



Transnet Rail Infrastructure Manager

an Operating Division **TRANSNET SOC LTD**

[Registration Number 1990/000900/30]

REQUEST FOR PROPOSAL (RFP)

FOR THE SUPPLY, INSTALL, TEST AND COMMISSION SF6 GAS FILLED PRIMARY CIRCUIT BREAKERS AND REPAIR TRANSFORMER OIL LEAKS FOR 3KV TRACTION

RFP NUMBER	: CRAC-KGG-53247
ISSUE DATE	: 05 September 2025
COMPULSORY BRIEFING	: 15 September 2025
CLOSING DATE	: 26 September 2025
CLOSING TIME	: 10h00am
TENDER VALIDITY PERIOD	: 12 weeks from closing date



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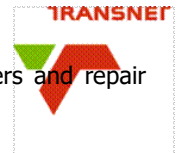
T1.1 TENDER NOTICE AND INVITATION TO TENDER

SECTION 1: NOTICE TO TENDERERS

1. INVITATION TO TENDER

Responses to this Tender [hereinafter referred to as a **Tender**] are requested from persons, companies, close corporations or enterprises [hereinafter referred to as a Tenderer].

DESCRIPTION	The supply, install, test and commission SF6 Gas filled primary circuit breakers and repair transformer oil leaks for 3kv traction
TENDER DOWNLOADING	This Tender may be downloaded directly from the National Treasury eTender Publication Portal at www.etenders.gov.za and the Transnet website at https://transnetetenders.azurewebsites.net (please use Google Chrome to access Transnet link) FREE OF CHARGE.
COMPULSORY TENDER CLARIFICATION MEETING	<p>A Compulsory Tender Clarification Meeting will be conducted at 26°40'19"S, 27°09'03"E. on the 15 September 2025, at 11:00am [11 O'clock] for a period of ± 2 (two) hours. [Tenderers to provide own transportation and accommodation].</p> <p>The Compulsory Tender Clarification Meeting will start punctually and information will not be repeated for the benefit of Tenderers arriving late.</p> <p>A Site visit/walk will take place, tenderers are to note:</p> <ul style="list-style-type: none"> • Tenderers are required to wear safety shoes, goggles, long sleeve shirts, high visibility vests and hard hats. • Tenderers without the recommended PPE will not be allowed on the site walk. • Tenderers and their employees, visitors, clients and customers entering Transnet Offices, Depots, Workshops and Stores will have to undergo breathalyser testing. • All forms of firearms are prohibited on Transnet properties and premises. • The relevant persons attending the meeting must ensure that their identity documents, passports or driver's licences are on them for inspection at the access control gates.
CLOSING DATE	<p>10:00am on (26 September 2025)</p> <p>Tenderers must ensure that tenders are uploaded timeously onto the system. If a tender is late, it will not be accepted for consideration.</p>



2. TENDER SUBMISSION

Transnet has implemented a new electronic tender submission system, the e-Tender Submission Portal, in line with the overall Transnet digitalization strategy where suppliers can view advertised tenders, register their information, log their intent to respond to bids and upload their bid proposals/responses on to the system.

a) The Transnet e-Tender Submission Portal can be accessed as follows:

Log on to the Transnet eTenders management platform website (<https://transnetetenders.azurewebsites.net>);

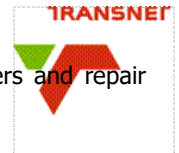
- Click on "ADVERTISED TENDERS" to view advertised tenders;
- Click on "SIGN IN/REGISTER – for bidder to register their information (must fill in all mandatory information);
- Click on "SIGN IN/REGISTER" - to sign in if already registered;
- Toggle (click to switch) the "Log an Intent" button to submit a bid;
- Submit bid documents by uploading them into the system against each tender selected.
- **Tenderers are required to ensure that electronic bid submissions are done at least a day before the closing date to prevent issues which they may encounter due to their internet speed, bandwidth or the size of the number of uploads they are submitting. Transnet will not be held liable for any challenges experienced by bidders as a result of the technical challenges. Please do not wait for the last hour to submit. A Tenderer can upload 30mb per upload and multiple uploads are permitted.**

b) The tender offers to this tender will be opened as soon as possible after the closing date and time. Transnet shall not, at the opening of tenders, disclose to any other company any confidential details pertaining to the Tender Offers / information received, i.e. pricing, delivery, etc. The names and locations of the Tenderers will be divulged to other Tenderers upon request.

c) Submissions must not contain documents relating to any Tender other than that shown on the submission.

3. CONFIDENTIALITY

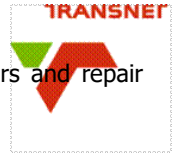
All information related to this RFP is to be treated with strict confidentiality. In this regard Tenderers are required to certify that they have acquainted themselves with the Non-Disclosure Agreement. All information related to a subsequent contract, both during and after completion thereof, will be treated with strict confidence. Should the need however arise to divulge any information gleaned from provision of the Works, which is either directly or indirectly related to Transnet's business, written approval to divulge such information must be obtained from Transnet.



4. DISCLAIMERS

Tenderers are hereby advised that Transnet is not committed to any course of action as a result of its issuance of this Tender and/or its receipt of a tender offer. In particular, please note that Transnet reserves the right to:

- 4.1. Award the business to the highest scoring Tenderer/s unless objective criteria justify the award to another tenderer.
- 4.2. Not necessarily accept the lowest priced tender or an alternative Tender;
- 4.3. Go to the open market if the quoted rates (for award of work) are deemed unreasonable;
- 4.4. Should the Tenderers be awarded business on strength of information furnished by the Tenderer, which after conclusion of the contract is proved to have been incorrect, Transnet reserves the right to terminate the contract;
- 4.5. Request audited financial statements or other documentation for the purposes of a due diligence exercise;
- 4.6. Not accept any changes or purported changes by the Tenderer to the tender rates after the closing date;
- 4.7. Verify any information supplied by a Tenderer by submitting a tender, the Tenderer/s hereby irrevocably grant the necessary consent to the Transnet to do so;
- 4.8. Conduct the evaluation process in parallel. The evaluation of Tenderers at any given stage must therefore not be interpreted to mean that Tenderers have necessarily passed any previous stage(s);
- 4.9. Unless otherwise expressly stated, each tender lodged in response to the invitation to tender shall be deemed to be an offer by the Tenderer. The Employer has the right in its sole and unfettered discretion not to accept any offer.
- 4.10. Not be held liable if tenderers do not provide the correct contact details during the clarification session and do not receive the latest information regarding this RFP with the possible consequence of being disadvantaged or disqualified as a result thereof.
- 4.11. Transnet reserves the right to exclude any Tenderers from the tender process who has been convicted of a serious breach of law during the preceding 5 [five] years including but not limited to breaches of the Competition Act 89 of 1998, as amended. Tenderers are required to indicate in tender returnable [on T2.2-13], [**Breach of Law**] whether or not they have been found guilty of a serious breach of law during the past 5 [five] years.
- 4.12. Transnet reserves the right to perform a risk analysis on the preferred tenderer to ascertain if any of the following might present an unacceptable commercial risk to the employer:
 - *unduly high or unduly low tendered rates or amounts in the tender offer;*
 - *contract data of contract provided by the tenderer; or*
 - *the contents of the tender returnables which are to be included in the contract.*



5. Transnet will not reimburse any Tenderer for any preparatory costs or other work performed in connection with this Tender, whether or not the Tenderer is awarded a contract.

6. NATIONAL TREASURY'S CENTRAL SUPPLIER DATABASE

Tenderer are required to self-register on National Treasury's Central Supplier Database (CSD) which has been established to centrally administer supplier information for all organs of state and facilitate the verification of certain key supplier information. The CSD can be accessed at <https://secure.csd.gov.za/>. Tenderer are required to provide the following to Transnet in order to enable it to verify information on the CSD:

Supplier Number..... and Unique registration reference
number.....(Tender Data)

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



T1.2 TENDER DATA

The conditions of tender are the Standard Conditions of Tender as contained in Annex C of the CIDB Standard for Uniformity in Engineering and Construction Works Contracts. The Standard for Uniformity in Construction Procurement was first published in Board Notice 62 of 2004 in Government Gazette No 26427 of 9 June 2004. It was subsequently amended in Board Notice 67 of 2005 in Government Gazette No 28127 of 14 October 2005, Board Notice 93 of 2006 in Government Gazette No 29138 of 18 August 2006, Board Notice No 9 of 2008 in Government Gazette No 31823 of 30 January 2009, Board Notice 86 of 2010 in Government Gazette No 33239 of 28 May 2010, Board Notice 136 of 2015 in Government Gazette 38960 of 10 July 2015 and Board Notice 423 of 2019 in Government Gazette No 42622 of 8 August 2019.

This edition incorporates the amendments made in Board Notice 423 of 2019 in Government Gazette 42622 of 8 August 2019. (see www.cidb.org.za).

The Standard Conditions of Tender make several references to Tender data for detail that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.

Each item of data given below is cross-referenced in the left-hand column to the clause in the Standard Conditions of Tender to which it mainly applies.

Clause	Data
C.1.1 The <i>Employer</i> is	Transnet SOC Ltd (Reg No. 1990/000900/30)
C.1.2 The tender documents issued by the <i>Employer</i> comprise:	
Part T: The Tender	
Part T1: Tendering procedures	T1.1 Tender notice and invitation to tender T1.2 Tender data
Part T2 : Returnable documents	T2.1 List of returnable documents T2.2 Returnable schedules
Part C: The contract	
Part C1: Agreements and contract data	C1.1 Form of offer and acceptance C1.2 Contract data (Part 1 & 2)
Part C2: Pricing data	C2.1 Pricing instructions C2.2 Bill of Quantities
Part C3: Scope of work	C3.1 Works Information
Part C4: Site information	C4.1 Site information



C.1.4	The Employer's agent is:	SCM Manager
	Name:	Thabo Nkosi
	Address:	No.1 Anvil Road, Admin Bld, Isando, 1600
	Tel No.	011 308 4236
	E – mail	Thabo.Nkosi@transnet.net

C.2.1 Only those tenderers who satisfy the following eligibility criteria are eligible to submit tenders:

1. Eligibility in terms of the Construction Industry Development Board:

a) Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, designation of **3EP or higher** class of construction work, are eligible to have their tenders evaluated.

b) Joint Venture (JV)

Joint ventures are eligible to submit tenders subject to the following:

1. every member of the joint venture is registered with the CIDB;
2. the lead partner has a contractor grading designation of not lower than one level below the required class of construction works under consideration and possesses the required recognition status; and
3. the combined Contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a Contractor grading designation determined in accordance with the sum tendered for a **3EP or higher** class of construction work or a value determined in accordance with Regulation 25(1B) or 25(7A) of the Construction Industry Development Regulations

The tenderer shall provide a certified copy of its signed joint venture agreement

2. Step Two - Functionality:

Only those tenderers who obtain the minimum qualifying score for functionality will be evaluated further in terms of price and the applicable preference point system. The minimum qualifying for score for functionality is **70** points.

The evaluation criteria for measuring functionality and the points for each criterion and, if any, each sub-criterion are as stated in C.3.11.3 below.

Any tenderer that fails to meet the stipulated eligibility criteria will be regarded as an unacceptable tender.

C.2.7 The arrangements for a compulsory clarification meeting are as stated in the Tender Notice and Invitation to Tender. **Tenderers must complete and sign the**



attendance register. Addenda will be issued to and tenders will only be received from those tendering entities including those entities that intends forming a joint venture appearing on the attendance register.

Tenderers are also **required to bring their RFP document to the briefing session and have their returnable document T2.2-0 Certificate of attendance** signed off by the Employer's authorised representative.

C.2.12 No alternative tender offers will be considered.

C.2.13.3 Each tender offer shall be in the **English Language**.

C.2.13.5 The *Employer's* details and identification details that are to be shown on each tender offer are as follows:

Identification details:

The tender documents must be uploaded with:

- Name of Tenderer:
- Contact person and details:
- The Tender Number: CRAC-KGG-53247

The Tender Description: The supply, install, test and commission SF6 Gas filled primary circuit breakers and repair transformer oil leaks for 3kv traction

Documents must be marked for the attention of:

Employer's Representative: Thabo Nkosi

C.2.13.9 Telephonic, telegraphic, facsimile or e-mailed tender offers will not be accepted.

C.2.15 The closing time for submission of tender offers is:

Time: **10:00am** on the **26 September 2025**

Location: The Transnet e-Tender Submission Portal: (<https://transnetetenders.azurewebsites.net>);

NO LATE TENDERS WILL BE ACCEPTED

C.2.16 The tender offer validity period is **12 weeks** after the closing date. Tenderers are to note that they may be requested to extend the validity period of their tender, on the same terms and conditions, if Transnet's internal evaluation and governance approval processes has not been finalised within the validity period.

C.2.23 The tenderer is required to submit with his tender:

1. A valid Tax Clearance Certificate issued by the South African Revenue Services.

Tenderers also to provide Transnet with a TCS PIN to verify Tenderers compliance status.

2. A **valid B-BBEE Certificate** from a Verification Agency accredited by the South African Accreditation System [**SANAS**], or a **sworn affidavit** confirming annual turnover and level of black ownership in case of all EMEs and QSEs with 51% black ownership or more together with the tender;

3. CRS Number. (CIDB unique identifier number of the tenderer);
4. Proof of registration on the Central Supplier Database;
5. Letter of Good Standing with the Workmen's compensation fund by the tendering entity or separate Letters of Good Standing from all members of a newly constituted JV.

Note: Refer to Section T2.1 for List of Returnable Documents

C.3.11. The minimum number of evaluation points for functionality is: **70**

The procedure for the evaluation of responsive tenders is Functionality, Price and Preference:

Only those tenderers who attain the minimum number of evaluation points for Functionality will be eligible for further evaluation, failure to meet the minimum threshold will result in the tender being disqualified and removed from any further consideration.

Functionality Criteria

The functionality criteria and maximum score in respect of each of the criteria are as follows:

CATEGORY A: TECHNICAL / PRACTICAL (70 Threshold)	Total score	Score distribution	Points
PREVIOUS WORKING EXPERIENCE (CERTIFICATES OF COMPLETION) Bidders should provide similar work done previously related to 3kV DC traction Substation's primary circuit breaker design, manufacture and testing, also repairs of transformer oil leaks	40	No Response (score 0): Tenderer has submitted no information Very Poor (score 20): 1 Working experience applicable to this RFS and contactable references. Poor (score 40): 2 Working experience applicable to this RFS and contactable references. Good (score 60): 3 Working experience applicable to this RFS and contactable references. Very Good (score 80): 4 Working experience applicable to this RFS and contactable references. Satisfactory (score 100) >4 Working experience applicable to this RFS and contactable references.	0 20 40 60 80 100
RESOURCES / TECHNICAL CAPACITY The contractor must prove that he/she has the resources to successfully complete the project in time. Required: Testing equipment with calibration certificate, qualified personnel (Technician, trade tested electrician) material, machinery and other relevant resources.	20	No Response (score 0): Tenderer has submitted no information. Very Poor (score 20): Irrelevant resources information provided with no trade tested electrician and technician Poor (score 40): Less evidence of testing equipment with calibration certificate, qualified personnel (trade tested electrician and technician), material, machinery and other relevant resources.	0 20 40



		Good (score 60): Moderate evidence of testing equipment with calibration certificate, qualified personnel (trade tested electrician and engineer), material, machinery and other relevant resources Very Good (score 80): Good evidence of testing equipment with calibration certificate, qualified personnel (trade tested electrician and technician with B-tech/ engineer), material, machinery and other relevant resources Satisfactory (score 100) Sufficient evidence of testing equipment with calibration certificate, qualified personnel (trade tested electrician and technician with B-tech/ engineer registered with ECSA), material, machinery and other relevant resources	60 80 100
WORK PROGRAM Gantt chart explaining step by step how work is going to be executed and commissioned including timelines.	40	No Response (score 0): The tenderer did not submit the program Very Poor (score 20): >5 months to complete the project Poor (score 40): >4 months to complete the project Good (score 60): <3 months to complete the project With detailed Gantt chart Very Good (score 80): < 2 months to complete the project With detailed Gantt chart Satisfactory (score 100) < 1 months to complete the project With detailed Gantt chart	0 20 40 60 80 100
Total	100		

Functionality shall be scored independently by not less than 3 (three) evaluators and averaged in accordance with the following schedules:

- T2.2-1 Previous Working Experience (Certificates Of Completion)
- T2.2-2 Resources / Technical Capacity
- T2.2-3 Work Program

Each evaluation criteria will be assessed in terms of scores of 0, 20, 40, 60, 80, or 100. The scores of each of the evaluators will be averaged, weighted, and then totalled to obtain the final score for functionality, unless scored collectively. (See CIDB Inform Practice Note #9).



Note: Any tender not complying with the above-mentioned requirements, will be regarded as non-responsive and will therefore not be considered for further evaluation. This note must be read in conjunction with Clause C.2.1.

Only tenders that achieve the minimum qualifying score for functionality will be evaluated further in accordance with the 80/20 preference points systems as described in Preferential Procurement Regulations.

80 where the financial value of one or more responsive tenders received have a value equal to or above R50 million, inclusive of all applicable taxes.

Thresholds	Minimum Threshold
Functionality	70

Evaluation Criteria	Final Weighted Scores
Price	80
Specific goals - Scorecard	
B-BBEE Level 1 or 2	10
Entities that are at least 51% Black Owned	5
Entities that are at least 30% black woman owned	5
TOTAL SCORE:	100

Up to 100 minus W_1 tender evaluation points will be awarded to tenderers who complete the preferencing schedule and who are found to be eligible for the preference claimed. **Should the evidence required for any of the Specific Goals applicable in this tender not be provided, a tenderer will score zero preference points for that particular "Specific Goal".**

In terms of Transnet Preferential Procurement Policy (TPPP) and Procurement Manuals, the following preference points must be awarded to a bidder who provides the relevant required evidence for claiming points

Selected Specific Goal	Number of points allocated (20)
B-BBEE Level 1 or 2	10
Entities that are at least 51% Black Owned	5
Entities that are at least 30% black woman owned	5
Non-Compliant and/or B-BBEE Level 3-8 contributors	0

The following Table represents the evidence to be submitted for claiming preference points for applicable specific goals in a particular tender:

Specific Goals	Acceptable Evidence
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B-BBEE	B-BBEE Certificate / Sworn- Affidavit / B-BBEE CIPC Certificate (in case of JV, a consolidated scorecard will be accepted) as per DTIC guideline
Entities that are 51 % Black Owned	CI B-BBEE Certificate / Sworn- Affidavit / B-BBEE CIPC Certificate (in case of JV, a consolidated scorecard will be accepted) as per DTIC guideline
30% Black Women Owned Entities	B-BBEE Certificate / Sworn- Affidavit / B-BBEE CIPC Certificate (in case of JV, a consolidated scorecard will be accepted) as per DTIC guideline

The maximum points for this bid are allocated as follows:

DISCRIPTION	POINTS
PRICE	80
B-BBEE Level 1 or 2	10
Entities that are at least 51% Black Owned	5
Entities that are at least 30% black woman owned	5
Non-Compliant and/or B-BBEE Level 3-8 contributors	0
Total points for Price and Specific Goals must not exceed	100

Note: Transnet reserves the right to carry out an independent audit of the tenderers scorecard components at any stage from the date of close of the tenders until completion of the contract.

C.3.13 Tender offers will only be accepted if:

1. The tenderer or any of its directors/shareholders is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector;
2. the tenderer does not appear on Transnet's list for restricted tenderers and National Treasury's list of Tender Defaulters;
3. the tenderer has fully and properly completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the Employer or potentially compromise the tender process and persons in the employ of the state.
4. Transnet reserves the right to award the tender to the tenderer who scores the highest number of points overall, unless there are **objective criteria** which will justify the award of the tender to another tenderer. Objective criteria include



but are not limited to the outcome of a due diligence exercise to be conducted.
The due diligence exercise may take the following factors into account inter alia;

the tenderer:

- a) is not under restrictions, or has principals who are under restrictions, preventing participating in the employer's procurement,
- b) is not undergoing a process of being restricted by Transnet or other state institution that Transnet may be aware of,
- c) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract,
- d) has the legal capacity to enter into the contract,
- e) is not insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act, 2008, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of any of the foregoing,
- f) complies with the legal requirements, if any, stated in the tender data and
- g) is able, in the option of the employer to perform the contract free of conflicts of interest.

C.3.17 The number of paper copies of the signed contract to be provided by the Employer is 1 (one).



T2.1 List of Returnable Documents

Eligibility with regards to attendance at the compulsory clarification meeting:

T2.2-0 Certificate of Attendance

Returnable Schedules:

2.1.1 These schedules will be utilised for Functionality evaluation

purposes:

T2.2-1 Previous Working Experience (Certificates Of Completion)

T2.2-2 Resources / Technical Capacity

T2.2-3 Work Program

Returnable Schedules:

2.1.2 General:

- T2.2-4 Authority to submit tender
- T2.2-5 Record of addenda to tender documents
- T2.2-6 Letter of Good Standing
- T2.2-7 Risk Elements
- T2.2-8 Availability of equipment and other resources
- T2.2-9 Schedule of proposed Subcontractors

Agreement and Commitment by Tenderer:

- T2.2-10 CIDB SFU ANNEX G Compulsory Enterprise Questionnaire Valid proof of Respondent's compliance to B-BBEE requirements stipulated in SBD6 on ANNEX G Compulsory Enterprise Questionnaire
- T2.2-11 Non-Disclosure Agreement
- T2.2-12 RFP Declaration Form
- T2.2-13 RFP – Breach of Law
- T2.2-14 Certificate of Acquaintance with Tender Document
- T2.2-15 Service Provider Integrity Pact
- T2.2-16 Supplier Code of Conduct
- T2.2-17 Agreement in terms of Protection of Personal Information Act (POPIA)

2.1.3 Bonds/Guarantees/Financial/Insurance:

- T2.2-18 Insurance provided by the Contractor



2.2 C1.1 Offer portion of Form of Offer & Acceptance

2.3 C1.2 Contract Data Part Two (Data by Contractor)

2.4 C2.2 Bill of Quantities



T2.2-0: Eligibility Criteria Schedule:

Certificate of Attendance at Tender Clarification Meeting

This is to certify that

(Company Name)

Represented
by:

(Name and
Surname)

Was represented at the compulsory tender clarification meeting

Held at:	At Potchefstroom, (26°40'19"S, 27°09'03"E)	
On (date)	15 September 2025	Starting time: 11:00

Particulars of person(s) attending the meeting:

Name

Signature

Capacity

Attendance of the above company at the meeting was confirmed:

Name

Signature

**For and on Behalf of the
Employers Agent.**

Date



T2.2-1: Evaluation Schedule: Previous Experience

Note to tenderers:

Tenderers are required to demonstrate their experience in the delivery of similar works, and to this end shall supply a sufficiently detailed reference list with contact details of existing customers and also indicate their previous experience of, supply, install, test and commission sf6 gas filled primary circuit breakers and repair transformer oil leaks for 3kv traction substation.

Previous Experience

In addition please provide specific information for the following points:

6 or more written reference letters in a letterhead of successfully completed supply, install, test and commission sf6 gas filled primary circuit breakers and repair transformer oil leaks for 3kv traction substation

Where regards to previous experience, a tender who has completed similar value or high has a capacity to handle this project.

