16.5 All the transformer oil containers and the filter plan must be certified PCB free.

16.6 No work may commence during lightning conditions.

16.7 The contractor must arrange his own safety staff to protect his plant and equipment

## 17. INSURANCE

17.1 The contractor will arrange insurance for all his plant and equipment utilized on site. The contractor will provide liability insurance to cover any incident or claim that may arises during the contract execution period.

17.2 The contract must also arrange for insurance cover for possible oil spills on site and during transport from or to the transformer repair sites.

## 18. PENALTIES

18.1 The contractor will provide a safety file with all relevant documents namely; appointment letters, written safe working statement, medical certificates, good standing with the compensation commissioner, appointment of competent supervisors, site instruction book, site dairy, fall protection plan etc within 2 weeks of appointment and ensure that their site diary is present at all times..

18.2 Failure to provide the mentioned documentation will automatically led to the cancellation of the contract.

18.3 The following penalties will apply or part thereof for any delays, i.e. R500 per day up to a maximum of 12% of the contract amount according to the scheduled energising date after commissioning at the substation.

## Section 5

## CERTIFICATE OF ATTENDANCE: INFORMATION BRIEFING SESSION

It is hereby certified that -

1. .....

2. .....

Representative(s) of .....

*(name of company)*

attended the site inspection / briefing session in respect of the proposed service to be rendered in terms of this RFQ on .....2014.

| | |
|---|---|
| ..... | ..... |
| TRANSNET'S REPRESENTATIVE | RESPONDENT'S REPRESENTATIVE |
| DATE..... | DATE..... |

**Section 6**

**ACKNOWLEDGEMENT**

**By signing this RFQ document, the Respondent is deemed to acknowledge that he/she has made himself/herself thoroughly familiar with all the conditions governing this RFQ, including those contained in any printed form stated to form part hereof and Transnet SOC Ltd will recognise no claim for relief based on an allegation that the Respondent overlooked any such condition or failed to properly take it into account for the purpose of calculating quoted prices or otherwise.**

SIGNED at _____ on this _____ day of _____ 20___

.....

SIGNATURE OF RESPONDENT'S AUTHORISED REPRESENTATIVE

NAME: _____

DESIGNATION: _____

REGISTERED NAME OF COMPANY: _____

PHYSICAL ADDRESS:

_____

_____

**Respondent's contact person:** *[Please complete]*

| | |
|---|---|
| Name : | |
| Designation : | |
| Telephone : | |
| Cell Phone : | |
| Facsimile : | |
| Email : | |
| Website : | |

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

## 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.

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### 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, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies;

2.2 **"B-BBEE"** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;

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 written offer in a prescribed or stipulated form in response to an invitation by Transnet for the provision of goods, works or services;

2.5 **"Broad-Based 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 South African currency, calculated at the time of bid invitations, and includes all applicable taxes and excise duties;

2.16 **"subcontract"** means the primary contractor's assigning 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 to administer such property for the benefit of another person; and

2.19 **"trustee"** means any person, including the founder of a trust, to whom property is bequeathed in order for such property to be administered for the benefit of another person.

## 3. 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] |
|---|---|
| 1 | 10 |
| 2 | 9 |
| 3 | 8 |
| 4 | 5 |
| 5 | 4 |
| 6 | 3 |
| 7 | 2 |
| 8 | 1 |
| Non-compliant contributor | 0 |

4.2 Bidders who qualify as EMEs in terms of the 2007 version of the Codes of Good Practice must submit a certificate issued by an Accounting Officer as contemplated in the CCA or a Verification Agency accredited by SANAS or a Registered Auditor. 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 EMEs in terms 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 Black ownership.

4.4 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.

4.5 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.

4.9 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 claimed.

## 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 this 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 Agency 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 portion of the contract be subcontracted? 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 Transporter, etc

**(vii)** Total number of years the company/firm has been in business.....

**BID DECLARATION**

I/we, the undersigned, who warrants that he/she 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 a 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 satisfaction of Transnet that the claims are correct.