The scoring will be as follows:

0	Bidder has not submitted the required information/ cannot be rated
20	1 written reference letter in a letterhead of successfully completed supply, install, test and commission sf6 gas filled primary circuit breakers and repair transformer oil leaks for 3kv traction substation
40	2 written reference letters in a letterhead of successfully completed supply, install, test and commission sf6 gas filled primary circuit breakers and repair transformer oil leaks for 3kv traction substation
60	3 written reference letters in a letterhead of successfully completed supply, install, test and commission sf6 gas filled primary circuit breakers and repair transformer oil leaks for 3kv traction substation
80	4 written reference letters in a letterhead of successfully completed supply, install, test and commission sf6 gas filled primary circuit breakers and repair transformer oil leaks for 3kv traction substation
100	5 or more written reference letters in a letterhead of successfully supply, install, test and commission sf6 gas filled primary circuit breakers and repair transformer oil leaks for 3kv traction substation



Index of documentation attached to this schedule:

This image shows a full page of white paper with horizontal dotted lines. The lines are evenly spaced and run across the width of the page, providing a guide for handwriting practice. There are no margins, text, or other markings on the page.

Signed

Date

Name

Position

Tenderer



T2.2-2: Evaluation Schedule: Resources / Technical capacity

Note to tenderers:

Resources / Technical capacity

The contractor must prove that he/she has the resources to successfully complete the project in time. Required: Testing equipment with calibration certificate, qualified personnel (Technician, trade tested electrician) material, machinery and other relevant resources.

The scoring will be as follows:

0	Tenderer has submitted no information.
20	Irrelevant resources information provided with no trade tested electrician and technician
40	Less evidence of testing equipment with calibration certificate, qualified personnel (trade tested electrician and technician), material, machinery and other relevant resources.
60	Moderate evidence of testing equipment with calibration certificate, qualified personnel (trade tested electrician and engineer), material, machinery and other relevant resources
80	Good evidence of testing equipment with calibration certificate, qualified personnel (trade tested electrician and technician with B-tech/ engineer), material, machinery and other relevant resources
100	Sufficient evidence of testing equipment with calibration certificate, qualified personnel (trade tested electrician and technician with B-tech/ engineer registered with ECSA), material, machinery and other relevant resources

Signed

Date

Name

Position

Tenderer



T2.2-3: Evaluation Schedule: Work Programme

Due consideration must be given to the deliverables required to execute and complete the contract in a Gantt chart explaining step by step how work is going to be executed and commissioned including timelines.

The scoring will be as follows:

0	The tenderer did not submit the program
20	>5 months required to complete the project
40	>4 months required to complete the project
60	<3 months required to complete the project With detailed Gantt chart
80	< 2 required months to complete the project With detailed Gantt chart
100	< 1 month required to complete the project With detailed Gantt chart



Attached submissions to this schedule:

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The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Signed Date

Name Position

Tenderer



T2.2-4: Authority to submit a Tender

Indicate the status of the tenderer by ticking the appropriate box hereunder. The tenderer must complete the certificate set out below for his category of organisation or alternatively attach a certified copy of a company / organisation document which provides the same information for the relevant category as requested here.

A - COMPANY	B - PARTNERSHIP	C - JOINT VENTURE	D - SOLE PROPRIETOR

A. Certificate for Company

I, _____ chairperson of the board of directors _____
 _____, hereby confirm that by resolution of the
 board taken on _____ (date), Mr/Ms _____,
 acting in the capacity of _____, was authorised to sign all
 documents in connection with this tender offer and any contract resulting from it on behalf of
 the company.

Signed

Date

Name

Position

Chairman of the Board of Directors

**B. Certificate for Partnership**

We, the undersigned, being the **key partners** in the business trading as _____

_____ hereby authorise Mr/Ms _____

acting in the capacity of _____, to sign all documents in

connection with the tender offer for Contract _____ and any

contract resulting from it on our behalf.

Name	Address	Signature	Date

NOTE: This certificate is to be completed and signed by the full number of Partners necessary to commit the Partnership. Attach additional pages if more space is required.



C. Certificate for Joint Venture

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorise

Mr/Ms _____, an authorised signatory of the company

_____, acting in the capacity of lead

partner, to sign all documents in connection with the tender offer for Contract _____

_____ and any contract resulting from it on our behalf.

This authorisation is evidenced by the attached power of attorney signed by legally authorised signatories of all the partners to the Joint Venture.

Furthermore we attach to this Schedule a copy of the joint venture agreement which incorporates a statement that all partners are liable jointly and severally for the execution of the contract and that the lead partner is authorised to incur liabilities, receive instructions and payments and be responsible for the entire execution of the contract for and on behalf of any and all the partners.

Name of firm	Address	Authorising signature, name (in caps) and capacity



D. Certificate for Sole Proprietor

I, _____, hereby confirm that I am the sole owner of the
business trading as _____.

Signed

Date

Name

Position

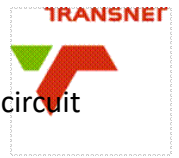
Sole Proprietor



T2.2-5: Record of Addenda to Tender Documents

This schedule as submitted confirms that the following communications received from the *Employer* before the submission of this tender offer, amending the tender documents, have been taken into account in this specific tender offer:

	Date	Title or Details
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		



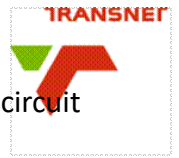
T2.2-6: Letter/s of Good Standing with the Workmen's Compensation Fund

Attached to this schedule is the Letter/s of Good Standing.

- 1.
- 2.
- 3.
- 4.

Name of Company/Members of Joint Venture:

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....



T2.2-7: Risk Elements

Tenderers to identify and evaluate the potential risk elements associated with the Service and possible mitigation thereof. The risk elements and the mitigation as identified thereof by the Tenderer are to be submitted.

If No Risks are identified "No Risks" must be stated on this schedule.

Tenderers are also to evaluate any risk/s stated by the *Employer* in Contract Data Part C1 and provide possible mitigation thereof.

Tenders to note: Notwithstanding this information, all costs related to risk elements which are at the Contractor's risk are deemed to be included in the tenderer's offered total of the Prices.





T2.2-9: Insurance provided by the *Contractor*

Clause 83.1 in NEC3 Engineering Construction Contract (June 2005) (amended June 2006 and April 2013) requires that the *Contractor* provides the insurance stated in the insurance table except any insurance which the *Employer* is to provide as stated in the Contract Data.

Please provide the following details for insurance which the *Contractor* is still to provide. Notwithstanding this information all costs related to insurance are deemed included in the tenderer's rates and prices.

Insurance against (See clause 83.2 of the ECC)	Name of Insurance Company	Cover	Premium
Liability for death of or bodily injury to employees of the <i>Contractor</i> arising out of and in the course of their employment in connection with this contract			
Motor Vehicle Liability Insurance comprising (as a minimum) "Balance of Third Party" Risks including Passenger and Unauthorised Passenger Liability indemnity with a minimum indemnity limit of R5,000,000.			
Insurance in respect of loss of or damage to own property and equipment.			



T2.2-10: ANNEX G Compulsory Enterprise Questionnaire

The following particulars hereunder must be furnished.

In the case of a Joint Venture, separate enterprise questionnaires in respect of each partner/member must be completed and submitted.

Section 1: Name of enterprise: _____

Section 2: VAT registration number, if any: _____

Section 3: CIDB registration number, if any: _____

Section 4: CSD number: _____

Section 5: Particulars of sole proprietors and partners in partnerships

Name	Identity number	Personal income tax number

* Complete only if sole proprietor or partnership and attach separate page if more than 3 partners

Section 6: Particulars of companies and close corporations

Company registration number _____

Close corporation number _____

Tax reference number: _____

Section 7: The attached SBD4 must be completed for each tender and be attached as a tender requirement.

Section 8: The attached SBD 6 must be completed for each tender and be attached as a requirement.



The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise:

- i) authorizes the Employer to obtain a tax clearance certificate from the South African Revenue Services that my / our tax matters are in order;
- ii) confirms that the neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;
- iii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;
- iv) confirms that I / we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest; and
- v) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Signed

Date

Name

Position

Enterprise
name

SBD 6.1**PREFERENCE POINTS CLAIM FORM**

This preference form must form part of all bids invited. It contains general information and serves as a claim for preference points for Specific Goals contribution. Transnet will award preference points to companies who provide valid proof of evidence as per the table of evidence in paragraph 4.1 below.

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to all bids:

- the 80/20 system for requirements with a Rand value of up to R50,000,000 (all applicable taxes included); and

1.2 The value of this bid is estimated to not exceed R50 000 000 (all applicable taxes included) and therefore the 80/20 preference point system shall be applicable. Despite the stipulated preference point system, Transnet shall use the lowest acceptable bid to determine the applicable preference point system in a situation where all received acceptable bids are received outside the stated preference point system.

1.3 Preference points for this bid shall be awarded for:

- (a) Price;
- (b) B-BBEE Status Level of Contribution; and
- (c) Any other specific goal determined in the Transnet preferential procurement policy

1.4 The maximum points for this bid are allocated as follows:

	POINTS
PRICE	80
B-BBEE Level 1 or 2	10
Entities that are at least 51% Black Owned	5
Entities that are at least 30% black woman owned	5
Total points for Price and Specific Goals must not exceed	100

1.5 Failure on the part of a bidder to submit proof of evidence required for any of the specific goals together with the bid will be interpreted to mean that preference points for that specific goal are not claimed.

1.6 The purchaser 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 the purchaser.

2. DEFINITIONS

- (a) **"all applicable taxes"** includes value-added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies;
- (b) **"B-BBEE"** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- (c) **"B-BBEE status level 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;
- (d) **"bid"** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the supply/provision of services, works or goods, through price quotations, advertised competitive bidding processes or proposals;
- (e) **"Broad-Based Black Economic Empowerment Act"** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- (f) **"EME"** means an Exempted Micro Enterprise as defines by Codes of Good Practice under section 9 (1) of the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- (g) **"functionality"** means the ability of a bidder to provide goods or services in accordance with specification as set out in the bid documents
- (h) **"Price"** includes all applicable taxes less all unconditional discounts.
- (i) **"Proof of B-BBEE Status Level of Contributor"**
 - i) the B-BBBEE status level certificate issued by an authorised body or person;
 - ii) a sworn affidavit as prescribed by the B-BBEE Codes of Good Practice; or
 - iii) any other requirement prescribed in terms of the B-BBEE Act.
- (j) **"QSE"** means a Qualifying Small Enterprise as defines by Codes of Good Practice under section 9 (1) of the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- (k) **"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.
- (l) **"Specific goals"** means targeted advancement areas or categories of persons or groups either previously disadvantaged or falling within the scope of the Reconstruction and Development Programme identified by Transnet to be given preference in allocation of procurement contracts in line with section 2(1) of the PPPFA.

3. POINTS AWARDED FOR PRICE

3.1 THE 80 PREFERENCE POINT SYSTEMS

A maximum of 80 points is allocated for price on the following basis:

$$P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)^{80/20}$$

Where

P_s = Points scored for comparative price of bid under consideration

P_t = Comparative price of bid under consideration

P_{\min} = Comparative price of lowest acceptable bid

4. EVIDENCE REQUIRED FOR CLAIMING SPECIFIC GOALS

4.1 In terms of Transnet Preferential Procurement Policy (TPPP) and Procurement Manuals, preference points must be awarded to a bidder for providing evidence in accordance with the table below:

Specific Goals	Acceptable Evidence
B-BBEE Status contributor	B-BBEE Certificate / Sworn- Affidavit / B-BBEE CIPC Certificate (in case of JV, a consolidated scorecard will be accepted) as per DTIC guideline
Entities that are 51 % Black Owned	CI B-BBEE Certificate / Sworn- Affidavit / B-BBEE CIPC Certificate (in case of JV, a consolidated scorecard will be accepted) as per DTIC guideline
At least 30% Black Women Owned Entities	B-BBEE Certificate / Sworn- Affidavit / B-BBEE CIPC Certificate (in case of JV, a consolidated scorecard will be accepted) as per DTIC guideline

4.2 The table below indicates the required proof of B-BBEE status depending on the category of enterprises:

Enterprise	B-BBEE Certificate & Sworn Affidavit
Large	Certificate issued by SANAS accredited verification agency
QSE	Certificate issued by SANAS accredited verification agency Sworn Affidavit signed by the authorised QSE representative and attested by a Commissioner of Oaths confirming annual turnover and black ownership (only black-owned QSEs - 51% to 100% Black owned) [Sworn affidavits must substantially comply with the format that can be obtained on the DTI's website at www.dti.gov.za/economic_empowerment/bee_codes.jsp .]

EME	<p>Sworn Affidavit signed by the authorised EME representative and attested by a Commissioner of Oaths confirming annual turnover and black ownership</p> <p>Certificate issued by CIPC (formerly CIPRO) confirming annual turnover and black ownership</p> <p>Certificate issued by SANAS accredited verification agency only if the EME is being measured on the QSE scorecard</p>
------------	--

- 4.3 A trust, consortium or joint venture (including unincorporated consortia and joint ventures) must submit a consolidated B-BBEE Status Level verification certificate for every separate bid.
- 4.4 Tertiary Institutions and Public Entities will be required to submit their B-BBEE status level certificates in terms of the specialized scorecard contained in the B-BBEE Codes of Good Practice.
- 4.5 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 sub-contracting more than 25% of the value of the contract to any other enterprise that does not qualify for at least the points that such a bidder qualifies for, unless the intended sub-contractor is an EME that has the capability and ability to execute the sub-contract.
- 4.6 A person awarded a contract may not sub-contract more than 25% 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 sub-contracted to an EME that has the capability and ability to execute the sub-contract.
- 4.7 Bidders are to note that the rules pertaining to B-BBEE verification and other B-BBEE requirements may be changed from time to time by regulatory bodies such as National Treasury or the DTI. It is the Bidder's responsibility to ensure that his/her bid complies fully with all B-BBEE requirements at the time of the submission of the bid.

5. BID DECLARATION

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

6. B-BBEE STATUS LEVEL OF CONTRIBUTION CLAIMED IN TERMS OF PARAGRAPHS 1.4 AND 6.1

- 6.1 B-BBEE Status Level of Contribution: . = (maximum of 20 points)
- (Points claimed in respect of paragraph 6.1 must be in accordance with the table reflected in paragraph 4.1 and must be substantiated by relevant proof of B-BBEE status level of contributor.

7. SUB-CONTRACTING

- 7.1 Will any portion of the contract be sub-contracted?

(*Tick applicable box*)

YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

7.1.1 If yes, indicate:

- i) What percentage of the contract will be subcontracted.....%
- ii) The name of the sub-contractor.....
- iii) The B-BBEE status level of the sub-contractor.....
- iv) Whether the sub-contractor is an EME or QSE.

(Tick applicable box)

YES		NO	
-----	--	----	--

8. DECLARATION WITH REGARD TO COMPANY/FIRM

8.1 Name of company/firm:.....

8.2 VAT registration number:.....

8.3 Company registration number:.....

8.4 TYPE OF COMPANY/ FIRM

- ☐ Partnership/Joint Venture / Consortium
- ☐ One person business/sole propriety
- ☐ Close corporation
- ☐ Company
- ☐ (Pty) Limited

[TICK APPLICABLE BOX]

8.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

.....

.....

.....

8.6 COMPANY CLASSIFICATION

- ☐ Manufacturer
- ☐ Supplier
- ☐ Professional Supplier/Service provider
- ☐ Other Suppliers/Service providers, e.g. transporter, etc.

[TICK APPLICABLE BOX]

8.7 Total number of years the company/firm has been in business:.....



8.8 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBE status level of contribution indicated in paragraphs 1.4 and 6.1 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraph 1.4 and 6.1, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;
- iv) If a bidder submitted false information regarding its B-BBEE status level of contributor,, which will affect or has affected the evaluation of a bid, or where a bidder has failed to declare any subcontracting arrangements or any of the conditions of contract have not been fulfilled, the purchaser 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) if the successful bidder subcontracted a portion of the bid to another person without disclosing it, Transnet reserves the right to penalise the bidder up to 10 percent of the value of the contract;
 - (e) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the audi alteram partem (hear the other side) rule has been applied; and
 - (f) forward the matter for criminal prosecution.

WITNESSES

1.
2.

.....

SIGNATURE(S) OF BIDDERS(S)

DATE:

BIDDER'S DISCLOSURE**1. PURPOSE OF THE FORM**

Any person (natural or juristic) may make an offer or offers in terms of this invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.

Where a person/s are listed in the Register for Tender Defaulters and / or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.

2. Bidder's declaration

- 2.1 Is the bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise, employed by the state? **YES/NO**

- 2.1.1 If so, furnish particulars of the names, individual identity numbers, and, if applicable, state employee numbers of sole proprietor/ directors / trustees / shareholders / members/ partners or any person having a controlling interest in the enterprise, in table below.

Full Name	Identity Number	Name of State institution

- 2.2 Do you, or any person connected with the bidder, have a relationship with any person who is employed by the procuring institution? **YES/NO**

- 2.2.1 If so, furnish particulars:

.....

- 2.3 Does the bidder or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise whether or not they are bidding for this contract? **YES/NO**

- 2.3.1 If so, furnish particulars:

.....



3 DECLARATION

I, the undersigned, (name)..... in submitting the accompanying bid, do hereby make the following statements that I certify to be true and complete in every respect:

- 3.1 I have read and I understand the contents of this disclosure;
- 3.2 I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;
- 3.3 The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium¹ will not be construed as collusive bidding.
- 3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.
- 3.4 The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
- 3.5 There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.
- 3.6 I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

I CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 1, 2 and 3 ABOVE IS CORRECT.

I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF PARAGRAPH 6 OF PFMA SCM INSTRUCTION 03 OF 2021/22 ON PREVENTING AND COMBATING ABUSE IN THE SUPPLY CHAIN MANAGEMENT SYSTEM SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....
Signature

.....
Date

.....
Position

.....
Name of bidder

¹ Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

T2.2-11 NON-DISCLOSURE AGREEMENT

[..... 2025]

Note to tenderers: This Non-Disclosure Agreement is to be completed and signed by an authorised signatory:

THIS AGREEMENT is made effective as of day of 20..... by and between:

TRANSNET SOC LTD

(Registration No. 1990/000900/30), a company incorporated and existing under the laws of South Africa, having its principal place of business at Transnet Corporate Centre 138 Eloff Street , Braamfontein , Johannesburg 2000

and

.....
(Registration No.), a private company incorporated and existing under the laws of South Africa having its principal place of business at
.....
.....

WHEREAS

Transnet and the Company wish to exchange Information [as defined below] and it is envisaged that each party may from time to time receive Information relating to the other in respect thereof. In consideration of each party making available to the other such Information, the parties jointly agree that any dealings between them shall be subject to the terms and conditions of this Agreement which themselves will be subject to the parameters of the Tender Document.

IT IS HEREBY AGREED

1. INTERPRETATION

In this Agreement:

- 1.1 **Agents** mean directors, officers, employees, agents, professional advisers, contractors or sub-contractors, or any Group member;
- 1.2 **Bid or Bid Document** (hereinafter Tender) means Transnet's Request for Information [**RFI**] Request for Proposal [**RFP**] or Request for Quotation [**RFQ**], as the case may be;
- 1.3 **Confidential Information** means any information or other data relating to one party [the **Disclosing Party**] and/or the business carried on or proposed or intended to be carried on by that party and which is made available for the purposes of the Bid to the other party [the **Receiving Party**] or its Agents by the Disclosing Party or its Agents or recorded in agreed minutes following oral disclosure and any other information otherwise made available by the Disclosing Party or its Agents to the Receiving Party or its Agents, whether before, on or after the date of this Agreement, and whether in writing or otherwise,

including any information, analysis or specifications derived from, containing or reflecting such information but excluding information which:

- 1.3.1 is publicly available at the time of its disclosure or becomes publicly available [other than as a result of disclosure by the Receiving Party or any of its Agents contrary to the terms of this Agreement]; or
- 1.3.2 was lawfully in the possession of the Receiving Party or its Agents [as can be demonstrated by its written records or other reasonable evidence] free of any restriction as to its use or disclosure prior to its being so disclosed; or
- 1.3.3 following such disclosure, becomes available to the Receiving Party or its Agents [as can be demonstrated by its written records or other reasonable evidence] from a source other than the Disclosing Party or its Agents, which source is not bound by any duty of confidentiality owed, directly or indirectly, to the Disclosing Party in relation to such information;
- 1.4 **Group** means any subsidiary, any holding company and any subsidiary of any holding company of either party; and
- 1.5 **Information** means all information in whatever form including, without limitation, any information relating to systems, operations, plans, intentions, market opportunities, know-how, trade secrets and business affairs whether in writing, conveyed orally or by machine-readable medium.

2. CONFIDENTIAL INFORMATION

- 2.1 All Confidential Information given by one party to this Agreement [the **Disclosing Party**] to the other party [the **Receiving Party**] will be treated by the Receiving Party as secret and confidential and will not, without the Disclosing Party's written consent, directly or indirectly communicate or disclose [whether in writing or orally or in any other manner] Confidential Information to any other person other than in accordance with the terms of this Agreement.
- 2.2 The Receiving Party will only use the Confidential Information for the sole purpose of technical and commercial discussions between the parties in relation to the Tender or for the subsequent performance of any contract between the parties in relation to the Tender.
- 2.3 Notwithstanding clause 2.1 above, the Receiving Party may disclose Confidential Information:
 - 2.3.1 to those of its Agents who strictly need to know the Confidential Information for the sole purpose set out in clause 2.2 above, provided that the Receiving Party shall ensure that such Agents are made aware prior to the disclosure of any part of the Confidential Information that the same is confidential and that they owe a duty of confidence to the Disclosing Party. The Receiving Party shall at all times remain liable for any actions of such Agents that would constitute a breach of this Agreement; or
 - 2.3.2 to the extent required by law or the rules of any applicable regulatory authority, subject to clause 2.4 below.
- 2.4 In the event that the Receiving Party is required to disclose any Confidential Information in accordance with clause 2.3.2 above, it shall promptly notify the Disclosing Party and cooperate with the Disclosing Party regarding the form, nature, content and purpose of such disclosure or any action which the Disclosing Party may reasonably take to challenge the validity of such requirement.
- 2.5 In the event that any Confidential Information shall be copied, disclosed or used otherwise than as permitted under this Agreement then, upon becoming aware of the same, without prejudice to any rights

or remedies of the Disclosing Party, the Receiving Party shall as soon as practicable notify the Disclosing Party of such event and if requested take such steps [including the institution of legal proceedings] as shall be necessary to remedy [if capable of remedy] the default and/or to prevent further unauthorised copying, disclosure or use.

- 2.6 All Confidential Information shall remain the property of the Disclosing Party and its disclosure shall not confer on the Receiving Party any rights, including intellectual property rights over the Confidential Information whatsoever, beyond those contained in this Agreement.

3. RECORDS AND RETURN OF INFORMATION

- 3.1 The Receiving Party agrees to ensure proper and secure storage of all Information and any copies thereof.
- 3.2 The Receiving Party shall keep a written record, to be supplied to the Disclosing Party upon request, of the Confidential Information provided and any copies made thereof and, so far as is reasonably practicable, of the location of such Confidential Information and any copies thereof.
- 3.3 The Company shall, within 7 [seven] days of receipt of a written demand from Transnet:
- 3.3.1 return all written Confidential Information [including all copies]; and
- 3.3.2 expunge or destroy any Confidential Information from any computer, word processor or other device whatsoever into which it was copied, read or programmed by the Company or on its behalf.
- 3.4 The Company shall on request supply a certificate signed by a director as to its full compliance with the requirements of clause 3.3.2 above.

4. ANNOUNCEMENTS

- 4.1 Neither party will make or permit to be made any announcement or disclosure of its prospective interest in the Tender without the prior written consent of the other party.
- 4.2 Neither party shall make use of the other party's name or any information acquired through its dealings with the other party for publicity or marketing purposes without the prior written consent of the other party.

5. DURATION

The obligations of each party and its Agents under this Agreement shall survive the termination of any discussions or negotiations between the parties regarding the Tender and continue thereafter for a period of 5 [five] years.

6. PRINCIPAL

Each party confirms that it is acting as principal and not as nominee, agent or broker for any other person and that it will be responsible for any costs incurred by it or its advisers in considering or pursuing the Tender and in complying with the terms of this Agreement.

7. ADEQUACY OF DAMAGES

Nothing contained in this Agreement shall be construed as prohibiting the Disclosing Party from pursuing any other remedies available to it, either at law or in equity, for any such threatened or actual breach of this Agreement, including specific performance, recovery of damages or otherwise.

8. PRIVACY AND DATA PROTECTION

- 8.1 The Receiving Party undertakes to comply with South Africa's general privacy protection in terms Section 14 of the Bill of Rights in connection with this Tender and shall procure that its personnel shall observe

the provisions of such Act [as applicable] or any amendments and re-enactments thereof and any regulations made pursuant thereto.

- 8.2 The Receiving Party warrants that it and its Agents have the appropriate technical and organisational measures in place against unauthorised or unlawful processing of data relating to the Tender and against accidental loss or destruction of, or damage to such data held or processed by them.

9. GENERAL

- 9.1 Neither party may assign the benefit of this Agreement, or any interest hereunder, except with the prior written consent of the other, save that Transnet may assign this Agreement at any time to any member of the Transnet Group.
- 9.2 No failure or delay in exercising any right, power or privilege under this Agreement will operate as a waiver of it, nor will any single or partial exercise of it preclude any further exercise or the exercise of any right, power or privilege under this Agreement or otherwise.
- 9.3 The provisions of this Agreement shall be severable in the event that any of its provisions are held by a court of competent jurisdiction or other applicable authority to be invalid, void or otherwise unenforceable, and the remaining provisions shall remain enforceable to the fullest extent permitted by law.
- 9.4 This Agreement may only be modified by a written agreement duly signed by persons authorised on behalf of each party.
- 9.5 Nothing in this Agreement shall constitute the creation of a partnership, joint venture or agency between the parties.
- 9.6 This Agreement will be governed by and construed in accordance with South African law and the parties irrevocably submit to the exclusive jurisdiction of the South African courts.

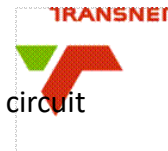
Signed

Date

Name

Position

Tenderer



T2.2-12: RFP DECLARATION FORM

NAME OF COMPANY:

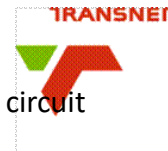
We _____ do hereby
certify that:

1. Transnet has supplied and we have received appropriate tender offers to any/all questions (as applicable) which were submitted by ourselves for tender clarification purposes;
2. we have received all information we deemed necessary for the completion of this Tender;
3. at no stage have we received additional information relating to the subject matter of this tender from Transnet sources, other than information formally received from the designated Transnet contact(s) as nominated in the tender documents;
4. we are satisfied, insofar as our company is concerned, that the processes and procedures adopted by Transnet in issuing this tender and the requirements requested from tenderers in responding to this tender have been conducted in a fair and transparent manner; and
5. furthermore, we acknowledge that a direct relationship exists between a family member and/or an owner / member / director / partner / shareholder (unlisted companies) of our company and an employee or board member of the Transnet Group as indicated below: *[Respondent to indicate if this section is not applicable]*

FULL NAME OF OWNER/MEMBER/DIRECTOR/

PARTNER/SHAREHOLDER:

ADDRESS:



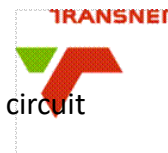
Indicate nature of relationship with Transnet:

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

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

6. We accept that any dispute pertaining to this tender will be resolved through the Ombudsman process and will be subject to the Terms of Reference of the Ombudsman. The Ombudsman process must first be exhausted before judicial review of a decision is sought. (Refer "Important Notice to respondents" below).
7. We further accept that Transnet reserves the right to reverse a tender award or decision based on the recommendations of the Ombudsman without having to follow a formal court process to have such award or decision set aside.
8. We have acquainted ourselves and agree with the content of T2.2-15 "Service Provider Integrity Pact".

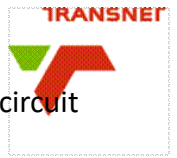
For and on behalf of



..... duly authorised thereto
Name:
Signature:
Date:

IMPORTANT NOTICE TO TENDERERS

- Transnet has appointed a Procurement Ombudsman to investigate any material complaint in respect of tenders exceeding R5,000,000.00 (five million S.A. Rand) in value. Should a Tenderer have any material concern regarding an tender process which meets this value threshold, a complaint may be lodged with Transnet's Procurement Ombudsman for further investigation.
- It is incumbent on the Tenderer to familiarise himself/herself with the Terms of Reference for the Transnet Procurement Ombudsman, details of which are available for review at Transnet's website www.transnet.net.
- An official complaint form may be downloaded from this website and submitted, together with any supporting documentation, within the prescribed period, to procurement.ombud@transnet.net
- For transactions below the R5,000,000.00 (five million S.A. Rand) threshold, a complaint may be lodged with the Chief Procurement Officer of the relevant Transnet Operating Division.
- All Tenderers should note that a complaint must be made in good faith. If a complaint is made in bad faith, Transnet reserves the right to place such a tenderer on its List of Excluded Bidders.



T2.2-13: REQUEST FOR PROPOSAL – BREACH OF LAW

NAME OF COMPANY:

I / We _____ do hereby certify that *I/we have/have not been* found guilty during the preceding 5 (five) years of a serious breach of law, including but not limited to a breach of the Competition Act, 89 of 1998, by a court of law, tribunal or other administrative body. The type of breach that the Tenderer is required to disclose excludes relatively minor offences or misdemeanours, e.g. traffic offences.

Where found guilty of such a serious breach, please disclose:

NATURE OF BREACH:

DATE OF BREACH:

Furthermore, I/we acknowledge that Transnet SOC Ltd reserves the right to exclude any Tenderer from the tendering process, should that person or company have been found guilty of a serious breach of law, tribunal or regulatory obligation.

Signed on this _____ day of _____ 20____

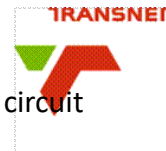
SIGNATURE OF TENDER



T2.2-14: Certificate of Acquaintance with Tender Documents

NAME OF TENDERING ENTITY:

1. By signing this certificate I/we acknowledge that I/we have made myself/ourselves thoroughly familiar with, and agree with all the conditions governing this RFP. This includes those terms and conditions of the Contract, the Supplier Integrity Pact, Non-Disclosure Agreement etc. contained in any printed form stated to form part of the documents thereof, but not limited to those listed in this clause.
2. I/we furthermore agree that Transnet SOC Ltd shall recognise no claim from me/us for relief based on an allegation that I/we overlooked any tender/contract condition or failed to take it into account for the purpose of calculating my/our offered prices or otherwise.
3. I/we understand that the accompanying Tender will be disqualified if this Certificate is found not to be true and complete in every respect.
4. For the purposes of this Certificate and the accompanying Tender, I/we understand that the word "competitor" shall include any individual or organisation, other than the Tenderer, whether or not affiliated with the Tenderer, who:
 - a) has been requested to submit a Tender in response to this Tender invitation;
 - b) could potentially submit a Tender in response to this Tender invitation, based on their qualifications, abilities or experience; and
 - c) provides the same Services as the Tenderer and/or is in the same line of business as the Tenderer
5. The Tenderer has arrived at the accompanying Tender independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium will not be construed as collusive Tendering.
6. In particular, without limiting the generality of paragraph 5 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - a) prices;



- b) geographical area where Services will be rendered [market allocation]
 - c) methods, factors or formulas used to calculate prices;
 - d) the intention or decision to submit or not to submit, a Tender;
 - e) the submission of a tender which does not meet the specifications and conditions of the tender; or
 - f) Tendering with the intention not winning the tender.
7. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the Services to which this tender relates.
8. The terms of the accompanying tender have not been, and will not be, disclosed by the Tenderer, directly or indirectly, to any competitor, prior to the date and time of the official tender opening or of the awarding of the contract.
9. I/We am/are aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to tenders and contracts, tenders that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and/or may be reported to the National Prosecuting Authority [NPA] for criminal investigation. In addition, Tenderers that submit suspicious tenders may be restricted from conducting business with the public sector for a period not exceeding 10 [ten] years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

Signed on this _____ day of _____ 20____

SIGNATURE OF TENDERER



T2.2-15: Service Provider Integrity Pact

Important Note: All potential tenderers must read this document and certify in the RFP Declaration Form that that have acquainted themselves with, and agree with the content.

The contract with the successful tenderer will automatically incorporate this Integrity Pact and shall be deemed as part of the final concluded contract.

INTEGRITY PACT

Between

TRANSNET SOC LTD

Registration Number: 1990/000900/30

("Transnet")

and

The Contractor (hereinafter referred to as the "Tenderer/Service Providers/Contractor")



PREAMBLE

Transnet values full compliance with all relevant laws and regulations, ethical standards and the principles of economical use of resources, fairness and transparency in its relations with its Tenderers/Service Providers/Contractors.

In order to achieve these goals, Transnet and the Tenderer/Service Provider/Contractor hereby enter into this agreement hereinafter referred to as the "Integrity Pact" which will form part of the Tenderer's/Service Provider's/Contractor's application for registration with Transnet as a vendor.

The general purpose of this Integrity Pact is to agree on avoiding all forms of dishonesty, fraud and corruption by following a system that is fair, transparent and free from any undue influence prior to, during and subsequent to the currency of any procurement and/or reverse logistics event and any further contract to be entered into between the Parties, relating to such event.

All Tenderers/Service Providers/Contractor's will be required to sign and comply with undertakings contained in this Integrity Pact, should they want to be registered as a Transnet vendor.

1 OBJECTIVES

- 1.1 Transnet and the Tenderer/Service Provider/Contractor agree to enter into this Integrity Pact, to avoid all forms of dishonesty, fraud and corruption including practices that are anti-competitive in nature, negotiations made in bad faith and under-pricing by following a system that is fair, transparent and free from any influence/unprejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to:
 - a) Enable Transnet to obtain the desired contract at a reasonable and competitive price in conformity to the defined specifications of the works, goods and services; and
 - b) Enable Tenderers/Service Providers/Contractors to abstain from bribing or participating in any corrupt practice in order to secure the contract.

2 COMMITMENTS OF TRANSNET

Transnet commits to take all measures necessary to prevent dishonesty, fraud and corruption and to observe the following principles:

- 2.1 Transnet hereby undertakes that no employee of Transnet connected directly or indirectly with the sourcing event and ensuing contract, will demand, take a promise for or accept directly or through intermediaries any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the Tenderer, either for themselves or for any person, organisation or third party related to the contract in exchange for an advantage in the tendering



process, Tender evaluation, contracting or implementation process related to any contract.

- 2.2 Transnet will, during the registration and tendering process treat all Tenderers/ Service Providers/Contractor with equity, transparency and fairness. Transnet will in particular, before and during the registration process, provide to all Tenderers/ Service Providers/Contractors the same information and will not provide to any Tenderers/Service Providers/Contractors confidential/additional information through which the Tenderers/Service Providers/Contractors could obtain an advantage in relation to any tendering process.
- 2.3 Transnet further confirms that its employees will not favour any prospective Tenderers/Service Providers/Contractors in any form that could afford an undue advantage to a particular Tenderer during the tendering stage, and will further treat all Tenderers/Service Providers/Contractors participating in the tendering process in a fair manner.
- 2.4 Transnet will exclude from the tender process such employees who have any personal interest in the Tenderers/Service Providers/Contractors participating in the tendering process.

3 OBLIGATIONS OF THE TENDERER / SERVICE PROVIDER

- 3.1 Transnet has a '**Zero Gifts**' Policy. No employee is allowed to accept gifts, favours or benefits.
 - a) Transnet officials and employees **shall not** solicit, give or accept, or from agreeing to solicit, give, accept or receive directly or indirectly, any gift, gratuity, favour, entertainment, loan, or anything of monetary value, from any person or juridical entities in the course of official duties or in connection with any operation being managed by, or any transaction which may be affected by the functions of their office.
 - b) Transnet officials and employees **shall not** solicit or accept gifts of any kind, from vendors, suppliers, customers, potential employees, potential vendors, and suppliers, or any other individual or organisation irrespective of the value.
 - c) Under **no circumstances** should gifts, business courtesies or hospitality packages be accepted from or given to prospective suppliers participating in a tender process at the respective employee's Operating Division, regardless of retail value.
 - d) Gratuities, bribes or kickbacks of any kind must never be solicited, accepted or offered, either directly or indirectly. This includes money, loans, equity, special privileges, personal favours, benefit or services. Such favours will be considered to constitute corruption.



- 3.2 The Tenderer/Service Provider/Contractor commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its Tender or during any ensuing contract stage in order to secure the contract or in furtherance to secure it and in particular the Tenderer/Service Provider/Contractor commits to the following:
- a) The Tenderer/Service Provider/Contractor will not, directly or through any other person or firm, offer, promise or give to Transnet or to any of Transnet's employees involved in the tendering process or to any third person any material or other benefit or payment, in order to obtain in exchange an advantage during the tendering process; and
 - b) The Tenderer/Service Provider/Contractor will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any employee of Transnet, connected directly or indirectly with the tendering process, or to any person, organisation or third party related to the contract in exchange for any advantage in the tendering, evaluation, contracting and implementation of the contract.
- 3.3 The Tenderer/Service Provider/Contractor will not collude with other parties interested in the contract to preclude a competitive Tender price, impair the transparency, fairness and progress of the tendering process, Tender evaluation, contracting and implementation of the contract. The Tenderer / Service Provider further commits itself to delivering against all agreed upon conditions as stipulated within the contract.
- 3.4 The Tenderer/Service Provider/Contractor will not enter into any illegal or dishonest agreement or understanding, whether formal or informal with other Tenderers/Service Providers/Contractors. This applies in particular to certifications, submissions or non-submission of documents or actions that are restrictive or to introduce cartels into the tendering process.
- 3.5 The Tenderer/Service Provider/Contractor will not commit any criminal offence under the relevant anti-corruption laws of South Africa or any other country. Furthermore, the Tenderer/Service Provider/Contractor will not use for illegitimate purposes or for restrictive purposes or personal gain, or pass on to others, any information provided by Transnet as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 3.6 A Tenderer/Service Provider/Contractor of foreign origin shall disclose the name and address of its agents or representatives in South Africa, if any, involved directly or indirectly in the registration or tendering process. Similarly, the Tenderer / Service Provider / Contractor of South African nationality shall furnish



the name and address of the foreign principals, if any, involved directly or indirectly in the registration or tendering process.

- 3.7 The Tenderer/Service Provider/Contractor will not misrepresent facts or furnish false or forged documents or information in order to influence the tendering process to the advantage of the Tenderer/Service Provider/Contractor or detriment of Transnet or other competitors.
- 3.8 Transnet may require the Tenderer/Service Provider/Contractor to furnish Transnet with a copy of its code of conduct. Such code of conduct must address the compliance programme for the implementation of the code of conduct and reject the use of bribes and other dishonest and unethical conduct.
- 3.9 The Tenderer/Service Provider/Contractor will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- 3.10 The Tenderer/Service Provider/Contractor confirms that they will uphold the ten principles of the United Nations Global Compact (UNGC) in the fields of Human Rights, Labour, Anti-Corruption and the Environment when undertaking business with Transnet as follows:

a) Human Rights

- Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and
- Principle 2: make sure that they are not complicit in human rights abuses.

b) Labour

- Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
- Principle 4: the elimination of all forms of forced and compulsory labour;
- Principle 5: the effective abolition of child labour; and
- Principle 6: the elimination of discrimination in respect of employment and occupation.

c) Environment

- Principle 7: Businesses should support a precautionary approach to environmental challenges;
- Principle 8: undertake initiatives to promote greater environmental responsibility; and



- Principle 9: encourage the development and diffusion of environmentally friendly technologies.

d) Anti-Corruption

- Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

4 INDEPENDENT TENDERING

4.1 For the purposes of that Certificate in relation to any submitted Tender, the Tenderer declares to fully understand that the word "competitor" shall include any individual or organisation, other than the Tenderer, whether or not affiliated with the Tenderer, who:

- a) has been requested to submit a Tender in response to this Tender invitation;
- b) could potentially submit a Tender in response to this Tender invitation, based on their qualifications, abilities or experience; and
- c) provides the same Goods and Services as the Tenderer and/or is in the same line of business as the Tenderer.

4.2 The Tenderer has arrived at his submitted Tender independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium will not be construed as collusive tendering.

4.3 In particular, without limiting the generality of paragraph 5 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:

- a) prices;
- b) geographical area where Goods or Services will be rendered [market allocation];
- c) methods, factors or formulas used to calculate prices;
- d) the intention or decision to submit or not to submit, a Tender;
- e) the submission of a Tender which does not meet the specifications and conditions of the RFP; or
- f) tendering with the intention of not winning the Tender.

4.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the Goods or Services to which his/her tender relates.



- 4.5 The terms of the Tender as submitted have not been, and will not be, disclosed by the Tenderer, directly or indirectly, to any competitor, prior to the date and time of the official Tender opening or of the awarding of the contract.
- 4.6 Tenderers are aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to Tenders and contracts, Tenders that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and/or may be reported to the National Prosecuting Authority [**NPA**] for criminal investigation and/or may be restricted from conducting business with the public sector for a period not exceeding 10 [ten] years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.
- 4.7 Should the Tenderer find any terms or conditions stipulated in any of the relevant documents quoted in the Tender unacceptable, it should indicate which conditions are unacceptable and offer alternatives by written submission on its company letterhead, attached to its submitted Tender. Any such submission shall be subject to review by Transnet's Legal Counsel who shall determine whether the proposed alternative(s) are acceptable or otherwise, as the case may be.

5 DISQUALIFICATION FROM TENDERING PROCESS

- 5.1 If the Tenderer/Service Provider/Contractor has committed a transgression through a violation of section 3 of this Integrity Pact or in any other form such as to put its reliability or credibility as a Tenderer/Service Provider/Contractor into question, Transnet may reject the Tenderer's / Service Provider's / Contractor's application from the registration or tendering process and remove the Tenderer/Service Provider/Contractor from its database, if already registered.
- 5.2 If the Tenderer/Service Provider/Contractor has committed a transgression through a violation of section 3, or any material violation, such as to put its reliability or credibility into question. Transnet may after following due procedures and at its own discretion also exclude the Tenderer/Service Provider/Contractor from future tendering processes. The imposition and duration of the exclusion will be determined by the severity of the transgression. The severity will be determined by the circumstances of the case, which will include amongst others the number of transgressions, the position of the transgressors within the company hierarchy of the Tenderer/Service Provider/Contractor and the amount of the damage. The exclusion will be imposed for up to a maximum of 10 (ten) years. However, Transnet reserves the right to impose a longer period of exclusion, depending on the gravity of the misconduct.



- 5.3 If the Tenderer/Service Provider/Contractor can prove that it has restored the damage caused by it and has installed a suitable corruption prevention system, or taken other remedial measures as the circumstances of the case may require, Transnet may at its own discretion revoke the exclusion or suspend the imposed penalty.

6 TRANSNET'S LIST OF EXCLUDED TENDERERS (BLACKLIST)

- 6.1 The process of restriction is used to exclude a company/person from conducting future business with Transnet and other organs of state for a specified period. No Tender shall be awarded to a Tenderer whose name (or any of its members, directors, partners or trustees) appear on the Register of Tender Defaulters kept by National Treasury, or who have been placed on National Treasury's List of Restricted Suppliers. Transnet reserves the right to withdraw an award, or cancel a contract concluded with a Tenderer should it be established, at any time, that a tenderer has been restricted with National Treasury by another government institution.
- 6.2 All the stipulations on Transnet's restriction process as laid down in Transnet's Supply Chain Policy and Procurement Procedures Manual (CPM included) are included herein by way of reference. Below follows a condensed summary of this restriction procedure.
- 6.3 On completion of the restriction procedure, Transnet will submit the restricted entity's details (including the identity number of the individuals and registration number of the entity) to National Treasury for placement on National Treasury's Database of Restricted Suppliers for the specified period of exclusion. National Treasury will make the final decision on whether to restrict an entity from doing business with any organ of state for a period not exceeding 10 years and place the entity concerned on the Database of Restricted Suppliers published on its official website.
- 6.4 The decision to restrict is based on one of the grounds for restriction. The standard of proof to commence the restriction process is whether a "*prima facie*" (i.e. on the face of it) case has been established.
- 6.5 Depending on the seriousness of the misconduct and the strategic importance of the Goods/Services, in addition to restricting a company/person from future business, Transnet may decide to terminate some or all existing contracts with the company/person as well.
- 6.6 A Service Provider or Contractor to Transnet may not subcontract any portion of the contract to a blacklisted company.



- 6.7 Grounds for blacklisting include: If any person/Enterprise which has submitted a Tender, concluded a contract, or, in the capacity of agent or subcontractor, has been associated with such Tender or contract:
- a) Has, in bad faith, withdrawn such Tender after the advertised closing date and time for the receipt of Tenders;
 - b) has, after being notified of the acceptance of his Tender, failed or refused to sign a contract when called upon to do so in terms of any condition forming part of the Tender documents;
 - c) has carried out any contract resulting from such Tender in an unsatisfactory manner or has breached any condition of the contract;
 - d) has offered, promised or given a bribe in relation to the obtaining or execution of the contract;
 - e) has acted in a fraudulent or improper manner or in bad faith towards Transnet or any Government Department or towards any public body, Enterprise or person;
 - f) has made any incorrect statement in a certificate or other communication with regard to the Local Content of his Goods or his B-BBEE status and is unable to prove to the satisfaction of Transnet that:
 - (i) he made the statement in good faith honestly believing it to be correct; and
 - (ii) before making such statement he took all reasonable steps to satisfy himself of its correctness;
 - g) caused Transnet damage, or to incur costs in order to meet the contractor's requirements and which could not be recovered from the contractor;
 - h) has litigated against Transnet in bad faith.
- 6.8 Grounds for blacklisting include a company/person recorded as being a company or person prohibited from doing business with the public sector on National Treasury's database of Restricted Service Providers or Register of Tender Defaulters.
- 6.9 Companies associated with the person/s guilty of misconduct (i.e. entities owned, controlled or managed by such persons), any companies subsequently formed by the person(s) guilty of the misconduct and/or an existing company where such person(s) acquires a controlling stake may be considered for



blacklisting. The decision to extend the blacklist to associated companies will be at the sole discretion of Transnet.

7 PREVIOUS TRANSGRESSIONS

- 7.1 The Tenderer/Service Provider/Contractor hereby declares that no previous transgressions resulting in a serious breach of any law, including but not limited to, corruption, fraud, theft, extortion and contraventions of the Competition Act 89 of 1998, which occurred in the last 5 (five) years with any other public sector undertaking, government department or private sector company that could justify its exclusion from its registration on the Tenderer's/Service Provider's/Contractor's database or any tendering process.
- 7.2 If it is found to be that the Tenderer/Service Provider/Contractor made an incorrect statement on this subject, the Tenderer/Service Provider/Contractor can be rejected from the registration process or removed from the Tenderer/Service Provider/Contractor database, if already registered, for such reason (refer to the Breach of Law Returnable Form contained in the document.)