(iii) If the 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

(e) forward the matter for criminal prosecution.

**WITNESSES:**

1. .....

2. .....

SIGNATURE OF BIDDER

DATE:.....

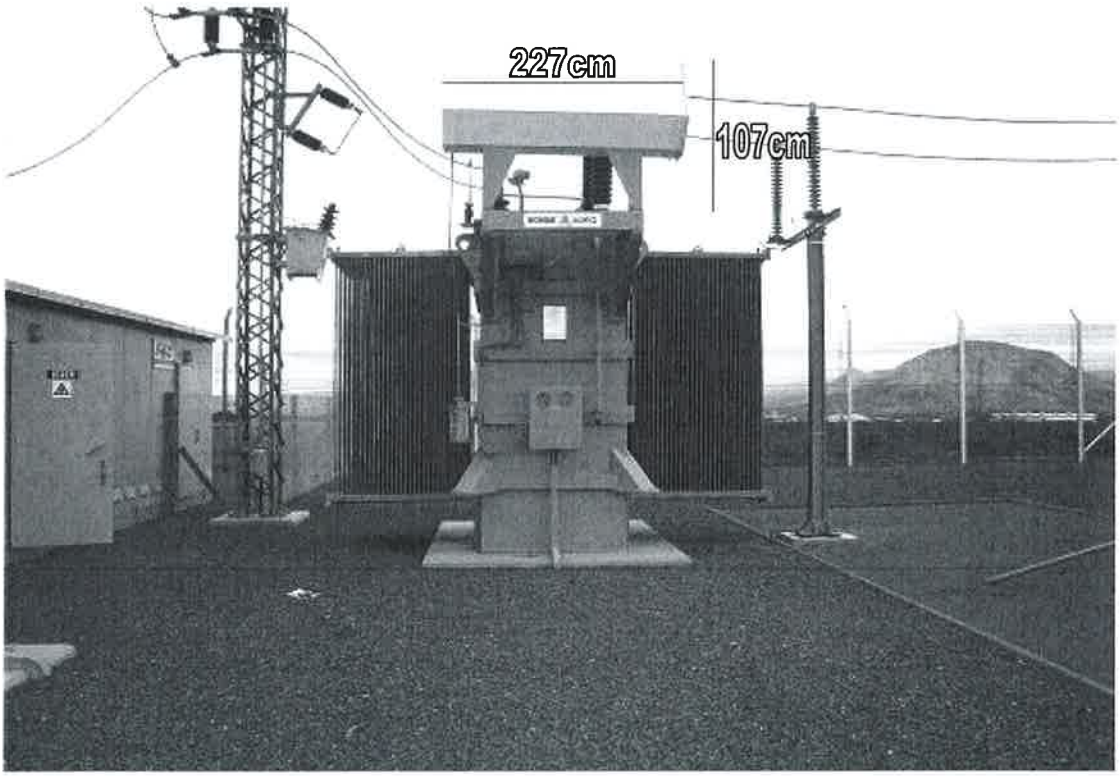
COMPANY NAME: .....