8 SANCTIONS FOR VIOLATIONS

- 8.1 Transnet shall also take all or any one of the following actions, wherever required to:
- a) Immediately exclude the Tenderer/Service Provider/Contractor from the tendering process or call off the pre-contract negotiations without giving any compensation the Tenderer/Service Provider/Contractor. However, the proceedings with the other Tenderer/Service Provider/Contractor may continue;
 - b) Immediately cancel the contract, if already awarded or signed, without giving any compensation to the Tenderer/Service Provider/Contractor;
 - c) Recover all sums already paid by Transnet;
 - d) Encash the advance bank guarantee and performance bond or warranty bond, if furnished by the Tenderer/Service Provider/Contractor, in order to recover the payments, already made by Transnet, along with interest;
 - e) Cancel all or any other contracts with the Tenderer/Service Provider/Contractor; and
 - f) Exclude the Tenderer/Service Provider/Contractor from entering into any Tender with Transnet in future.

9 CONFLICTS OF INTEREST

- 9.1 A conflict of interest includes, inter alia, a situation in which:
- a) A Transnet employee has a personal financial interest in a tendering / supplying entity; and
 - b) A Transnet employee has private interests or personal considerations or has an affiliation or a relationship which affects, or may affect, or may be perceived to



affect his / her judgment in action in the best interest of Transnet, or could affect the employee's motivations for acting in a particular manner, or which could result in, or be perceived as favouritism or nepotism.

9.2 A Transnet employee uses his / her position, or privileges or information obtained while acting in the capacity as an employee for:

- a) Private gain or advancement; or
- b) The expectation of private gain, or advancement, or any other advantage accruing to the employee must be declared in a prescribed form.

Thus, conflicts of interest of any Tender committee member or any person involved in the sourcing process must be declared in a prescribed form.

9.3 If a Tenderer/Service Provider/Contractor has or becomes aware of a conflict of interest i.e. a family, business and / or social relationship between its owner(s)/ member(s)/director(s)/partner(s)/shareholder(s) and a Transnet employee/ member of Transnet's Board of Directors in respect of a Tender which will be considered for the Tender process, the Tenderer/Service Provider/ Contractor:

- a) must disclose the interest and its general nature, in the Request for Proposal ("RFX") declaration form; or
- b) must notify Transnet immediately in writing once the circumstances has arisen.

9.4 The Tenderer/Service Provider/Contractor shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any committee member or any person involved in the sourcing process, where this is done, Transnet shall be entitled forthwith to rescind the contract and all other contracts with the Tenderer/Service Provider/Contractor.

10 DISPUTE RESOLUTION

10.1 Transnet recognises that trust and good faith are pivotal to its relationship with its Tenderer / Service Provider / Contractor. When a dispute arises between Transnet and its Tenderer / Service Provider / Contractor, the parties should use their best endeavours to resolve the dispute in an amicable manner, whenever possible. Litigation in bad faith negates the principles of trust and good faith on which commercial relationships are based. Accordingly, following a blacklisting process as mentioned in paragraph 6 above, Transnet will not do business with a company that litigates against it in bad faith or is involved in any action that reflects bad faith on its part. Litigation in bad faith includes, but is not limited to the following instances:

- a) **Vexatious proceedings:** these are frivolous proceedings which have been instituted without proper grounds;
- b) **Perjury:** where a Tenderer / Service Provider / Contractor make a false statement either in giving evidence or on an affidavit;



- c) **Scurrilous allegations:** where a Tenderer / Service Provider / Contractor makes allegations regarding a senior Transnet employee which are without proper foundation, scandalous, abusive or defamatory; and
- d) **Abuse of court process:** when a Tenderer / Service Provider / Contractor abuses the court process in order to gain a competitive advantage during a Tender process.

11 GENERAL

- 11.1 This Integrity Pact is governed by and interpreted in accordance with the laws of the Republic of South Africa.
- 11.2 The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the law relating to any civil or criminal proceedings.
- 11.3 The validity of this Integrity Pact shall cover all the tendering processes and will be valid for an indefinite period unless cancelled by either Party.
- 11.4 Should one or several provisions of this Integrity Pact turn out to be invalid the remainder of this Integrity Pact remains valid.
- 11.5 Should a Tenderer/Service Provider/Contractor be confronted with dishonest, fraudulent or corruptive behaviour of one or more Transnet employees, Transnet expects its Tenderer/Service Provider/Contractor to report this behaviour directly to a senior Transnet official/employee or alternatively by using Transnet's "Tip-Off Anonymous" hotline number 0800 003 056, whereby your confidentiality is guaranteed.

The Parties hereby declare that each of them has read and understood the clauses of this Integrity Pact and shall abide by it. To the best of the Parties' knowledge and belief, the information provided in this Integrity Pact is true and correct.

I duly authorised by the tendering entity, hereby certify that the tendering entity are **fully acquainted** with the contents of the Integrity Pact and further **agree to abide by it** in full.

Signature

Date



T2.2-16: Supplier Code of Conduct

Transnet SOC Limited aims to achieve the best value for money when buying or selling goods and obtaining services. This however must be done in an open and fair manner that supports and drives a competitive economy. Underpinning our process are several acts and policies that any supplier dealing with Transnet must understand and support. These are:

- The Transnet Procurement Policy – A guide for Tenderers.
- Section 217 of the Constitution - the five pillars of Public PSCM (Procurement and Supply Chain Management): fair, equitable, transparent, competitive and cost effective;
- The Public Finance Management Act (PFMA);
- The Broad Based Black Economic Empowerment Act (BBBEE)
- The Prevention and Combating of Corrupt Activities Act (PRECCA); and
- The Construction Industry Development Board Act (CIDB Act).

This code of conduct has been included in this contract to formally appraise Transnet Suppliers of Transnet's expectations regarding behaviour and conduct of its Suppliers.

Prohibition of Bribes, Kickbacks, Unlawful Payments, and Other Corrupt Practices

Transnet is in the process of transforming itself into a self-sustaining State Owned Enterprise, actively competing in the logistics industry. Our aim is to become a world class, profitable, logistics organisation. As such, our transformation is focused on adopting a performance culture and to adopt behaviours that will enable this transformation.

1. Transnet SOC Limited will not participate in corrupt practices. Therefore, it expects its suppliers to act in a similar manner.

- Transnet and its employees will follow the laws of this country and keep accurate business records that reflect actual transactions with, and payments to, our suppliers.
- Employees must not accept or request money or anything of value, directly or indirectly, from suppliers.
- Employees may not receive anything that is calculated to:
 - Illegally influence their judgement or conduct or to ensure the desired outcome of a sourcing activity;



- Win or retain business or to influence any act or decision of any person involved in sourcing decisions; or
- Gain an improper advantage.

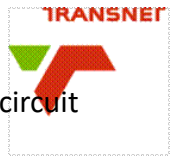
- There may be times when a supplier is confronted with fraudulent or corrupt behaviour of Transnet employees. We expect our Suppliers to use our "Tip-offs Anonymous" Hot line to report these acts. (0800 003 056).

2. *Transnet SOC Limited is firmly committed to the ideas of free and competitive enterprise.*

- Suppliers are expected to comply with all applicable laws and regulations regarding fair competition and antitrust practices.
- Transnet does not engage with non-value adding agents or representatives solely for the purpose of increasing BBBEE spend (fronting).

3. *Transnet's relationship with suppliers requires us to clearly define requirements, to exchange information and share mutual benefits.*

- Generally, suppliers have their own business standards and regulations. Although Transnet cannot control the actions of our suppliers, we will not tolerate any illegal activities. These include, but are not limited to:
 - Misrepresentation of their product (origin of manufacture, specifications, intellectual property rights, etc);
 - Collusion;
 - Failure to disclose accurate information required during the sourcing activity (ownership, financial situation, BBBEE status, etc.);
 - Corrupt activities listed above; and
 - Harassment, intimidation or other aggressive actions towards Transnet employees.
- Suppliers must be evaluated and approved before any materials, components, products or services are purchased from them. Rigorous due diligence is conducted and the supplier is expected to participate in an honest and straight forward manner.
- Suppliers must record and report facts accurately, honestly and objectively. Financial records must be accurate in all material respects.



Conflicts of Interest

A conflict of interest arises when personal interests or activities influence (or appear to influence) the ability to act in the best interests of Transnet SOC Limited.

- Doing business with family members.
- Having a financial interest in another company in our industry

Where possible, contracts will be negotiated to include the above in the terms of such contracts. To the extent such terms are not included in contractual obligations and any of the above code is breached, then Transnet reserves its right to review doing business with these suppliers.

I, _____ of _____
(insert name of Director or as per Authority Resolution from Board of Directors) *(insert name of Company)*

hereby acknowledge having read, understood and agree to the terms and conditions set out in the "Transnet Supplier Code of Conduct."

Signed this on day _____ at _____

Signature



T2.2-17: Agreement in terms of Protection of Personal Information Act, 4 of 2013 ("POPIA")

1. PREAMBLE AND INTRODUCTION

- 1.1. The rights and obligation of the Parties in terms of the Protection of Personal Information Act, 4 of 2013 ("POPIA") are included as forming part of the terms and conditions of this contract.

2. PROTECTION OF PERSONAL INFORMATION

- 2.1. The following terms shall bear the same meaning as contemplated in Section 1 of the Protection of Person information act, No. of 2013" (POPIA"):
- consent; data subject; electronic communication; information officer; operator; person; personal information; processing; record; Regulator; responsible party; special information; as well as any terms derived from these terms.
- 2.2. The Operator will process all information by the Transnet in terms of the requirements contemplated in Section 4(1) of the POPIA:
- Accountability; Processing limitation; Purpose specification; Further processing limitation; Information quality; Openness; Security safeguards and Data subject participation.
- 2.3. The Parties acknowledge and agree that, in relation to personal information of Transnet and the information of a third party that will be processed pursuant to this Agreement , the Operator is (..... insert name of Tenderer/Contractor) hereinafter Operator and the Data subject is "Transnet". Operator will process personal information only with the knowledge and authorisation of Transnet and will treat personal information and the information of a third party which comes to its knowledge as confidential and will not disclose it, unless so required by law or subject to the exceptions contained in the POPIA.
- 2.4. Transnet reserves all the rights afforded to it by the POPIA in the processing of any of its information as contained in this Agreement and the Operator is required to comply with all prescripts as detailed in the POPIA relating to all information concerning Transnet.
- 2.5. In terms of this Agreement, the Operator acknowledges that it will obtain and have access to personal information of Transnet and the information of a third party and agrees that it shall only process the information disclosed by Transnet in terms of this Agreement and only for the purposes as detailed in this Agreement and in accordance with any applicable law.
- 2.6. Should there be a need for the Operator to process the personal information and the information of a third party in a way that is not agreed to in this Agreement, the Operator must request consent



from Transnet to the processing of its personal information or and the information of a third party in a manner other than that it was collected for, which consent cannot be unreasonably withheld.

- 2.7. Furthermore, the Operator will not otherwise modify, amend or alter any personal information and the information of a third party submitted by Transnet or disclose or permit the disclosure of any personal information and the information of a third party to any third party without prior written consent from Transnet.
- 2.8. The Operator shall, at all times, ensure compliance with any applicable laws put in place and maintain sufficient measures, policies and systems to manage and secure against all forms of risks to any information that may be shared or accessed pursuant to the services offered to Transnet in terms of this Agreement (physically, through a computer or any other form of electronic communication).
- 2.9. The Operator shall notify Transnet in writing of any unauthorised access to personal information and the information of a third party , cybercrimes or suspected cybercrimes, in its knowledge and report such crimes or suspected crimes to the relevant authorities in accordance with applicable laws, after becoming aware of such crimes or suspected crime. The Operator must inform Transnet of the breach as soon as it has occurred to allow Transnet to take all necessary remedial steps to mitigate the extent of the loss or compromise of personal information and the information of a third party and to restore the integrity of the affected personal information as quickly as is possible.
- 2.10. Transnet may, in writing, request the Operator to confirm and/or make available any personal information and the information of a third party in its possession in relation to Transnet and if such personal information has been accessed by third parties and the identity thereof in terms of the POPIA.
- 2.11. Transnet may further request that the Operator correct, delete, destroy, withdraw consent or object to the processing of any personal information and the information of a third party relating to the Transnet or a third party in the Operator's s possession in terms of the provision of the POPIA and utilizing Form 2 of the POPIA Regulations .
- 2.12. In signing this addendum that is in terms of the POPIA, the Operator hereby agrees that it has adequate measures in place to provide protection of the personal information and the information of a third party given to it by Transnet in line with the 8 conditions of the POPIA and that it will provide to Transnet satisfactory evidence of these measures whenever called upon to do so by Transnet.

The Operator is required to provide confirmation that all measures in terms of the POPIA are in place when processing personal information and the information of a third party received from Transnet:



YES	
------------	--

NO	
-----------	--

2.13. Further, the Operator acknowledges that it will be held liable by Transnet should it fail to process personal information in line with the requirements of the POPIA. The Operator will be subject to any civil or criminal action, administrative fines or other penalty or loss that may arise as a result of the processing of any personal information that Transnet submitted to it.

2.14. Should a Tenderer have any complaints or objections to processing of its personal information, by Transnet, the Tenderer can submit a complaint to the Information Regulator on <https://www.justice.gov.za/infoereg/>, click on contact us, click on complaints.IR@justice.gov.za

3. SOLE AGREEMENT

3.1. The Agreement, constitute the sole agreement between the parties relating to the subject matter referred to in paragraph 1.1 of this and no amendment/variation/change shall be of any force and effect unless reduced to writing and signed by or on behalf of both parties.

Signed at _____ on this _____ day of _____ 2021

Name: _____

Title: _____

Signature: _____

.....(Pty) Ltd

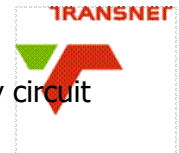
(Operator)

Authorised signatory for and on behalf of (Pty) Ltd who warrants that he/she is duly authorised to sign this Agreement.

AS WITNESSES:

1. Name: _____ Signature: _____

2. Name: _____ Signature: _____



C1.1: Form of Offer & Acceptance

Offer

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract for the procurement of:

The Works: The supply, install, test and commission SF6 Gas filled primary circuit breakers and repair transformer oil leaks for 3kv traction

By the representative of the tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance the tenderer offers to perform all of the obligations and liabilities of the *Contractor* under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the *conditions of contract* identified in the Contract Data.

The offered total of the Prices exclusive of VAT is	R
Value Added Tax @ 15% is	R
The offered total of the Prices inclusive of VAT is	R
(in words)	

This Offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document including the Schedule of Deviations (if any) to the tenderer before the end of the period of validity stated in the Tender Data, or other period as agreed, whereupon the tenderer becomes the party named as the *Contractor* in the *conditions of contract* identified in the Contract Data.

Signature(s)

Name(s)

Capacity

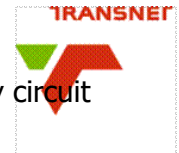
**For the
Tenderer:**

(Insert name and address of organisation)

Name &
signature of
witness

Date

Tenderer's CIDB registration number:



Acceptance

By signing this part of this Form of Offer and Acceptance, the *Employer* identified below accepts the tenderer's Offer. In consideration thereof, the *Employer* shall pay the *Contractor* the amount due in accordance with the *conditions of contract* identified in the Contract Data. Acceptance of the tenderer's Offer shall form an agreement between the *Employer* and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract, are contained in:

Part C1	Agreements and Contract Data, (which includes this Form of Offer and Acceptance)
Part C2	Pricing Data
Part C3	Scope of Work: Works Information
Part C4	Site Information

and drawings and documents (or parts thereof), which may be incorporated by reference into the above listed Parts.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Returnable Schedules as well as any changes to the terms of the Offer agreed by the tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Form of Offer and Acceptance. No amendments to or deviations from said documents are valid unless contained in this Schedule.

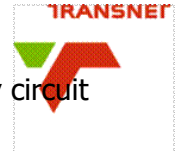
The tenderer shall within two weeks of receiving a completed copy of this agreement, including the Schedule of Deviations (if any), contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of any securities, bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the *conditions of contract* identified in the Contract Data at, or just after, the date this agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any).

Transnet Rail Infrastructure Manager

Contract Number: CRAC-KGG-53247

Description of the Works: the supply, install, test and commission SF6 Gas filled primary circuit breakers and repair transformer oil leaks for 3kv traction



Unless the tenderer (now *Contractor*) within five working days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the Parties.

Signature(s)

Name(s)

Capacity

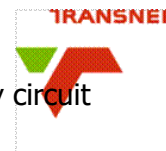
**For the
Employer**

Transnet SOC Ltd

(Insert name and address of organisation)

Name &
signature of
witness

Date



Schedule of Deviations

Note:

1. To be completed by the Employer prior to award of contract. This part of the Offer & Acceptance would not be required if the contract has been developed by negotiation between the Parties and is not the result of a process of competitive tendering.
2. The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender.
3. A tenderer's covering letter must not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid be the subject of agreement reached during the process of Offer and Acceptance, the outcome of such agreement shall be recorded here and the final draft of the contract documents shall be revised to incorporate the effect of it.

No.	Subject	Details
1		
2		
3		

By the duly authorised representatives signing this Schedule of Deviations below, the Employer and the tenderer agree to and accept this Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules, as well as any confirmation, clarification or changes to the terms of the Offer agreed by the tenderer and the Employer during this process of Offer and Acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the tenderer of a completed signed copy of this Form shall have any meaning or effect in the contract between the parties arising from this Agreement.

	For the Tenderer:	For the Employer
Signature	_____	_____
Name	_____	_____
Capacity	_____	_____
On behalf of	<i>(Insert name and address of organisation)</i>	Transnet SOC Ltd
Name & signature of witness	_____	_____
Date	_____	_____



C1.2 Contract Data

Part one - Data provided by the *Employer*

Clause	Statement	Data
1	General	
	The <i>conditions of contract</i> are the core clauses and the clauses for main Option	B: Priced Contract with Bill of Quantities
	dispute resolution Option	W1: Dispute resolution procedure
	and secondary Options	
		X2 Changes in the law
		X7: Delay damages
		X16 Retention
		X18: Limitation of liability
		Z: Additional conditions of contract
	of the NEC3 Engineering and Construction Contract June 2005 (amended June 2006 and April 2013)	
10.1	The <i>Employer</i> is:	Transnet SOC Ltd (Registration No. 1990/000900/30)
	Address	Registered address: Transnet Corporate Centre 138 Eloff Street Braamfontein Johannesburg 2000
	Having elected its Contractual Address for the purposes of this contract as:	Transnet Rail Infrastructure Manager No.1 Station Street, Millsite Krugersdorp 1740
10.1	The <i>Project Manager</i> is: (Name)	Mantoea Ralengana

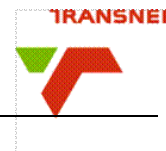


Address Transnet Rail Infrastructure Manager
No.1 Station Street,
Millsite
Krugersdorp
1740

Tel **011 950 1340**

e-mail Mantoe.Ralengana@transnet.net

11.2(13)	The <i>works</i> are	The supply, install, test and commission SF6 Gas filled primary circuit breakers and repair transformer oil leaks for 3kv traction	
11.2(14)	The following matters will be included in the Risk Register	Working near live equipment Working at height	
11.2(15)	The <i>boundaries of the site</i> are	As stated in Part C4.1."Description of the Site and it surroundings"	
11.2(16)	The Site Information is in	Part C4	
11.2(19)	The Works Information is in	Part C3	
12.2	The <i>law of the contract</i> is the law of	the Republic of South Africa subject to the jurisdiction of the Courts of South Africa.	
13.1	The <i>language of this contract</i> is	English	
13.3	The <i>period for reply</i> is	2 weeks	
2	The Contractor's main responsibilities	No additional data is required for this section of the <i>conditions of contract</i>.	
3	Time		
11.2(3)	The <i>completion date</i> for the whole of the <i>works</i> is	15 December 2025	
11.2(9)	The <i>key dates</i> and the <i>conditions</i> to be met are:	Condition to be met	key date
		1 Construction complete	15 December 2025
		2 Commissioning complete	30 November 2025
31.1	The <i>Contractor</i> is to submit a first programme for acceptance within	2 weeks of the Contract Date.	
31.2	The <i>starting date</i> is	01 October 2025	



32.2	The <i>Contractor</i> submits revised programmes at intervals no longer than	2 weeks.
35.1	The <i>Employer</i> is not willing to take over the <i>works</i> before the Completion Date.	
4	Testing and Defects	
42.2	The <i>defects date</i> is	52 (fifty-two) weeks after Completion of the whole of the works.
43.2	The <i>defect correction period</i> is	2 weeks
5	Payment	
50.1	The <i>assessment interval</i> is monthly on the	25th (twenty fifth) day of each successive month.
51.1	The <i>currency of this contract</i> is the	South African Rand.
51.2	The period within which payments are made is	Payment will be effected on or before the last day of the month following the month during which a valid Tax Invoice and Statement were received.
51.4	The <i>interest rate</i> is	the prime lending rate of Standard Bank of South Africa.
6	Compensation events	
60.1(13)	The <i>weather measurements</i> to be recorded for each calendar month are,	the cumulative rainfall (mm) the number of days with rainfall more than 10 mm the number of days with minimum air temperature less than 0 degrees Celsius the number of days with snow lying at 08:00 hours South African Time and these measurements: N/A
	The place where weather is to be recorded (on the Site) is:	The <i>Contractor's</i> Site establishment area



The *weather data* are the records of past *weather measurements* for each calendar month which **Rustenburg** were recorded at:

and which are available from: **South African Weather Service 012 367 6023** or info3@weathersa.co.za.

7	Title	No additional data is required for this section of the <i>conditions of contract</i>.
8	Risks and insurance	
80.1	These are additional <i>Employer's</i> risks	Working around trains Working on heights
84.1	The <i>Employer</i> provides these insurances from the Insurance Table	
	1 Insurance against:	Loss of or damage to the <i>works</i>, Plant and Materials is as stated in the Insurance policy for Contract Works/ Public Liability.
	Cover / indemnity:	to the extent as stated in the insurance policy for Contract Works / Public Liability
	The deductibles are:	as stated in the insurance policy for Contract Works / Public Liability
	2 Insurance against:	Loss of or damage to property (except the <i>works</i>, Plant and Materials & Equipment) and liability for bodily injury to or death of a person (not an employee of the <i>Contractor</i>) arising out of or in connection with the performance of the Contract as stated in the insurance policy for Contract Works / Public Liability
	Cover / indemnity	Is to the extent as stated in the insurance policy for Contract Works / Public Liability
	The deductibles are	as stated in the insurance policy for Contract Works / Public Liability

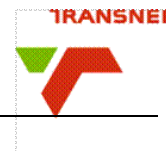


3	Insurance against:	Loss of or damage to Equipment (Temporary Works only) as stated in the insurance policy for contract Works and Public Liability
	Cover / indemnity	Is to the extent as stated in the insurance policy for Contract Works / Public Liability
	The deductibles are:	As stated in the insurance policy for Contract Works / Public Liability
4	Insurance against:	Contract Works SASRIA insurance subject to the terms, exceptions and conditions of the SASRIA coupon
	Cover / indemnity	Cover / indemnity is to the extent provided by the SASRIA coupon
	The deductibles are	The deductibles are, in respect of each and every theft claim, 0,1% of the contract value subject to a minimum of R2,500 and a maximum of R25,000.
	Note:	The deductibles for the insurance as stated above are listed in the document titled "Certificate of Insurance: Transnet (SOC) Limited Principal Controlled Insurance."

- 84.1 The minimum limit of indemnity for insurance in respect of death of or bodily injury to employees of the *Contractor* arising out of and in the course of their employment in connection with this contract for any one event is **The *Contractor* must comply at a minimum with the provisions of the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993 as amended.**
- The *Contractor* provides these additional Insurances **1 Where the contract requires that the design of any part of the *works* shall be provided by the *Contractor* the *Contractor* shall satisfy the *Employer* that professional indemnity insurance cover in connection therewith has been affected**



- 2 Where the contract involves manufacture, and/or fabrication of Plant & Materials, components or other goods to be incorporated into the *works* at premises other than the site, the *Contractor* shall satisfy the *Employer* that such plant & materials, components or other goods for incorporation in the *works* are adequately insured during manufacture and/or fabrication and transportation to the site.**
- 3 Should the *Employer* have an insurable interest in such items during manufacture, and/or fabrication, such interest shall be noted by endorsement to the *Contractor's* policies of insurance as well as those of any sub-contractor**
- 4 Motor Vehicle Liability Insurance comprising (as a minimum) "Balance of Third Party" Risks including Passenger and Unauthorised Passenger Liability indemnity with a minimum indemnity limit of R 5,000,000.**
- 5 The insurance coverage referred to in 1, 2, 3, and 4 above shall be obtained from an insurer(s) in terms of an insurance policy approved by the *Employer*. The *Contractor* shall arrange with the insurer to submit to the *Project Manager* the original and the duplicate original of the policy or policies of insurance and the receipts for payment of current premiums, together with a certificate from the insurer or insurance broker concerned, confirming that the policy or policies provide the full coverage as required. The original policy will be returned to the *Contractor*.**



84.2	The minimum limit of indemnity for insurance in respect of loss of or damage to property (except the works, Plant, Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the <i>Contractor</i>) caused by activity in connection with this contract for any one event is	Whatever the <i>Contractor</i> requires in addition to the amount of insurance taken out by the <i>Employer</i> for the same risk.
84.2	The insurance against loss of or damage to the works, Plant and Materials as stated in the insurance policy for contract works and public liability selected from:	Principal Controlled Insurance policy for Contract
9	Termination	There is no additional Contract Data required for this section of the <i>conditions of contract</i>.
10	Data for main Option clause	
B	Priced contract with Bill of Quantities	No additional data is required for this Option.
60.6	The <i>method of measurement</i> is	The Bill of Quantities have been measured in accordance with SANS 1200 unless indicated otherwise.
11	Data for Option W1	
W1.1	The <i>Adjudicator</i> is	Both parties will agree as and when a dispute arises. If the parties cannot reach an agreement on the <i>Adjudicator</i>, the Chairman of the Association of Arbitrators will appoint an <i>Adjudicator</i>.
W1.2(3)	The <i>Adjudicator nominating body</i> is: If no <i>Adjudicator nominating body</i> is entered, it is:	The Chairman of the Association of Arbitrators (Southern Africa) the Association of Arbitrators (Southern Africa)
W1.4(2)	The <i>tribunal</i> is:	Arbitration

W1.4(5)	The <i>arbitration procedure</i> is	The Rules for the Conduct of Arbitrations of the Association of Arbitrators (Southern Africa)
	The place where arbitration is to be held is	Johannesburg, South Africa
	<p>The person or organisation who will choose an arbitrator</p> <ul style="list-style-type: none"> - if the Parties cannot agree a choice or - if the arbitration procedure does not state who selects an arbitrator, is 	The Chairman of the Association of Arbitrators (Southern Africa)
12	Data for secondary Option clauses	
X2	Changes in the law	No additional data is required for this Option
X7	Delay damages	
X7.1	Delay damages for Completion of the whole of the <i>works</i> are	R2,000 per day of delay
X16	Retention	
X16.1	The retention free amount is	Nil
	The retention percentage is	10% on all payments certified.
X18	Limitation of liability	
X18.1	The <i>Contractor's</i> liability to the <i>Employer</i> for indirect or consequential loss is limited to:	Nil
X18.2	For any one event, the <i>Contractor's</i> liability to the <i>Employer</i> for loss of or damage to the <i>Employer's</i> property is limited to:	The deductible of the relevant insurance policy



X18.3	The <i>Contractor's</i> liability for Defects due to his design which are not listed on the Defects Certificate is limited to:	The cost of correcting the Defect
X18.4	The <i>Contractor's</i> total liability to the <i>Employer</i> for all matters arising under or in connection with this contract, other than excluded matters, is limited to:	The Total of the Prices
X18.5	The <i>end of liability date</i> is	52 weeks after Completion of the whole of the works
Z	<i>Additional conditions of contract are:</i>	
Z.1	Additional clauses relating to Joint Venture	<p>Insert the additional core clause 27.5</p> <p>27.5. In the instance that the <i>Contractor</i> is a joint venture, the <i>Contractor</i> shall provide the <i>Employer</i> with a certified copy of its signed joint venture agreement, and in the instance that the joint venture is an 'Incorporated Joint Venture,' the Memorandum of Incorporation, within 4 (four) weeks of the Contract Date. The Joint Venture agreement shall contain but not be limited to the following:</p> <ul style="list-style-type: none"> • A brief description of the Contract and the Deliverables; • The name, physical address, communications addresses and domicilium citandi et executandi of each of the constituents and of the Joint Venture; • The constituent's interests; • A schedule of the insurance policies, sureties, indemnities and guarantees which must be taken out by the Joint Venture and by the individual constituents; • Details of an internal dispute resolution procedure;



- **Written confirmation by all of the constituents:**
 - i. **of their joint and several liabilities to the *Employer* to Provide the Works;**
 - ii. **identification of the lead partner in the joint venture confirming the authority of the lead partner to bind the joint venture through the *Contractor's* representative;**
 - iii. **Identification of the roles and responsibilities of the constituents to provide the Works.**
- **Financial requirements for the Joint Venture:**
 - iv. **the working capital requirements for the Joint Venture and the extent to which and manner whereby this will be provided and/or guaranteed by the constituents from time to time;**

the names of the auditors and others, if any, who will provide auditing and accounting services to the Joint Venture.

Z1.2

Insert additional core clause 27.6

27.6. The *Contractor* shall not alter its composition or legal status of the Joint Venture without the prior approval of the *Employer*.

Z2 Additional obligations in respect of Termination

The following will be included under core clause 91.1:
In the second main bullet, after the word 'partnership' add 'joint venture whether incorporate or otherwise (including any constituent of the joint venture)' and



Under the second main bullet, insert the following additional bullets after the last sub-bullet:

- commenced business rescue proceedings (R22)
- repudiated this Contract (R23)

Z2.1 Termination Table

The following will be included under core clause 90.2 Termination Table as follows:

Amend "A reason other than R1 – R21" to "A reason other than R1 – R23"

Z3 Right Reserved by the Employer to Conduct Vetting through SSA

Z3.1

The *Employer* reserves the right to conduct vetting through State Security Agency (SSA) for security clearances of any *Contractor* who has access to National Key Points for the following without limitations:

- 1. Confidential – this clearance is based on any information which may be used by malicious, opposing or hostile elements to harm the objectives and functions of an organ of state.**
- 2. Secret – clearance is based on any information which may be used by malicious, opposing or hostile elements to disrupt the objectives and functions of an organ of state.**
- 3. Top Secret – this clearance is based on information which may be used by malicious, opposing or hostile elements to neutralise the objectives and functions of an organ of state.**

Z4 Additional Clause Relating to Collusion in the Construction Industry



Z4.1

The contract award is made without prejudice to any rights the *Employer* may have to take appropriate action later with regard to any declared tender rigging including blacklisting.

**Z5 Protection of Personal
 Information Act**

Z5.1

The *Employer* and the *Contractor* are required to process information obtained for the duration of the Agreement in a manner that is aligned to the Protection of Personal Information Act.



C1.2 Contract Data

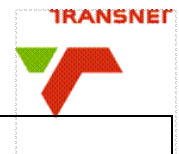
Part two - Data provided by the *Contractor*

The tendering *Contractor* is advised to read both the NEC3 Engineering and Construction Contract - June 2005 (with amendments June 2006 and April 2013) and the relevant parts of its Guidance Notes (ECC3-GN) in order to understand the implications of this Data which the tenderer is required to complete. An example of the completed Data is provided on pages 156 to 158 of the ECC3 Guidance Notes.

Completion of the data in full, according to Options chosen, is essential to create a complete contract.

Clause	Statement	Data
10.1	The <i>Contractor</i> is (Name):	
	Address	
	Tel No.	
	Fax No.	
11.2(8)	The <i>direct fee percentage</i> is	
	The <i>subcontracted fee percentage</i> is	
11.2(18)	The <i>working areas</i> are the Site and	Areas adjacent to site/ As indicated on Part C4 Site Information
24.1	The <i>Contractor's</i> key persons are:	
	1 Name:	
	Job:	
	Responsibilities:	
	Qualifications:	
	Experience:	
	2 Name:	
	Job	
	Responsibilities:	
	Qualifications:	
	Experience:	

		CV's (and further key persons data including CVs) are appended to Tender Schedule entitled .		
11.2(14)	The following matters will be included in the Risk Register			
B	Priced contract with bill of quantities			
11.2(21)	The <i>bill of quantities</i> is in	Part C2 Pricing Data		
11.2(31)	The tendered total of the Prices is	<p>..... (in figures)</p> <p>..... (in words), excluding VAT</p>		
	Data for Schedules of Cost Components	<i>Note "SCC" means Schedule of Cost Components starting on page 60 of ECC, and "SSCC" means Shorter Schedule of Cost Components starting on page 63 of ECC.</i>		
B	Priced contract with bill of quantities	Data for the Shorter Schedule of Cost Components		
41 in SSCC	The percentage for people overheads is:	%		
21 in SSCC	The published list of Equipment is the last edition of the list published by			
	The percentage for adjustment for Equipment in the published list is	% (state plus or minus)		
22 in SSCC	The rates of other Equipment are:	Equipment	Size or capacity	Rate



61 in SSCC	The hourly rates for Defined Cost of design outside the Working Areas are	Category of employee	Hourly rate
62 in SSCC	The percentage for design overheads is	%	
63 in SSCC	The categories of design employees whose travelling expenses to and from the Working Areas are included in Defined Cost are:		



PART 2: PRICING DATA

Document reference	Title	No of pages
C2.1	Pricing instructions: Option B	3
C2.2	The <i>bill of quantities</i>	



C2.1 Pricing instructions: Option B

1. The conditions of contract

1.1. How the contract prices work and assesses it for progress payments

Clause 11 in NEC3 Engineering and Construction Contract, June 2005 and 2013 (ECC) Option B states:

**Identified
and defined
terms**

11

11.2

(21) The Bill of Quantities is the *bill of quantities* as changed in accordance with this contract to accommodate implemented compensation events and for accepted quotations for acceleration.

(22) Defined Cost is the cost of the components in the Shorter Schedule of Cost Components whether work is subcontracted or not excluding the cost of preparing quotations for compensation events.

(28) The Price for Work Done to Date is the total of

- the quantity of the work which the *Contractor* has completed for each item in the Bill of Quantities multiplied by the rate and
- a proportion of each lump sum which is the proportion of the work covered by the item which the *Contractor* has completed.

Completed work is work without Defects which would either delay or be covered by immediately following work.

(31) The Prices are the lump sums and the amounts obtained by multiplying the rates by the quantities for the items in the Bill of Quantities.

This confirms that Option B is a re-measurement contract and the bill comprises only items measured using quantities and rates or stated as lump sums. Value related items are not used. Time related items are items measured using rates where the rate is a unit of time.



1.2. Function of the Bill of Quantities

Clause 55.1 in Option B states, "Information in the Bill of Quantities is not Works Information or Site Information". This confirms that instructions to do work or how it is to be done are not included in the Bill, but in the Works Information. This is further confirmed by Clause 20.1 which states, "The *Contractor* Provides the Works in accordance with the Works Information". Hence the *Contractor* does **not** Provide the Works in accordance with the Bill of Quantities. The Bill of Quantities is only a pricing document.

1.3. Guidance before pricing and measuring

Employers preparing tenders or contract documents, and tendering contractors are advised to consult the sections dealing with the bill of quantities in the NEC3 Engineering and Construction Contract (June 2005) Guidance Notes before preparing the *bill of quantities* or before entering rates and lump sums into the *bill*.

Historically bill of quantities based contracts in South Africa have been influenced by the different approaches of the civil engineering and building sectors of the industry through their respective discipline based standard forms of contract and methods of measurement. This is particularly apparent in the approach to the Preliminary and General bill. On the other hand, because ECC caters for a number of disciplines in the same contract, including electrical works, a different approach not currently found in local methods of measurement to the Preliminary & General bill items may have been used.

The NEC approach to the P & G bill assumes use will be made of method related charges for Equipment applied to Providing the Works based on durations shown in the Accepted Programme, fixed charges for the use of Equipment that is required throughout the construction phase, time related charges for people working in a supervisory capacity for the period required, and lump sum charges for other facilities or services not directly related to performing work items typically included in other parts of the bill.



2. Measurement and payment

2.1. Symbols

The units of measurement described in the Bill of Quantities are metric units abbreviated as follows:

Abbreviation	Unit
%	percent
h	hour
ha	hectare
kg	kilogram
kl	kilolitre
km	kilometre
km-pass	kilometre-pass
kPa	kilopascal
kW	kilowatt
l	litre
m	metre
mm	millimetre
m ²	square metre
m ² -pass	square metre pass
m ³	cubic metre
m ³ -km	cubic metre-kilometre
MN	meganewton
MN.m	meganewton-metre



MPa	megapascal
No.	number
Prov sum ¹	provisional sum
PC-sum	prime cost sum
R/only	Rate only
sum	Lump sum
t	ton (1000kg)
W/day	Work day

2.2. General assumptions

- 2.2.1. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance has been made in the quantities for waste.
- 2.2.2. The Prices and rates stated for each item in the Bill of Quantities shall be treated as being fully inclusive of all work, risks, liabilities, obligations, overheads, profit and everything necessary as incurred or required by the *Contractor* in carrying out or providing that item.
- 2.2.3. Clause 63.13 in Option B provides that these rates and Prices may be used as a basis for assessment of compensation events instead of Defined Cost.
- 2.2.4. Where this contract requires detailed drawings, designs or other information to be provided, and no rates or prices are included in the *bill* specifically for such matters, then the *Contractor* is deemed to have allowed for all costs associated with such requirements within the tendered rates and Prices in the Bill of Quantities.
- 2.2.5. An item against which no Price is entered will be treated as covered by other Prices or rates in the *bill of quantities*. If a number of items are grouped together for pricing purposes, this will be treated as a single lump sum.

¹ Provisional Sums should not be used unless absolutely unavoidable. Rather include specifications and associated bill items for the most likely scope of work, and then change later using the compensation event procedure if necessary. This is because tenderers cannot programme effectively for unknown scopes of work



Description of the Works: the supply, install, test and commission SF6 Gas filled primary circuit breakers and repair transformer oil leaks for 3kv traction

2.2.6. The quantities contained in the Bill of Quantities may not be final and do not necessarily represent the actual amount of work to be done. The quantities of work assessed and certified for payment by the *Project Manager* at each assessment date will be used for determining payments due and not the quantities given in the Bill of Quantities.

2.2.7. The short descriptions of the items of payment given in the *bill of quantities* are only for the purposes of identifying the items. More detail regarding the extent of the work entailed under each item is provided in the Works Information.

2.3. Departures from the *method of measurement*

2.4. Amplification of or assumptions about measurement items

For the avoidance of doubt the following is provided to assist in the interpretation of descriptions given in the *method of measurement*. In the event of any ambiguity or inconsistency between the statements in the *method of measurement* and this section, the interpretation given in this section shall be used.



C2.2 the *bill of quantities*

Item number	Description	Unit	Qty.	Rate	Price
A	Potchefstroom 3kV DC Substation RUA				
1	Dismantle, remove, and transport all old equipment from site to Millsite depot.	sum	1		
2	Supply and install 21 core 2.5 mm ² (25 meters) from the PCB control cabinet to control panel inside the substation.	Ea.	1		
3	Supply and install four core 4 mm ² size cables (50 meters) from the PCB control cabinet to control panel inside the substation.	m	50		
4	Supply and install the flying jumper cable 26 sq (3.5 meters) from the PCB to Main traction Transformer bushings (Aluminium centerpede conductor)	m	15		
5	Supply control box with operating mechanism for PCB.	Ea.	1		
6	Cast new foundation and structure for the new SF6 gas filled primary circuit breakers	set	1		
7	Supply and deliver high voltage SF6 gas filled 88kV primary circuit breakers with its associated operating box	Ea.	1		
8	Electrically connect the new installed equipment to the existing earth system and indoor panels.	Ea.	1		
9	Supply and deliver 40 A, 3 pole contactors, 230v	Ea.	10		
10	Installation, Testing and Pre-commissioning.	sum	1		
11	P's & G's	sum	1		
12	Security	sum	1		
	Total Price =				
	VAT (15%) =				
	Gross Total=				



Item number	Description	Unit	Qty.	Rate	Price
A	POTCHEFSTROOM 132KV TRANSFORMER RUB				
1	Re-gasket inspection covers	sum	6		
2	Re-gasket secondary bushings	sum	9		
3	Re-gasket top cover	sum	1		
4	Replace oil and winding temperature gauges	sum	2		
5	Replace silica gel in breather (blue)	sum	1		
6	Clean, Regasket and service the Bucholz relay	sum	1		
7	Re-gasket conservator tank, replace site glass and spray paint (White)	sum	1		
8	Chemically clean transformer and spray paint(Grey)	sum	1		
9	Supply 4 drums of new oil	L	840		
10	Oil Purification (oil sample before and after purification: Test dissolved gases, dielectric strength, acidity, PCB, Furanic, Moisture and supply Transnet with tests certificates)	sum	1		
11	Remove the contaminated soil and disposed as per environmental regulations.	sum	1		
12	Rehabilitate the contaminated soil around the transformer by supplying 2m ³ ballast to replace oil polluted soil and ballast (26.5 mm)	sum	1		
13	Test & Commission	sum	1		
14	Supply and deliver 4 meter squared 4 core cable to Potchefstroom substation	m	10		
15	Labour	sum	1		
16	P's & G's (Travel Km)	sum	1		



Contract Data

B

The contractor may not make use of any sub-Contractor to perform the works or parts thereof without prior permission from the *Project Manager*.

- 1.1 The Contractor shall ensure that a safety representative is at site at all times.
- 1.2 The Contractor shall comply with all applicable legislation and Transnet safety requirements adopted from time to time and instructed by the *Project Manager / Supervisor*. Such compliance shall be entirely at his own cost, and shall be deemed to have been allowed for in the rates and prices in the contract.
- 1.3 The Contractor shall, in particular, comply with the following Acts and Transnet Specifications: -,
 - 1.3.1 The Compensation for Occupational Injuries and Diseases Act, No. 130 of 1993. The Contractor shall produce proof of his registration and good standing with the Compensation Commissioner in terms of the Act.
 - 1.3.2 The Occupational Health and Safety Act (Act 85 of 1993).
 - 1.3.3 The explosive Act No. 26 of 1956 (as amended). The Contractor shall, when applicable, furnish the *Project Manager / Supervisor* with copies of the permits authorising him or his employees, to establish an explosives magazine on or near the site and to undertake blasting operations in compliance with the Act.
 - 1.3.4 The Contractor shall comply with the current Transnet Specification E.4E, Safety Arrangements and Procedural Compliance with the Occupational Health and Safety Act, Act 85 of 1993 and Regulations and shall before commencement with the execution of the contract, which shall include site establishment and delivery of plant, equipment or materials, submit to the *Project Manager / Supervisor*.



- 1.3.5 The Contractor shall comply with the current Specification for Works On, Over, Under or Adjacent to Railway Lines and near High Voltage Equipment – E7/1, if applicable, and shall take particular care of the safety of his employees on or in close proximity to a railway line during track occupations as well as under normal operational conditions.
- 1.4 The Contractor's Health and Safety Programme shall be subject to agreement by the *Project Manager* / Supervisor, who may, in consultation with the Contractor, order supplementary and/or additional safety arrangements and/or different safe working methods to ensure full compliance by the Contractor with his obligations as an employer in terms of the Act.
- 1.5 In addition to compliance with clause 1.4 hereof, the Contractor shall report all incidents in writing to the *Project Manager* / Supervisor. Any incident resulting in the death of or injury to any person on the works shall be reported within 24 hours of its occurrence and any other incident shall be reported within 48 hours of its occurrence.
- 1.6 The Contractor shall make necessary arrangements for sanitation, water and electricity at these relevant sites during the testing of the equipment's.
- 1.7 A penalty charge of **R2000.00** per day will be levied for late completion.
- 1.8 retention money will not be applicable for this project.
- 1.9 The Contractor shall supply a **site diary** (with triplicate pages). This book shall be used to record any unusual events during the period of the work. Any delays to the work shall also be recorded such as delays caused by poor weather conditions, delays caused by permits being cancelled etc. The appointed *Project Manager* or Supervisor must countersign such delays. Other delays such as non-availability of equipment from 3rd party suppliers must be communicated to the *Project Manager* or Supervisor in writing.
- 1.10 The Contractor shall supply a **site instruction book** (with triplicate pages). This book shall be used to record any instructions to the Contractor regarding problems encountered on site – for example the quality of work or the placement of equipment. This book shall be filled in by the *Project Manager* or Supervisor and must be countersigned by the Contractor.
- 1.11 Both books mentioned in 1.10 and 1.11 shall be the property of Transnet Rail Infrastructure Manager and shall be handed over to the *Project Manager* or Supervisor on the day of energizing or handing over.
- 1.12 All processes or the manufacture and assembly of the product components must be subjected to a quality assurance system.
- 1.13 The Contractor will assume full responsibility for assuring that the purchased meet the requirements of Transnet Rail Infrastructure Manager for function, performance, and reliability, including purchased products from 3rd part suppliers/Manufacturers.
- 1.14 The Contractor shall prove to Transnet Rail Infrastructure Manager that his equipment or those supplied from 3rd party suppliers/manufacturers confirms to Transnet Rail Infrastructure Manager specifications.
- 1.15 The Contractor will remain liable for contractual delivery dates irrespective of deficiencies discovered during workshop inspections



Works Information

A

2.0 Description of work

2.1 SF6 Gas filled Primary Circuit Breakers

- 2.1.1 The Contractor shall disconnect, dismantle and remove primary circuit breakers from sites and transport them to Millsite Infrastructure depot.
- 2.1.2 Cast concrete foundations for the support steel structure for the new SF6 gas filled primary circuit breakers where the existing one cannot be used.
- 2.1.3 Provide and install support steel structure for the new SF6 gas filled primary circuit breakers where the existing one cannot be used.
- 2.1.4 Supply, deliver, install and connect the new high voltage SF6 gas filled primary circuit breakers with its associated operating box.
- 2.1.5 The front of the circuit breaker operating mechanism box shall face the main transformer
- 2.1.6 Electrically connect the new installed equipment to the existing earth system.
- 2.1.7 Test, commission and hand over the equipment.