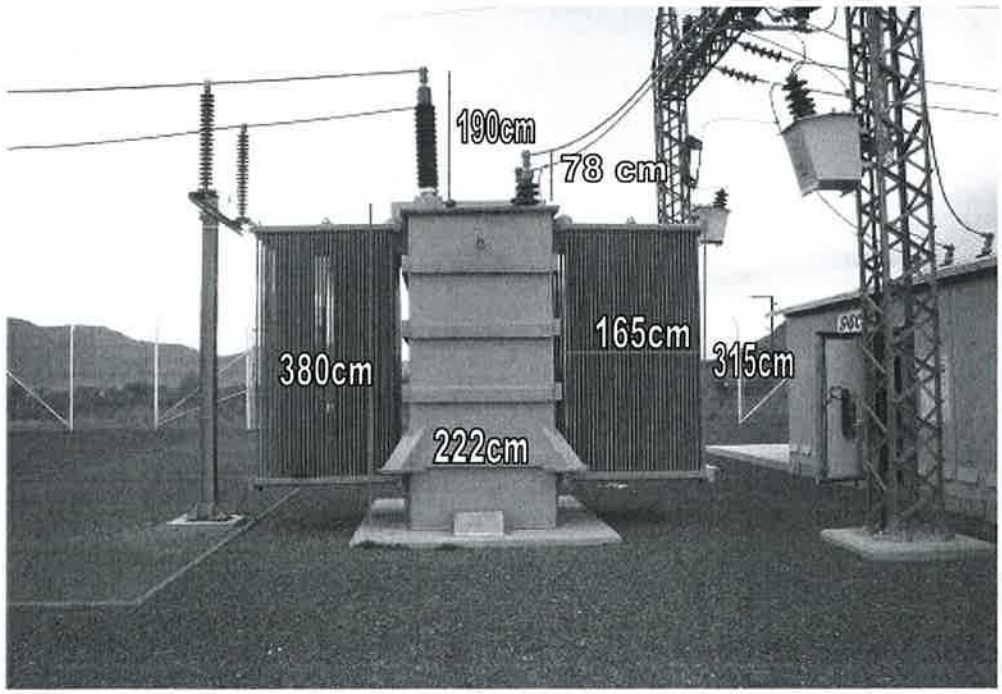
ADDRESS:.....

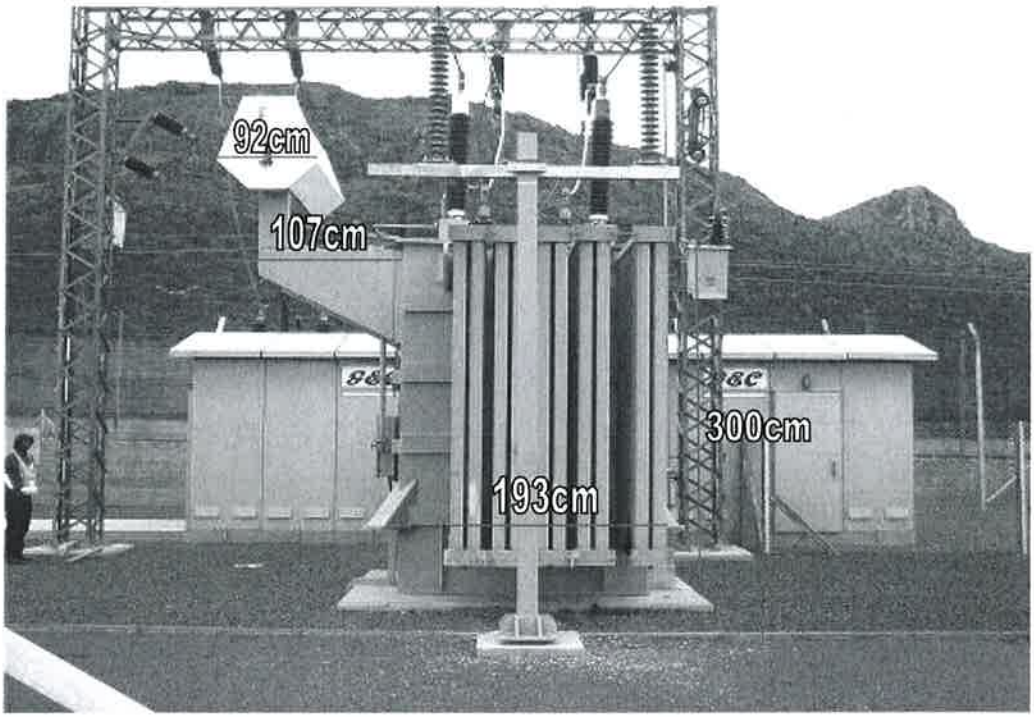
**TENDER/RFQ PTH/52931**

**Total weight of transformer 45275 kg**

**Total weight of oil 14403 kg**

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