3.0 Concrete foundations

- 3.1 The contractor shall be responsible for the casting of foundation for support steel structure for the new SF6 gas filled primary circuit breakers where the existing one cannot be used.
- 3.2 The contractor shall carry out his own survey in regard to soil types and their load bearing capabilities.
- 3.3 The 28-day strength of all concrete used shall be minimum 20MPa.
- 3.4 The contractor shall arrange the sampling and testing of all concrete used, and shall submit full records to the Technical Officer. Transnet Rail Infrastructure Manager reserves the right to undertake testing of concrete samples and the contractor shall furnish test cubes if requested by the Technical Officer.
- 3.5 Hand mixed concrete is not acceptable; it must be mechanically mixed.
- 3.6 The additional of water to concrete mix reduces the strength of that concrete very significantly and on no account shall water be added to a mix after test cubes have been taken.



- 3.7 Foundations shall be fished of 200mm above the finished earth level of the yard, as to prevent standing water.

4.0 Steelworks

- 4.1 Supply and installation of all steel structures for the support equipment and tensioning of conductors shall be the responsibility of the contractor.
- 4.2 The manufacture of any steelworks shall not take place prior to the approval of designs drawings by the Technical Officer.
- 4.3 All fasteners (bolts and nuts) shall be secured using flat as well as lock washers.

5.0 Primary Circuit Breakers

- 5.1 The SF6 circuit breakers shall comply with SABS IEC 56 and Transnet specification BBB 1267.
- 5.2 The circuit breaker shall have a motor wound spring operating mechanism.
- 5.3 A visual mechanical indicating device shall be provided to indicate the state of spring and shall be inscribed "Spring Charged" when the mechanism is in the condition to close the circuit breaker and "Spring Free" when it is any other condition.
- 5.4 The springs shall recharge automatically after the completion of a closing operation.
- 5.5 Each circuit breaker shall be provided with labels to indicate the breakers designation and telecontrol code. TRIM (Technical Officer) will supply these designations and telecontrol codes.
- 5.6 The proposed labelling must be submitted to the Technical Officer for approval prior to the manufacture of the labels.
- 5.7 The low gas protection shall be wired into the existing control circuitry.

6.0 The contractor must make sure the circuit breaker trips under the following conditions:

- 6.1 Main transformer over temperature.
- 6.2 Main transformer overload
- 6.3 Rectifier over –temperature
- 6.4 Rectifier fan failure.
- 6.5 Auxiliary transformer overload.

7.0 The circuit breaker shall trip and lockout in the open position under the following conditions:

- 7.1 Main transformer Buchholz operation.



- 7.2 Auxiliary transformer Buchholz operation
- 7.3 Attenuation failure.
- 7.4 A.C earth leakage
- 7.5 D.C earth leakage
- 7.6 110 V DC failure
- 7.7 Low SF6 gas pressure.

8.0 Cabling and wiring

- 8.1 All cables entering the control equipment shall be block joined (50mm of armouring to be removed) above the ground. The block jointing shall be done before the cables are installed into the control equipment building. The block joint shall be covered by heat shrink sleeve.
- 8.2 Al cables shall terminate in compression type glands. These glands shall be fitted with neoprene shrouds.
- 8.3 Cables and earthing conductors connected to equipment installed on steel support structures shall be supported on the steel structure vertically and horizontally by means of a cable tray. This cable tray shall be of the O-Line GS50 Gridspan Wire Mesh type or similar with the wire mesh having a diameter of 4mm and a hot dip galvanised finish.
- 8.4 The cables shall be fixed to the cable trays using UV stabilised cable ties.
- 8.5 All dissimilar metal connections (Cu to Al) shall be made using bi-metallic clamps that are specifically designed and manufactured to make that particular connection (ad hoc fabricated clamps are not acceptable).
- 8.6 All copper connections to steel (galvanised) shall be tinned.

9.0 Earthing

- 9.1 The support steelwork for the circuit breakers and current transformers shall be connected to the existing substation earth mat in accordance to drawing no. CEE-TBD-7.
- 9.2 The resistance between the outdoor yard steelwork, when connected in parallel, and be supplied and installed between the steelwork and the holding down bolts.

10.0 Disposal and Treatment of oil and oil circuit breakers

- 10.1 The collection, handling and disposal of oil from the OCBs and the circuit breakers shall be done in a safe and environmentally sound manner.
- 10.2 Unless any equipment to be replaced containing oil is clearly certified PCB free, the contractor shall test or make arrangements for the testing of the circuit breaker oil for Polychlorinated Biphenyls (PCBs) before replacing the OCBs and submit the results to Transnet.



- 10.2.1 This will be done by first conducting preliminary screening chlorine tests and where the levels of chlorine presence are above 50ppm, further detailed PCB tests and analyses shall be conducted.
- 10.2.2 The units with levels of contamination less than 50 ppm Chlorine shall be disposed of following the normal disposal procedure.
- 10.2.3 Any units with residual PCB pollution, or oils contaminated to a level greater than 50ppm Chlorine shall be treated as PCB ITEMS.
 - 10.2.3.1 PCB items shall be disposed of in a manner meeting all regulatory approvals pertaining to hazardous waste. The disposal process shall be to the written approval of Transnet and the Department of Environmental Affairs, and may include incineration at an approved (foreign) facility or encapsulation at a registered HH waste site. Incineration at an approved foreign facility, meeting all requirements of the Basle Convention is the disposal option preferred by Transnet.
- 10.3 The soil around the circuit breakers that has been polluted as a result of current or past leakage of oil shall be remediated. Remediation of polluted soils not containing PCB's may be conducted in-situ I the case of light contamination (total petroleum hydrocarbon (tph) <1000ppm). Alternative methods of bioremediation, land farming or off-site disposal of such contaminated soils shall be considered and implemented for soil material contaminated to a concentration>1000 tph.
 - 10.3.1 All PCB contamination in the ground if encountered and exceeding the 50 ppm limit shall be removed and disposed of in a manner approved by Transnet, in line with the directives for PCB items as specified above.
- 10.4 The costs for the screening chlorine test and provisional analyses of oils and soil for PCB's, the tests and analyses of soil to determine tph levels where spillages have occurred, must be furnished separately by the tenders.
 - 10.4.1 The tender shall provide a provisional method statement and cost for the legal disposal of PCB items, such methodology and costing becoming applicable only in the event of PCB items requiring disposal as specified being required.
- 10.5 Approved degreasing agents on concrete surfaces shall be used, if required.
- 10.6 Some of the old circuit breakers that are not contaminated will be kept as spares for maintenance purposes. These must be left at a site indicated by Transnet.

11.0 Testing and Commissioning

- 11.1 All pre-commissioning tests shall be performed by the contractor. Transnet reserves the right to witness these tests.
- 11.2 The contractor shall supply all test equipment and instruments.
- 11.3 Transnet shall be notified at least 14 days prior to performing these tests.
- 11.4 Transnet shall perform final commissioning tests.



- 11.5 Acceptance by the Technical Officer of satisfactory completion of on-site tests in no way relieves the contractor of his obligation to rectify defects which may have been overlooked or become evident at a later stage.

12.0 Quality Assurance

- 12.1 All major equipment shall be subject to quality control tests and inspections.
- 12.2 A Transnet representative/s shall witness these tests.

13.0 Drawings, maintenance and instruction manuals

- 13.1 The following drawings shall be supplied by the contractor.
 - 13.1.1 Two prints each of design drawings shall be submitted for approval to the Technical Officer prior to the commencement of work or manufacture of any equipment. This includes circuit diagrams, design for foundations and support steelwork.
- 13.2 Three sets of maintenance and instruction manuals complete with “as built” drawings of the equipment installed shall be provided per equipment type and rating, per maintenance depot. One copy of each of these must be available at the commissioning and handing over of equipment.

14.0 Guarantee

- 14.1 The contractor shall undertake to attend to any defects during the guarantee period within two days after notification.

15.0 Documents to be submitted

- 15.1 Tenderers shall submit a clause-by-clause statement of compliance to this specification (BBB 1153), BBB1267, CEE.0224.94 and CEE.0045.96. A general comment of compliance to all will not be accepted. Where the requirements of these specifications are not complied with, tenderers shall submit full details of the alternative being offered.

- 15.2 com

16.0 SITE TESTS

- 16.1 The equipment shall be inspected/tested and approved by Transnet Rail Infrastructure Manager Quality Assurance at the Contractor's workshop prior to it being taken to site. Only once the approval has been granted can the equipment be taken to site for installation.
- 16.2 The Contractor shall be responsible for carrying out of on-site tests and commissioning of all equipment supplied and installed in terms of this specification and the contractual agreement.
- 16.3 Functional on-site tests shall be conducted on all items of equipment and circuitry to prove the proper functioning and installation thereof.
- 16.4 The Contractor shall submit a detailed list of on-site tests for the approval of the *Project Manager* or Supervisor.



- 16.5 The Contractor shall arrange for the Supervisor or his representative to be present to witness the on-site tests.
- 16.6 The on-site tests and subsequent commissioning **will not commence until ALL CONSTRUCTION** work has been completed. Construction staff, material and equipment shall be removed from site prior to the commencement of testing. Testing and commissioning of the power plants equipment will not be allowed to take place in a construction site environment.
- 16.7 The on-site tests shall include the following:
 - 16.7.1 Test for the functionality of all electrical circuitry.**
 - 16.7.2 Trip tests on relays.**
 - 16.7.3 Test on equipment as per manufacturer's instructions.**
 - 16.7.4 Insulation tests.**
- 16.8 At the completion of the on-site tests, the *Project Manager* or Supervisor or his representative shall either sign the tests sheets (supplied by the Contractor) as having witnessed the satisfactory completion thereof, or hand to the Contractor a list of defects requiring rectification.
- 16.9 Upon rectification of defects, the Contractor shall arrange for the *Project Manager* or Supervisor or his representative to certify satisfactory completion of on-site tests.
- 16.10 Acceptance by the *Project Manager* or Supervisor of satisfactory completion of on-site tests in no way relieves the Contractor of his obligation to rectify defects which may have been overlooked or become evident at a later stage.

17.0 COMMISSIONING OF EQUIPMENT

- 17.1 Commissioning will only take place after all defects have been rectified to the satisfaction of the *Project Manager* or Supervisor.
- 17.2 On completion of commissioning, the Contractor will hand the equipment over to the *Project Manager* or Supervisor in terms of the relevant instruction.
- 17.3 The commissioning of protection equipment by Transnet Rail Infrastructure Manager will in no way absolve the Contractor from any of his responsibilities during the guarantee period.
- 17.4 It is the Contractor's responsibility to satisfy himself or herself that the commissioning of the protection equipment has been carried out in a satisfactory manner, and in no way compromises the proper operation of the equipment supplied in terms of the contract.
- 17.5 The Contractor shall be present during the testing and setting of the protection to rectify any faults found.

18.0 GUARANTEE AND DEFECTS

- 18.1 The Contractor shall guarantee the satisfactory operation of the complete electrical installation supplied and erected by him and accept liability for maker's defects that may appear in design, materials and workmanship.



- 18.2 The Contractor shall be issued with a completion certificate with the list of all defects to be repaired within 14 working days after commissioning.
- 18.3 The guarantee period for these standby plants shall expire after: A period of 12 months commencing on the date of completion of the contract or the date the standby plant was handed over to Transnet Freight Rail.
- 18.4 Any defects that may become apparent during the guarantee period shall be rectified to the satisfaction of Transnet Freight Rail, and to the account of the Contractor.
- 18.5 The Contractor shall undertake work on the rectification of any defects that may arise during the guarantee period within 7-days of him being notified by Transnet Rail Infrastructure Manager of such defects.
- 18.6 Should the Contractor fail to comply with the requirements stipulated above, Transnet Rail Infrastructure Manager shall be entitled to undertake the necessary repair work or effect replacement of defective apparatus or materials, and the Contractor shall reimburse Transnet Rail Infrastructure Manager the total cost of such repair or replacements, including the labour costs incurred in replacing defective material.
- 18.7 Any specific type of fault occurring three times within the guarantee period and which cannot be proven to be due to other faulty equipment not forming part of this contract e.g., faulty locomotive or overhead track equipment, etc., shall automatically be deemed an inherent defect. Such inherent defect shall be fully rectified to the satisfaction of the *Project Manager* or Supervisor and at the cost of the Contractor.
- 18.8 If urgent repairs have to be carried out by Transnet Rail Infrastructure Manager staff to maintain supply during the guarantee period, the Contractor shall inspect such repairs to ensure that the guarantee period is not affected and should they be covered by the guarantee, reimburse Transnet Rail Infrastructure Manager the cost of material and labour.

19.0 QUALITY AND INSPECTION

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

20.0 Specifications

Transnet Rail Infrastructure Manager

Contract Number: CRAC-KGG-53247

Description of the Works: the supply, install, test and commission SF6 Gas filled primary circuit breakers and repair transformer oil leaks for 3kv traction



20.1 South African National Standards:



- 20.1.1 SANS 121 Hot Dip Galvanised Coating for Fabricated Iron or Steel Article.
- 20.1.2 SANS 1019 Standard voltages, currents and insulation levels for electricity supply.
- 20.1.3 SANS 1091 National Colour Standard.
- 20.1.4 SANS 1222 Enclosure for Electrical Equipment.
- 20.1.5 SANS 1507 Electric cables with extruded solid dielectric insulation for fixed installations. (300/500V to 1900/3,300V) Part 1
- 20.1.6 SANS 10142-1 The wiring of premises.

20.2 Transnet Rail Infrastructure Manager Specifications/Engineering Instructions

- 20.2.1 BBB 5452 Transnet Rail Infrastructure Manager requirements for installation of electrical equipment for 3 kV DC substations.**
- 20.2.2 BBB 2721 version 10 AC Primary Circuit Breaker Control Panel and AC/D Distribution Panel for 3kV DC Traction substation.**
- 20.2.3 CEE-TBD-0007 Earthing arrangement for traction substations.**
- 20.2.4 BBB 4724 version 4 Positive Isolator switch for 3kv DC Traction substations.**
- 20.2.5 BBB 3005 version 1 3kv DC undervoltage relay manufacturing specification.**
- 20.2.6 BBC 0198 version 1 Specifications for the supply of cables.**
- 20.2.7 CEE.0023.90 Specifications for installation of cables.**
- 20.2.8 CEE.0045.2002/1 Painting of steel Components of Electrical Equipment.**
- 20.2.9 CEE.0183.2002 Hot dip galvanising and painting of electrical equipment.**
- 20.2.10 CEE.0224.2002 Drawings, catalogues, instruction manuals and spares list for electrical equipment supplied under contract**
- 20.2.11 BBB 3620 3kV Earthing arrangement system for high voltage outdoor yards.**



NOTE: Any other specifications referenced in the above-mentioned specification, will be for information purposes and may be provided on request.

20.3 Occupational Health and Safety Act No. 85 of 1993 (Available at depot for referral)

21.0 Constraints on how the *Contractor* Provides the Works

21.1 The constraints shall be as specified in the specifications of the particular equipment.

B

CLEANING THE TRANSFORMER

- 1.1 In order to get rid of decomposed oil content (carbon) and sludge, the coils, core and the tank of the transformer shall be washed with suitable flushing oil.
- 1.2
- 1.3 Tenderers who can offer a vapour phase process to clean the transformer must ensure that the process does not cause any deterioration on the aged insulation.
- 1.4
- 1.3 The recommended values for the drying out process of the transformer to be obtained shall be as follows:
 - 1.3.1 For the vapour phase process the moisture level should be 0.5 – 1.0 percent.
 - 1.3.2 For the oven dry process, the moisture level should be 1.5 – 2.0 percent.
- 1.4 The tenderer must indicate what dry-out process is to be implemented.

2. DRYING THE TRANSFORMERS

2.1 On completion of the repair work to the transformer, it shall be dried by a suitable vacuum process and filled with oil.

3. INSULATING OIL

- 3.1 The mineral insulating oil shall be filtered and tested for electrical strength, water content, acidity, sludge, flashpoint, resistivity and dielectric dissipation factor. Results of these tests shall be made available to the Senior Manager, (Infrastructure) (Electrical), before refilling the transformer.
- 3.2 If during the tests the oil is found not suitable to refill the transformer the Senior Manager, (Infrastructure) (Electrical) can authorise the replacement with new mineral insulating oil complying to SANS 555.

4. TESTS ON REPAIRED TRANSFORMER

4.1 Routine tests similar to those applied when the transformer was originally built shall be conducted on the repaired transformer. If the tenderer does not have the facilities to carry out



the required tests, he shall arrange to have the tests conducted elsewhere. The tender must include the costs for such routine tests.

4.2 Arrangements must be made timeously with the Senior Manager, (Infrastructure), (Electrical), Johannesburg to witness and authorise these tests.

4.3 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 Transnet Freight Rail.

5. INSPECTION

5.1 Transnet Rail Infrastructure Manager reserves the right to be present during repair work and testing and must be timeously advised of the dates of commencement of the repair work and of testing. CEE-0014_ISS_2010

6. CORROSION PROTECTION AND PAINT FINISH

6.1 All interior and exterior metal surfaces of the transformer, and associated apparatus, subject to corrosion, shall be prepared for corrosion proofing and painting in accordance with the practice recommended in SANS 064 and as specified in Transnet Freight Rail's Specification No. CEE.0045

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

7. PACKING

7.1 The transformer shall be crated, packed or loaded in such a manner that it shall not sustain damage during handling and transport, and precautions shall be taken to ensure that moisture cannot enter the transformer.

8. GUARANTEE

8.1 The contractor shall guarantee the repaired transformer against faulty workmanship for a period of twelve months unconditionally from dated of commissioning.

9. INSPECTION

9.1 An Inspection Certificate will be issued by Technology Management – Electrical Technology to certify that material / equipment conforms to Transnet Freight Rail's requirements.

NOTE: Any other specifications referenced in the above-mentioned specification, will be for information purposes and may be provided on request.

1. Occupational Health and Safety Act No. 85 of 1993 (Available at depot for referral)

2. Constraints on how the *Contractor* Provides the Works

2.1 The constraints shall be as specified in the specifications of the particular equipment.



3. Requirements for the programme

- 3.1 Programme of work: To be submitted by successful Contractor
- 3.2 CIDB rating : 2EPPE OR 3EP and above
- 3.3 Format : Bar chart
- 3.4 Information : How work is going to be executed and commissioned
- 3.5 Submission : Not Applicable
- 3.6 Site diary : Successful Contractor to supply in triplicates carbon copies
- 3.7 Site instruction book: Successful Contractor to supply in triplicates carbon copies

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

- 4.1 Transnet Rail Infrastructure Manager shall have an electrician available for isolation and the erection of barriers to live electrical equipment and issuing of work permits.
- 4.2 Upon successful completion of the works to the satisfaction of Transnet Freight Rail, Transnet Rail Infrastructure Manager shall perform necessary protection tests and commission the equipment



A Division of Transnet SOC Limited

TECHNOLOGY MANAGEMENT

SPECIFICATION

AC PRIMARY CIRCUIT BREAKER CONTROL PANEL AND AC/DC DISTRIBUTION PANEL FOR 3kV DC TRACTION SUBSTATIONS

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1.0 SCOPE

- 1.1 This specification details Transnet's requirements for the design, manufacture, delivery, installation and commissioning of the high voltage AC primary circuit breaker control panel and AC/DC distribution panel for 3 kV DC traction substations.
- 1.2 This specification contains a schedule of requirements (Appendix A) which must be completed by the Transnet representative and technical data sheet (Appendix B) for tenderer
- 1.3 This specification contains layout drawings (Annexure 1 and 2) of AC control panels and AC/DC distribution panels for 3kV DC traction substations.

2.0 BACKGROUND

3kV DC traction substation comprises of a high voltage outdoor yard and a building housing the indoor equipment. The outdoor yard equipment consists of high voltage disconnects, primary circuit breakers, current and voltage transformers, main traction and auxiliary supply transformers. The indoor equipment comprises of a 3kV DC rectifier with its associated control equipment, 3kV DC high-speed circuit breakers, 110V battery charger unit and batteries.

All the outdoor and indoor both high voltage and low voltage equipment are controlled and switched via control panel cubicles.

3.0 ABBREVIATIONS

AC:	Alternating Current.
DC:	Direct Current.
KA:	Kilo-Ampere.
KV:	Kilo-volt.
A:	Ampere.
V:	Volts.
LCD:	Liquid crystal Display.
LED:	Light Emitting Diode.
Pa:	Wind load in Pascals
°C	Temperature in degrees Celsius.

4.0 NORMATIVE REFERENCES

Unless otherwise specified all materials used, equipment developed and supplied shall comply with the latest edition of the relevant International Electro-technical Commission (IEC), International Organization for Standardization (ISO), South African National Standards (SANS) or Transnet publications.

4.1 IEC STANDARDS:

IEC 60051-1:	Direct Acting Indicating Analogue Electrical Measuring Instruments and their accessories. Part1-Definitions and general requirements common to all parts.
IEC 60255-27:	Measuring relays and protection equipment Part 27: Product safety-requirements.

4.2 ISO STANDARD:

ISO 9001:	Quality Management systems.
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4.3 SANS STANDARD:

SANS 156:	Moulded Case Circuit Breakers.
SANS 1091:	National colour standard.
SANS 1274:	Coatings applied by the powder-coating process.
SANS 10142:	Installation and wiring of premises.

SANS 60529: Degree of protection provided by Enclosures. (IP code.)

4.4 TRANSNET'S PUBLICATIONS:

BBB0041: Preparation of drawings for Transnet Freight Rail Infrastructure.
 BBB2502: Requirements for battery chargers for 3kV DC traction substations.
 CEE.0224: Drawings, catalogues, instruction manuals and spares list for electrical equipment supplied under contract.
 CEE-S-013: DC earth leakage relays in 3kV DC traction substations and Tie-stations: Installation and settings
 CEE-TBD-7: Earthing arrangement for 3kV DC traction substation.
 CEE-TBK-0027: Control circuit diagram. No - Volt coil protection.

5.0 SERVICE CONDITIONS

5.1 ENVIRONMENTAL CONDITIONS

Altitude: 0 - 1800 m above sea level
 Relative humidity: 10% to 90%
 Ambient temperature: -10° C to +55° C
 Wind pressure: 750 Pa
 Lightning conditions: 20 ground flashes/km² per annum
 Pollution: Heavily salt laden with industrial pollutants
 Including diesel- electric locomotive emissions.

5.2 MECHANICAL SERVICE CONDITIONS

The substation in which the panels will be installed is situated next to a railway line and the equipment will therefore be subjected to vibration. The design must take appropriate counter measures to ensure reliability of equipment that are sensitive.

5.3 ELECTRICAL SERVICE CONDITIONS

Nominal DC control voltage: 110 V (Minimum being 88V and maximum 128V)
 Nominal AC auxiliary supply: 400 V / 230 V, 50Hz
 Equipment within the substation-building environment is subjected to electromechanical interference as well as voltage surges.

6.0 TECHNICAL REQUIREMENTS

- 6.1 The construction of the control/distribution panels shall be either two separate panels or a combination of both into one panel with the AC and DC circuitry separated as in Annexure 1 and 2.
- 6.2 The construction of the panel shall be designed for double unit traction substation.
- 6.3 The successful supplier shall be responsible for the design, the ratings of all, cabling, wiring, protection circuitry, sizing of contactors, relays, moulded circuit breakers, Isolators, fused isolators, fuse ratings, terminations and any other equipment and circuitry used.
- 6.4 The control/distribution panels shall be designed that the control switches are accessible and indicating lights, flag indicators, voltmeters and ammeters are visible without opening the doors.
- 6.5 All circuitry shall be wired in the fail to safe mode i.e. relays and contactors must be de-energised under fault conditions.

- 6.6 All relays, control switches, indicating lights, and control push buttons, etc., which are mounted on panel door, shall be suitably labelled to clearly indicate their function. The labels shall be engraved with white lettering on a black background and permanently fixed with miniature screws, rivets or high quality adhesive.
- 6.7 Laminated plasticised labels shall be used for labelling inside the panel and panel door. The lettering shall be either engraved or etched.
- 6.8 All the tripping circuitry must have an indication on the front panel.
- 6.9 The panel shall be fitted with two flash mounted LED lights and shall not be more than 6 Watts, one for 230VAC and other for 110VDC. In the presence of an AC power supply, the AC LED light shall be switched on when the panel door is opened, and when there is no AC, the DC LED light shall come on automatically only when the panel door is opened. The AC panel light shall take over automatically after the AC power is restored. The two panel lights shall be interchangeable.
- 6.10 Digital measuring meters for current and voltage on the front panel shall be used and the display numbers shall not be less than 15mm.

7.0 AC PRIMARY CIRCUIT BREAKER CONTROL PANEL

Panel shall be fitted with the following:

- Flag relays and associated LED Annunciator panel.
- AC Primary circuit breaker control circuitry and equipment.
- Rectifier control circuitry and equipment.
- Main AC thermal overload and instantaneous over current protection relays.
- Auxiliary transformer overload protection relay.
- AC earth leakage protection relay.
- DC Earth leakage protection relay
- Main and auxiliary transformer protection circuitry.
- Local and remote control circuitry and equipment.
- Emergency trip button.
- Lock out reset button and indication.
- Lamp test button

7.1 FLAG ANNUNCIATOR UNIT

- 7.1.1 The purpose of the flag annunciator unit is to give an alarm/indication of the status of the substation equipment and shall not be used as a tripping mechanism for any of the protection circuits or form part of the tripping circuits.
- 7.1.2 The design of the flag annunciator unit shall allow any input condition to trigger the flag annunciator alarm and the corresponding indicator shall illuminate.
- 7.1.3 All inputs shall be latchable and shall continue to indicate even after a power failure.
- 7.1.4 The flag annunciator alarm shall be equipped with a "Test button" which will apply power supply voltage to all inputs for test purposes.
- 7.1.5 The alarm annunciator system shall be supplied with a "Reset button" to clear any alarm.
- 7.1.6 When buzzers or flashing indicators are fitted an alarm "Accept button" shall be provided.
- 7.1.7 The flag relay and annunciator unit shall make provision for a minimum of 28 annunciator circuits.
- 7.1.8 The annunciator shall have the following minimum indications:
- Main Transformer overload.

- Transformer Oil temperature.
- Transformer Winding temperature.
- Main transformer Buchholz operation.
- Main overload protection relay fault. (Watchdog facility)
- Auxiliary transformer Overload.
- Aux transformer Buchholz operation.
- AC Earth leakage
- DC Earth Leakage.
- Rectifier Attenuation.
- Rectifier over temperature.
- Rectifier diode failure
- Rectifier fan failure.
- Battery under-voltage.
- 400V 3 phase auxiliary supply phase failure.
- Low SF6 gas pressure (If applicable).
- AC Disconnects.
- 3kV DC Under-voltage (Indication only).
- Emergency trip.
- Eskom Phase failure.
- Negative Cable cut A.
- Negative Cable cut B.
- 3kV Bus-bar chamber door switch.
- Wave filter door switch.
- Positive Isolator door switch

7.2 AC PRIMARY CIRCUIT BREAKER CONTROL AND INDICATION

7.2.1 Provision shall be made for the following:

- Local / Remote two position switch. The switch shall have no “off” or “neutral” position.
- Local indication. Open/Trip (green) and closed (Red).
- Lockout indication (Amber).

7.3 RECTIFIER FAN CONTROL AND PROTECTION CIRCUITRY

7.3.1 Provision shall be made for the following:

- Fan motor protection circuitry.
- Fan failure circuitry (vane switch).
The circuitry shall be fail-safe and shall provide a signal to the flag annunciator panel when the fan fails.
- Rectifier current sensing circuitry.
The operation of the rectifier fan/fans shall be dependent on the full load current rating of the rectifier as well as the temperature of the rectifier.
The rectifier current sensing control circuitry shall operate at 50% (adjustable) of the full load current rating of the rectifier. The current sensing circuitry shall be adjustable between 10% and 90% of full load of the rectifier.

In order to avoid oscillatory pumping action of the fans a timing circuit shall ensure that fans remain energised for a period of at least 3 minutes after each and every start irrespective of the load condition in that time span.

- Diode supervisory circuitry.
- Fan test switch (switch on front of panel).
A spring-loaded self-resetting switch shall be provided for the manual testing of the fan/fans.

7.4 MAIN AC THERMAL OVERLOAD AND INSTANTANEOUS OVERLOAD PROTECTION RELAYS

- 7.4.1 The protection relays shall be of the type readily available on the open market.
- 7.4.2 The protection relays shall be in accordance to IEC 60255-5 and shall be flush-mounted. Electronic protection relays shall be provided with a password system to prevent any unauthorised changing of the relay settings.
- 7.4.3 The protection relays shall incorporate a watchdog facility, which shall energise in the event of failure of the relay or relay functions.
- 7.4.4 The high voltage AC primary circuit breaker shall be provided with AC thermal overload and instantaneous overload protection on each of two phases.
- 7.4.5 The protective elements of the relay shall be suitable for operation in conjunction with the main current transformers. The secondary current ratings are 5 ampere and 1ampere.
- 7.4.6 In the event of protection relay failure, the relay shall fail-safe and shall trip the AC primary circuit breaker.
- 7.4.7 The thermal overload protection shall be provided to permit loads not less than the specified load-rating curve of the 3kV rectifier, as mentioned below and shall not exceed the manufacturers, declared rectifier rating:
2 x full load for 30 minutes.
3 x full load for 1 minute.
3.5 x full load for 10 seconds.
4.25 x full load instantaneous.
Short circuit proof for 200 milli-seconds.
- 7.4.8 The operating level of the overload elements and time delay settings shall be independently adjustable.
- 7.4.9 For AC overload the protection relay shall have a minimum calibrating range from 3 to 6 times the full load line current of the rectifier equipment.
- 7.4.10 The AC overload protection shall be provided with an adjustable time delay to prevent operation as a result of inrush currents during switching of the transformer, and to be provided with sufficient time delay operation to ensure that only the 3 kV DC high speed track circuit breakers operate under fault conditions.

7.5 AC EARTH LEAKAGE PROTECTION RELAY

- 7.5.1 An instantaneous relay for the AC earth leakage protection shall be supplied. The relay may be separate or incorporated as a function of the main overload relay.
- 7.5.2 The AC earth fault protection shall trip and lockout the AC primary circuit breaker in the event of any flashover or earth leakage, which may occur on the outdoor AC high voltage equipment.
- 7.5.3 The relay shall be suitable for operation in conjunction with its associated earth fault current transformer. The relay shall have a calibration range of between from 50 to 100 amperes adjustable.
- 7.5.4 The relay shall be fitted in the primary circuit breaker control panel.

7.6 DC EARTH LEAKAGE PROTECTION RELAY

- 7.6.1 The DC earth leakage relay shall not be fitted in the control panel but on the outside of the control panel. In the case of space constraints (single unit substations), the relay may be mounted on a wall or other location, which shall be decided after consultation with Transnet Freight Rail's staff.
- 7.6.2 The steelwork of all 3kV DC equipment installed in a traction substation shall be connected to a DC earth leakage busbar, which is mounted on insulators. This busbar is connected to the substation negative (which is near earth potential) through the DC earth leakage relay by means of two 95mm² PVC insulated copper cables. In the event of a failure of the 3kV DC insulation, the fault current flows to rail (substation negative) by way of the relay causing its operation at the calibrated current setting.
- 7.6.3 The DC earth leakage busbar may also be installed so that it passes through the aperture of the DC earth leakage relay. The one side of the busbar is connected to the substation negative and the steelwork of the electrical equipment is connected on the other side.
- 7.6.4 A suitable DC earth leakage relay shall be provided that will trip at a predetermined value in the event of failure of the 3kV DC insulation.
- 7.6.5 The DC earth leakage copper busbar dimensions minimum 50x10 mm² shall be provided for. Provision shall be made for a minimum of ten 95 square mm conductor lugs.
- 7.6.6 The connection between the DC earth leakage primary busbar and the steelwork of the equipment inside the substation shall be made by means of 95 mm² PVC insulated conductors. Typical layout of the interconnections between the steelwork of the equipment and the DC earth leakage busbar shall be in accordance to CEE-TBD-7.
- 7.6.7 The DC earth leakage relay shall be robustly constructed and protected against the ingress of dust, dirt and moisture.
- 7.6.8 Once the DC earth leakage relay has operated it shall remain latched in the tripped position until it is manually reset.
- 7.6.9 The operation of the DC earth leakage relay shall be instantaneous.
- 7.6.10 The DC earth leakage relay shall be provided with a flag indicator and facilities for electrical remote flag indication.
- 7.6.11 The DC earth leakage relay shall incorporate sufficient auxiliary contacts to enable the correct operation of the circuit. The contacts shall be continuously rated to carry and make or break a 5 A, 110V inductive circuit.
- 7.6.12 The aperture of the magnetic core of the DC earth leakage relay shall be large enough to accommodate two 95mm² PVC insulated copper conductors, which connect the DC earth leakage busbar to substation negative and shall be in accordance to CEE-S-013.
- 7.6.13 The DC earth leakage relay shall be capable of operating under short-circuit conditions where the fault current could be in the order of 50 kA DC and the possible rate of rise between 3 and 6 kA per second.
- 7.6.14 The trip setting of the DC earth leakage relay shall be easily adjustable in the range 10-200 A. The trip setting shall be indicated on a dial and pointer to facilitate calibration.
- 7.6.15 The calibration must be stable and accurate to plus minus 10 percent of the trip setting of the DC earth leakage relay.
- 7.6.16 The DC earth leakage relay shall be protected from accidental damage or contact by a sturdy enclosure manufactured from a suitable transparent non-conductive material.
- 7.6.17 The copper busbar shall be insulated from the mounting surface by means of suitable insulators etc. and provision shall be for the termination of the earthing conductors.

7.7 MAIN AND AUXILIARY TRANSFORMER GAS ACTUATED AND TEMPERATURE PROTECTION RELAYS CIRCUITRY

7.7.1 Provision shall be made for the main transformer Buchholz relay and oil and winding temperature relay alarm and trip circuits.

7.7.2 Provision shall be made for the auxiliary transformer Buchholz relay and oil / winding temperature alarm and trip circuits as required.

7.8 OVERLOAD PROTECTION FOR AUXILIARY TRANSFORMERS

7.8.1 An overload relay shall be supplied for the protection of the primary winding of the auxiliary transformer.

7.8.2 The overload protection relay shall be FP2004 relays, Argus relays or other similar type approved by Technology Management (Electrical).

7.9 LOCAL AND REMOTE CONTROL CIRCUITRY AND INDICATION EQUIPMENT

7.9.1 Provision shall be made for the local and remote tripping and closing of the AC primary circuit breaker.

7.10 TRIP CONDITIONS

7.10.1 A trip refers to a condition where a substation may be switched back on load from local or remote in the case where the relevant fault has cleared itself.

- Main Overload.
- Main transformer oil level.
- Auxiliary transformer overload.
- Oil Temperature.
- Rectifier over temperature.
- 400V auxiliary supply phase failure with time delay module adjustable from 0 to 60 seconds.
- Wave filter room interlock (where fitted).
- Eskom Phase failure.

7.11 LOCKOUT CONDITIONS

A lockout refers to the condition where the AC primary circuit breaker is tripped and inhibited from being closed by either local or remote control signal. In order to bring the substation back on load the relevant failure has to be addressed and rectified from inside the substation.

- DC Earth Leakage. Complete substation lockout.
- AC Earth Leakage.
- Protection relay failure. (Watchdog)
- Rectifier first diode failure.
- Rectifier attenuation failure.
- 3kV DC busbar earth device.
- Battery under-voltage.
- Buchholz main transformer.
- Main transformer pressure relief valve (PRV).
- Buchholz auxiliary transformer (If applicable).
- Low SF6 gas.

- Winding temperature.
- Rectifier fan failure.
- No volt coil protection. Refer to Transnet Freight Rail's drawing No CEE-TBK-27 for control circuitry.
- Negative Cable cut A.
- Negative Cable cut B.
- 3kV Bus-bar chamber door switch.
- Wave filter door switch.
- Positive Isolator door switch
- Emergency trip.
- AC Disconnects.

7.12 EMERGENCY TRIP

- 7.12.1 A mushroom head (red) latched push button shall be provided. The operation of the pushbutton shall completely shut down and isolate the substation from all supplies by the tripping of the high voltage AC primary circuit breaker(s) and all the 3 kV DC track breakers. It shall not be possible to carry out local and remote control of the equipment until the emergency push button has been reset.

7.13 LOCK OUT RESET BUTTON AND INDICATION

- 7.13.1 Provision shall be made for the manual reset of a lock out condition, which occurs in the substation. The reset of the lockout condition shall only be possible with the operation of the annunciator flag reset and lockout reset button.

8.0 AC/DC DISTRIBUTION PANEL

The panel shall make provision for:

- AC Distribution (400V, 3 Phase).
- DC Distribution (110V DC).
- DC Control and supervisory circuitry and track breaker control.

8.1 AC DISTRIBUTION (400V, 3 PHASE)

Provision shall be made for the following:

- 3 phase 15 kA short circuit rated, 415V moulded case circuit breaker / fused isolator for the protection of the three-phase auxiliary transformer supply. The fused isolator shall be rated for 160A and it shall be suitable for interlocking.
- A 400V Busbars shall be protected by clear Polycarbonate barriers marked with a danger WW7 sign.
- Current transformers in the control panel for the measurement of the low voltage currents for each phase of the 400 V supply.
- Ammeter and voltmeter for the measurement of the 3 phase currents and voltages.
- Suitable four-way rotary selector switches for the measurement of the 3 phase currents and voltages.

8.1.1 400V 3-PHASE DISTRIBUTION SUPPLY

The following 3 phase supplies are normally required but could vary for each substation. These supplies shall be individually protected by moulded case circuit breakers.

- 63A-6h/346-415V 50Hz, 5 pin (3p+N+Earth with pilot tube) male and female welding plug for calibration set.

- Substation distribution board.
- Substation building fan.
- Battery room fan including overload protection.
- Spare supply points as required.
- 40A supply for regenerative braking absorption equipment where specified.
- Single phase 230V AC supply to the main transformer connection box.
- 110V DC supply to the main transformer connection box.

8.1.2 **3 PHASE DETECTION FAILURE RELAY**

One three phase detection failure relay shall be installed in the panel. The relay shall monitor the 400V panel supply for the following:

- Phase failure.
- Sequence reversal.
- Excessive phase unbalance.
- The relay shall have hysteresis of not more than 5% and a reaction time of 3 seconds or better.
- An adjustable time delay setting shall be incorporated on the front of the detection relay to prevent the operation of the relay due to Eskom supply dips. The time delay adjustment shall be between 0 to 60 seconds.

8.1.3 **230 V SINGLE PHASE DISTRIBUTION SUPPLY**

The following single phase supplies are normally required but could vary for each substation. These supplies shall be individually protected by moulded case circuit breakers.

- Tele control supply.
- Eskom metering supply.
- 3 pin 230V AC, 15A socket outlet protected by earth leakage unit in accordance with SANS 10142.
- Battery charger supply.
- Substation distribution board and lights.
- Supplies to the primary circuit breaker control panel

8.1.4 **400V AUXILIARY SUPPLY CHANGE OVER SYSTEM**

8.1.4.1 Unless otherwise specified a 400V auxiliary supply change over system shall be installed in the panel to provide a continuous 400V supply in the substation for the following situations.

- Where in a double unit substation two auxiliary transformers are installed and one unit is switched off or
- Where it is required to supply the traction substation from a standby auxiliary supply in the event of the traction substation being switched off.

8.1.4.2 The contactors for the changeover system shall be mechanically and electrically interlocked.

8.1.4.3 Lamps on front door to indicate which supply is active is required (must be clearly marked).

8.1.5 **INDICATING INSTRUMENTS FOR THE 400V AC DISTRIBUTION**

The panel shall be fitted with the following indicating digital display (LED/LCD) instrument for the AC distribution auxiliary supply.

- One 0 to 400V voltmeter with its own selector switch. The instrument shall be labelled "AC VOLTS"
- One 0 to 100A ampere meter with its own selector switch. The instrument shall be labelled "AC AMPERES"

8.2 110 DC VOLT DISTRIBUTION

8.2.1 The 110V DC supply shall be obtained from the substation battery bank, which is charged by a freestanding battery charger unit. Refer to Transnet Freight Rail's Specification BBB 2502 latest version. The installation of a battery charger in the AC/DC distribution panel is not acceptable.

Provision shall be made on AC/DC distribution panel for the following:

8.2.2 INDICATING INSTRUMENTS

8.2.2.1 One 0 to 150V DC voltmeter labelled "DC VOLTS" to indicate the battery output voltage. The voltmeter shall be provided with a selector switch to be able to select any of the following positions:

- DC Volts.
- Battery earth fault between battery positive and negative DC earth leakage busbar. (Frame)
- Battery earth fault between battery negative and negative DC earth leakage busbar. (Frame)

8.2.2.2 One 0 to 150V DC voltmeter labelled "HOLDING COIL VOLTS" to indicate the holding coil supply voltage.

8.2.2.3 One 0 to 30A DC ampere meter labelled "HOLDING COIL AMPERES" to indicate the holding coil current.

8.2.2.4 One 0 to 30A DC ampere meter labelled "DC AMPERES" to indicate the battery output current.

8.2.2.5 One DC ampere meter labelled "BATTERY FLOAT CHARGE" to indicate the float charge to the battery. A short circuiting spring loaded switch shall be provided to protect the instrument against the following fault conditions:

- Charging batteries at the maximum rate.
- Reverse current through the ammeter when the battery charger is disconnected.

8.3 110V DC DISTRIBUTION SUPPLY

8.3.1 The following 110 V DC supplies are normally required but could vary for each substation. These supplies shall be individually protected by molded case circuit breakers.

- Panel lamps and switches.
- Primary circuit breaker control panel.
- Substation distribution board.
- Eskom metering.
- Tele control.
- 3 kV DC under voltage relay.
- For the 110V battery supply a double pole, 100 to 150A DC Isolator or MCB, dependent on the ampere-hour rating of the batteries shall be provided.
- Protection and control circuit supplies for regenerative braking equipment (If specified).

8.3.2 For the track breaker control circuitry the following size MCB's shall be required:

- The 110V positive (busbar) supply for the closing coil requires 80 amperes or less depending on type of track breaker.
- The 110V negative (busbar) supply for the closing coil requires 80 amperes or less depending on type of track breaker.
- The 110V constant voltage positive supply for the holding coil requires 5 amperes.
- The 110V positive (busbar) supply for the holding coil requires 5 amperes.
- The 110V negative (busbar) supply for the holding coil requires 5 amperes.

8.4 DC CONTROL AND SUPERVISORY CIRCUITRY AND TRACK BREAKER CONTROL

8.4.1 The DC control and supervisory system shall have the following circuitry fitted:

- Battery under-voltage relay shall be adjustable from 80 to 110 V DC with adjustable hysteresis.
- Lockout relay.
- Earth leakage slave relays.
- 3 kV DC High Speed Circuit Breaker control circuitry (dependant on number High Speed Circuit Breakers.)
- Selector and control switches.
- Measuring instruments for DC amperes, DC voltages, Holding coils voltage and holding coil current.

9.0 PROTECTION RELAYS

9.1 The protection relays shall be flush mounted on the panel door (see clause 7.4 and 7.5).

10.0 CIRCUIT BREAKERS, CONTACTORS, RELAYS AND INDICATING LAMPS

- 10.1 All contactors and relays shall be protected from the ingress of dirt or dust by means of suitable non-flammable dust tight covers. The relays shall have a protection rating of IP 34 as defined in SANS 60529.
- 10.2 All circuit breakers, contactors, relays and indicating lamps shall be readily available on the open market.
- 10.3 Contactors and relays shall be of the sturdiest construction and shall not be affected by vibration.
- 10.4 DC operated relays shall be capable of satisfactory operation between 85V and 140V without any damage to the relays.
- 10.5 AC operated relays and contactors shall be suitably rated for the auxiliary supply voltage, which could vary due to the tapping range of the main and auxiliary transformers.
- 10.6 The contractor shall supply and install surge protection for the 400V 3 phase AC and 110V DC supplies to the control panels.
- 10.6.1 DehnGuard M YPV SCI 150 FM type surge protection units or equivalent shall be provided for the 110V DC supply and shall be connected as follows:
- One unit connected between the 110V DC Positive and Negative.
 - One unit connected between the 110V DC Positive and the panel earth.
 - One unit connected between the 110V DC Negative and the panel earth.
- 10.6.2 A DehnGuard MTT pole surge protection unit or equivalent shall be provided for the 400 volt three phase AC supply to the control panels.

- 10.7 All low voltage circuits in the panel, which require protection, shall be suitably protected by molded case circuit breakers, which comply with the requirements of SANS 156.
- 10.8 The low voltage molded case circuit breakers shall be of suitable rating and rupturing capacity.
- 10.9 Selector switches used for the DC voltmeter shall be of the make before break type.

11.0 ELECTRICAL MEASURING INSTRUMENTS

- 11.1 The type of electrical measuring instruments shall be digital and available on the open market.
- 11.2 The digital LED / LCD display instruments shall be of flame retardant material, safe and reliable.
- 11.3 The digital LED / LCD display meters shall have a high definition colour backlight.
- 11.4 Digital instruments shall have an LED / LCD display of 3 digits, +15 millimetres character height and have an accuracy of 0.5%.

12.0 TELECONTROL

Provision is made for the closing, monitoring and tripping of the substation equipment from a Control office. Telecontrol signals are incorporated in both the AC Primary Circuit Breaker and the AC/DC Distribution panels. Provision shall be made for the termination of the telecontrol signals to a common terminal strip. This is connected to the telecontrol panel by means of a multicore cable. Provision shall be made for the following signals:

12.1 AC PRIMARY CIRCUIT BREAKER

- Open, Close and Lockout conditions.

12.2 3 kV DC HIGH SPEED CIRCUIT BREAKERS

- Open, Close and Lockout conditions.

12.3 TRANSFORMERS (Main and Auxiliary where applicable)

- Transformer Overload.
- Over temperature (Oil / winding).
- PRV
- Buchholz operation.

12.4 EARTH FAULT CONDITIONS

- DC Earth Leakage.
- AC Earth Leakage.

12.5 RECTIFIER FAILURE

- Over temperature.
- Diode failure.
- Fan failure.
- Rectifier attenuation failure.

12.6 SUPPLY VOLTAGE FAILURES

- 400 V AC auxiliary supply phase failure.
- 110 V DC failure.
- 3 kV DC under-voltage relay failure.

12.7 BATTERY

- Battery under-voltage.

12.8 MAIN OVERLOAD/AC EARTH LEAKAGE RELAY FAILURE

- Protection relay failure. (Watchdog).

13.0 WIRING AND TERMINALS

- 13.1 Sufficient terminal strips shall be provided for the number of circuit breakers to be controlled.
- 13.2 All terminals on equipment such as switches and relays shall be suitably numbered and reflected on the substation schematics and wiring diagrams.
- 13.3 All terminal blocks and groups of terminal blocks shall be suitably numbered.
- 13.4 All wires shall be provided with identification tags at terminals and shall be marked as reflected on the panel-wiring diagram. The diagram markings and wire markings shall be the same.
- 13.5 Terminals shall be provided near the bottom of the panels for the connection of cables from ducts, pipes etc. The terminal strips shall be grouped together and arranged so as to facilitate the removal of connections.
- 13.6 Suitable terminal strips shall be provided to facilitate wiring between the various items of equipment and to the remote control station or telecontrol.
- 13.7 All wiring shall be carried out on the loop-in system and the looping-in shall be done at the terminal strips. "X" type wiring will not be acceptable.
- 13.8 The method of loop wiring from one relay to another without protection for the individual circuits is not acceptable.
- 13.9 The cross-sectional area of all small conductors for low voltage circuits shall be not less than that required to ensure sufficient mechanical strength. The conductors shall be stranded to ensure flexibility.
- 13.10 All wires and conductors for low voltage circuits shall be in accordance to SANS 10142 with the exception of the main battery supply cables between the main battery switch and busbars, which shall be at least 16 square mm.
- 13.11 The conductors for the multicore telecontrol cable shall be at least 1,5 square mm per conductor. Provision shall be made for 10% spare conductors in the multicore telecontrol cable supplied.
- 13.12 All wires and conductors shall be routed via PVC channel trunking with a removable cover. Use should be made of trunking of sufficient capacity to easily hold the conductors and wires.
- 13.13 Where low voltage busbars are mounted inside panels, they must be mounted in such a manner as not to cause a hazard to maintenance staff working in the panels. These busbars shall be provided with translucent Polycarbonate barriers to prevent accidental contact with the live busbars. The barriers shall be provided with warning signs.
- 13.14 Where equipment is mounted on the doors of the panels, adequate flexibility of the wiring shall be provided to eliminate any damage to the conductors.
- 13.15 The panels shall be provided with earthing studs for 95mm² earthing cables (CEE-TBD-7 Earthing arrangement for 3kV DC traction substations).
- 13.16 PROTECTION TEST BLOCK
- 13.16.1 A test block shall be provided for the main overload protection relays and shall be fitted in the control panel at a height of one metre from the bottom of the control
- 13.16.2 The test block shall be the PK2, Chamberlain & Hookam type or any approved by Transnet freight Rail (Technology Management).

- 13.16.3 The test block shall form part of the circuitry from the secondary wiring of the current transformers that terminate in the control panel and the overload protection relays.

14.0 PANEL CONSTRUCTION

- 14.1 The panels shall be constructed from steel sheeting of at least 2mm thickness. The panels shall be of a rigid construction with facilities for lifting purposes.
- 14.2 Only on special request will the panels be constructed from stainless steel or other rust resistant steel.
- 14.3 The minimum dimensions shall be:
- | | |
|---------|---------------------------------|
| Height: | 2100mm (Including metal plinth) |
| Width: | 900mm |
| Depth: | 900 mm |
- Any deviation from the above dimensions shall be discussed with Transnet Freight Rail's electrical staff.
- 14.4 The panels shall be supplied with rigidly constructed removable gland plates fitted at least 100 mm above the metal plinth to allow for easy access to cables. All required holes shall be punched into the gland plates by the successful tenderer. Any deviation from this shall be discussed with Transnet Freight Rail.
- 14.5 The panels shall be provided with hinged front doors to allow easy access to the control equipment. The doors shall be fitted with a handle or panel key locks. A minimum of two keys shall be supplied with each panel.
- 14.6 The panels shall be fitted with dummy interior covers so as to ensure that when components are mounted, no bolts, nuts or screws are visible on the exterior of the panels.
- 14.7 The control panel(s) shall be powder coated in accordance with SANS 1274. The finishing colours shall be Eau-de-Nil to SANS 1091 colour No H 43 on the outside and white gloss on the inside of the panels.
- 14.8 The control panel shall be mounted and secure onto a 75mm high metal plinth.
- 14.9 The panels shall be insulated from the concrete floor to reduce stray currents flowing into the panels.
- 14.10 The control and protective equipment shall be mounted on or within suitable panels constructed of sheet metal and fitted with front opening hinged doors to all allow for easy access to the equipment.
- 14.11 The panels shall be so constructed that control switches, indicating lamps, voltmeters and ammeters as well as LED type flag indication devices are visible without opening the hinged front doors.
- 14.12 The layout of the control equipment fitted on or in the panels, which includes relays, contactors, busbars, terminal strips etc. shall provide for easy access.
- 14.13 Three pin 15-ampere industrial plugs shall be supplied for 230V AC.
- 14.14 The provision for connection block of the calibration supply set shall be made within the panel.

15.0 TESTING AND COMMISSIONING

- 15.1 Transnet reserves the right to be present at all tests and inspections called for in this specification.
- 15.2 The responsibility of arranging the tests called for in this specification rests with the successful tenderer.
- 15.3 Transnet Freight Rail, Technology Management (Electrical Technology) department representative may request any additional test deemed necessary to ensure compliance.

- 15.4 The contractor shall be responsible for carrying out on-site functional tests before the commissioning of the equipment.
- 15.5 Acceptance by the Maintenance Manager or the delegated staff of satisfactory completion of on-site tests in no way relieves the contractor of his obligation to rectify defects which may have been overlooked or become evident at a later stage.
- 15.6 Commissioning will only take place after all defects have been rectified to the satisfaction of the Maintenance Manager or the delegated staff.
- 15.7 Commissioning will include the energising of equipment from the primary isolator to the track feeder circuits. The contractor must prove the satisfactory operation of equipment under live conditions.
- 15.8 On completion of commissioning the contractor will hand the equipment over to the Maintenance Manager or the delegated staff in terms of the relevant engineering instructions.

16.0 TRAINING, SERVICING TOOLS AND SERVICING AIDS

- 16.1 The tenderer shall submit details with the tender of the training courses, which will be conducted by the contractor for the training of Transnet Freight Rail's maintenance staff in the operation and maintenance of the equipment supplied. The courses shall include theoretical as well as practical tuition. The date and venue of this training course shall be arranged with the maintenance manager.
- 16.1 Special tools or servicing aids necessary for the efficient maintenance, repair or calibration of the equipment shall be quoted for separately.
- 16.2 Tenderers shall submit detailed offers for special tools and servicing aids including all specialized equipment required for the servicing and maintenance of the equipment supplied.

17.0 DOCUMENTATION REQUIREMENTS

- 17.1 All drawings and documents shall be written in English.
- 17.2 All units indicated in the documentation shall be in metric system.
- 17.3 Drawings, instruction manuals and spare parts catalogues shall be supplied in accordance with Transnet Freight Rail's specification CEE.0224 and BBB0041.
- 17.4 The successful tenderer shall supply three copies of an instruction/maintenance manuals, schematic and wiring diagram.
- 17.5 Approved schematic and wiring diagrams, which are supplied for maintenance and fault finding, shall be A3. (29,7cm x 42cm).
- 17.6 The contractor shall submit details of spares required in accordance with specification CEE.0224.
- 17.7 All spares recommended for normal maintenance purposes that are not available locally (requires importation) must be highlighted

18.0 QUALITY ASSURANCE

- 18.1 The successful tenderer shall maintain a Quality Management System (QMS) based on or certified to ISO 9001.
- 18.2 Transnet Freight Rail reserves the right to carry out inspection and any tests on the equipment at the works of the supplier/ manufacture.
- 18.3 Arrangements must be made timeously for such inspections to be carried out before delivery of the equipment to the client.

19.0 PACKAGING, STORAGE AND HANDLING

- 19.1 The tenderer shall ensure that the equipment be packed in such a manner that it will be protected during handling and transport.
- 19.2 The tenderer shall provide transport for the delivery of the equipment to the site where required.

20.0 GUARANTEES AND DEFECTS

- 20.1 The successful tenderer shall accept liability for makers' defects, which may appear in design, material and workmanship.
- 20.2 The successful tenderer shall provide all information regarding guarantees and warranties in writing
- 20.3 The contractor shall guarantee the satisfactory operation of the complete electrical installation supplied and installed by him and accept liability for maker's defects, which may appear in design, materials and workmanship.
- 20.4 The guarantee period for all substations shall expire after:
A period of 12 months commencing on the date of completion of the contract or the date the equipment is handed over to Transnet Freight Rail whichever is the later.
- 20.5 Any specific type of fault occurring three times within the guarantee period and which cannot be proven to be due to other faulty equipment not forming part of this contract e.g., faulty locomotive or overhead track equipment, etc., shall automatically be deemed an inherent defect. Such inherent defect shall be fully rectified to the satisfaction of the Maintenance manager and at the cost of the Contractor.
- 20.6 If urgent repairs have to be carried out by Transnet Freight Rail's staff to maintain supply during the guarantee period the contractor shall inspect such repairs to ensure that the guarantee period is not affected and should they be covered by the guarantee, reimburse Transnet Freight Rail the cost of material and labour.

21.0 TECHNICAL COMPLIANCE

- 21.1 Tenderer(s) shall indicate clause-by-clause compliance document with the specification. This shall take the form of a separate document listing each of the specification's clause and sub-clause numbers, indicating the individual statements of compliance or non-compliance.
- 21.2 The tenderer shall motivate statement of non-compliance.
- 21.3 Tenderer(s) shall submit all technical documents called for in the specification.
- 21.4 Any items offered in accordance with other standards will be considered at the sole discretion of Transnet. The tenderer(s) shall supply full details stating where the item differs from these specifications as well as supplying a copy (in English) of the recognized standard specification(s) with which it complies. Any deviations must be approved by Transnet Freight Rail, Technology Management (Electrical Technology) department in writing.
- 21.5 Failure to comply with clauses 21.1, 21.2, 21.3 and 21.4 could preclude a tenderer from consideration.
- 21.6 In the event of any conflict between the various submitted relevant documents, the order of precedence shall be, and in consultation with Transnet Freight Rail, Technology Management (Electrical Technology) department:
 - a) Legal and safety requirements.
 - b) This Specification.

END

22.0 APPENDIX A: SCHEDULE OF TECHNICAL REQUIREMENTS

(To be completed by Transnet Representative)

1	Name of Depot	
2	Quantity	
3	AC primary circuit breaker panel	
4	AC/DC distribution panel	
5	Combination of 3 & 4 into one panel	
6	Current transformer (CT)	Ratings
6.1	Class of CT	10P10
6.2	Burden of CT	15VA
6.3	132KV supply voltage	e.g. 75/1
6.4	88KV supply voltage	e.g. 100/1
6.5	66KV supply voltage	e.g. 100/1
7	Special requirements

Completed by:	
Capacity:	
Signature:	
Date:	

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23.0 APPENDIX B: TECHNICAL DATA SHEET

(To be completed by the tenderers and submitted as part of their tender)

a) Supplier:.....

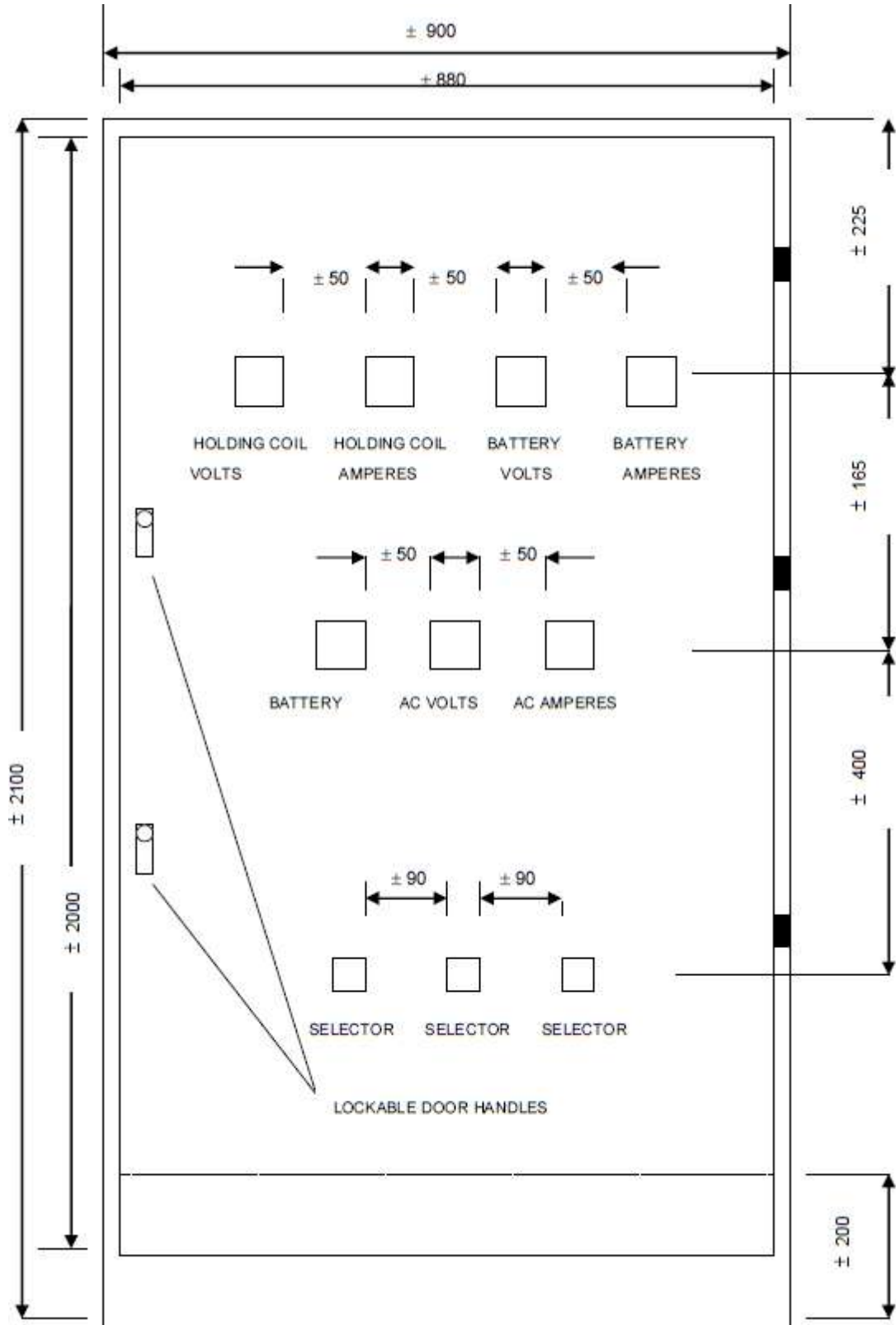
b) Manufacture's trade name:.....

Clause	Technical specifications and Requirements	Comply/Non-comply	Proof required

Completed by:	
Capacity:	
Signature:	
Date:	

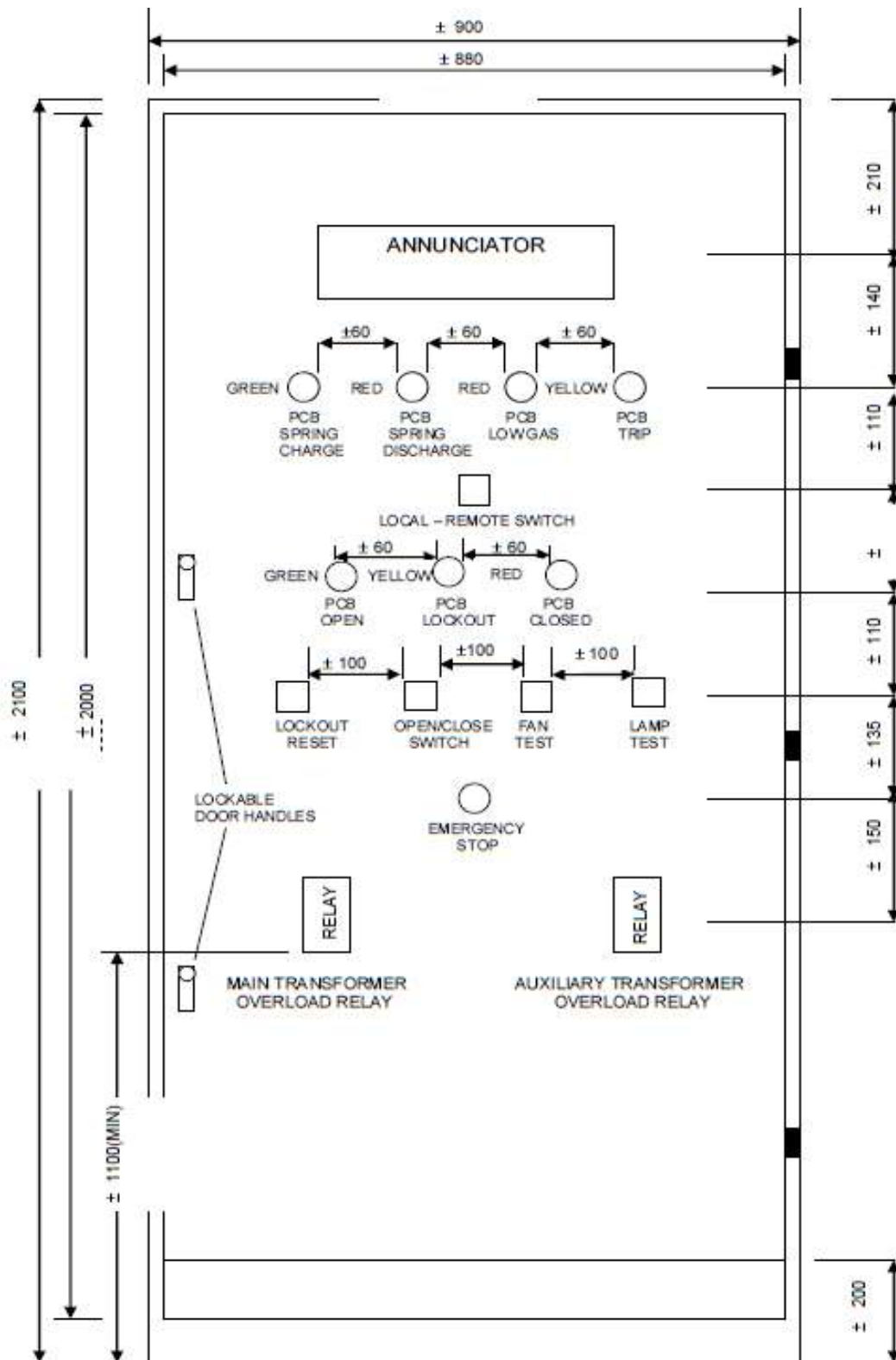
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24.0 ANNEXURE 1: AC/DC DISTRIBUTION PANEL



AC/DC DISTRIBUTION PANEL

25.0 ANNEXURE 2: AC CONTROL PANEL



AC PRIMARY CIRCUIT BREAKER CONTROL PANEL

NOTE: WHERE THE ANNUNCIATOR PANEL MAKES PROVISION FOR THE SF6 LOW GAS INDICATION THE PCB LOW GAS AND PCB TRIP INDICATION LIGHTS MAY BE OMITTED



TRANSNET
freight rail

A Division of Transnet Limited

TECHNOLOGY MANAGEMENT

SPECIFICATION

REPAIR OF OIL-IMMERSED POWER DISTRIBUTION TRANSFORMERS

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Date: 27 August 2010

Circulation Restricted To:
Transnet Freight Rail

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1. SCOPE

This specification covers Transnet Freight Rail's requirements for the repair of oil immersed power distribution transformers.

2. REFERENCE LIST

2.1 The following publications (latest edition) are referred to herein.

2.1.1 South African National of Standards

SANS 10064 - Code of Practice for the Preparation of Steel Surfaces for Coating.
SANS 555 - Insulating Oil for Transformers and Switchgear.

2.1.2 Transnet Freight Rail

CEE.0045 - Painting of steel components of electrical equipment

3. METHOD OF TENDERING

3.1 Tenderers shall indicate clause by clause compliance with the specification. This shall take the form of a separate document listing all the specifications clause numbers indicating the individual statement of compliance or non-compliance. This document can be used by tenderers to elaborate on their response to a clause.

3.2 A statement of non-compliance shall be motivated by the tenderer.

3.3 Tenderers shall submit descriptive literature consisting of detailed technical specifications, general constructional details and principal dimensions, together with clear illustrations of the equipment offered.

3.4 Failure to comply with clauses 3.1, 3.2 and 3.3 could preclude a tender from consideration.

4. SERVICE CONDITIONS

4.1 The transformer shall be repaired and rated for continuous operation under the following conditions. Tenderers are requested to comment on the possible deterioration of performance of the equipment offered when operating under these extreme conditions.

4.1.1 Altitude : 0 to 1800m above sea level.

4.1.2 Ambient temperature : -10°C to +50 °C.

4.1.3 Relative humidity : 10% to 90%

4.1.4 Lightning Conditions : 12 ground flashes per square kilometre per annum.

4.1.5 Pollution : Heavily salt laden or polluted with smoke from industrial sources.

5. CLEANING THE TRANSFORMER

- 5.1 In order to get rid of decomposed oil content (carbon) and sludge, the coils, core and the tank of the transformer shall be washed with suitable flushing oil.
- 5.2 Tenderers who can offer a vapour phase process to clean the transformer must ensure that the process does not cause any deterioration on the aged insulation.
- 5.3 The recommended values for the drying out process of the transformer to be obtained shall be as follows:
 - 5.3.1 For the vapour phase process the moisture level should be 0.5 – 1.0 percent.
 - 5.3.2 For the oven dry process the moisture level should be 1.5 – 2.0 percent.
- 5.4 The tenderer must indicate what dry-out process is to be implemented.

6. DRYING THE TRANSFORMERS

- 6.1 On completion of the repair work to the transformer, it shall be dried by a suitable vacuum process and filled with oil.

7. INSULATING OIL

- 7.1 The mineral insulating oil shall be filtered and tested for electrical strength, water content, acidity, sludge, flashpoint, resistivity and dielectric dissipation factor. Results of these tests shall be made available to the Senior Manager, (Infrastructure) (Electrical), before refilling the transformer.
- 7.2 If during the tests the oil is found not suitable to refill the transformer the Senior Manager, (Infrastructure) (Electrical) can authorise the replacement with new mineral insulating oil complying to SANS 555.

8. TESTS ON REPAIRED TRANSFORMER

- 8.1 Routine tests similar to those applied when the transformer was originally built shall be conducted on the repaired transformer. If the tenderer does not have the facilities to carry out the required tests, he shall arrange to have the tests conducted elsewhere. The tender must include the costs for such routine tests.
- 8.2 Arrangements must be made timeously with the Senior Manager, (Infrastructure), (Electrical), Johannesburg to witness and authorise these tests.
- 8.3 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 Transnet Freight Rail.

9. INSPECTION

- 9.1 Transnet Freight Rail reserves the right to be present during repair work and testing and must be timeously advised of the dates of commencement of the repair work and of testing.

10. CORROSION PROTECTION AND PAINT FINISH

- 10.1 All interior and exterior metal surfaces of the transformer, and associated apparatus, subject to corrosion, shall be prepared for corrosion proofing and painting in accordance with the practice recommended in SANS 064 and as specified in Transnet Freight Rail's Specification No. CEE.0045
- 10.2 All external surfaces shall be finished with an acceptable outer coat colour to match with the existing finish.

11. PACKING

- 11.1 The transformer shall be crated, packed or loaded in such a manner that it shall not sustain damage during handling and transport, and precautions shall be taken to ensure that moisture cannot enter the transformer.

12. GUARANTEE

- 12.1 The contractor shall guarantee the repaired transformer against faulty workmanship for a period of twelve months unconditionally from dated of commissioning.

13. INSPECTION

- 13.1 An Inspection Certificate will be issued by Technology Management – Electrical Technology to certify that material / equipment conforms to Transnet Freight Rail's requirements.

END