

Transnet Freight Rail

an Operating Division **TRANSNET SOC LTD**

[Registration Number 1990/000900/30]

REQUEST FOR PROPOSAL (RFP)

FOR THE: SUPPLY, INSTALL, TEST AND COMMISSION ELECTRICAL 3KV DC TRACTION SUBSTATION EQUIPMENT'S AT SWARTGROND SUBSTATION

RFP NUMBER	: HOAC_HO_45932
ISSUE DATE	: 12 April 2024
COMPULSORY BRIEFING	: 22 April 2024 at 10:00am
CLOSING DATE	: 03 May 2024
CLOSING TIME	: 10:00am
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	Supply, Install, Test and Commission Electrical 3kV DC Traction Substation Equipment's at Swartgrond Substation
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 Klerksdorp Transnet CTC Depot Boardroom on Monday, 22 April 2024, at 10:00am [10 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 drivers licences are on them for inspection at the access control gates. <p>Certificate of Attendance in the form set out in the Returnable Schedule T2.2-01 hereto must be completed and submitted with your Tender as proof of attendance is required for a compulsory site meeting and/or tender briefing.</p> <p>Tenderers are required to bring this Returnable Schedule T2.2-01 to the Compulsory Tender Clarification Meeting to be signed by the Employer's Representative.</p> <p>Tenderers failing to attend the compulsory tender briefing will be disqualified.</p>

CLOSING DATE	10:00am on 03 May 2024 Tenderers must ensure that tenders are uploaded timeously onto the system. If a tender is late, it will not be accepted for consideration.
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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 T2.2-16], [**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 Part T2 : Returnable documents Part C: The contract Part C1: Agreements and contract data Part C2: Pricing data
	T1.1 Tender notice and invitation to tender T1.2 Tender data T2.1 List of returnable documents T2.2 Returnable schedules C1.1 Form of offer and acceptance C1.2 Contract data (Part 1 & 2) C1.3 Form of Securities 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:	Procurement Lead
	Name:	Mbuyiswa Sekele
	Address:	OPS Manager's Building, Transnet Leeuhof Depot, Vereeniging
	Tel No.	011 308 1265/016 420 6340
	E – mail	Mbuyiswa.Sekele@transnet.net

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

- 1. Stage One - Eligibility with regards to attendance at the compulsory clarification meeting:**

An authorised representative of the tendering entity or a representative of a tendering entity that intends to form a Joint Venture (JV) must attend the compulsory clarification meeting in terms C2.7
- 2. Stage Two - 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 **4EP 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 **4EP 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.

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

3. Stage Three - 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 criteria and, if any, each sub-criterion are as stated in C.3.11 below.

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 T2.2-01 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:

C2.15.1 Identification details: The tender documents must be uploaded with:

- Name of Tenderer:
- Contact person and details:
- The Tender Number: HOAC_HO_45932
- The Tender Description: Supply, Install, Test and Commission Electrical 3kV DC Traction Substation Equipment's at Swartgrond Substation

Documents must be marked for the attention of:

Employer's Agent: Mbuyiswa Sekele

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 **03 May 2024**

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 line with the code of good practice, together with the tender;

3. A valid CIDB CRS Number in order to verify and confirm the correct and required designated grading;

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

C3.11 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:

Functionality criteria	Sub-criteria	Maximum number of points
T2.2-03 Programme	Gantt chart/ any other compatible software explaining step by step how work is going to be executed and commissioned	10
T2.2-04 Previous experience	Bidders should provide similar work done previously related to traction Substation, including cabling work, indoor DC equipment's and have contactable references.	50
T2.2-05 Project Management Organogram, Management & CVs of Key persons	The bidder must prove that he/she has the resources to successfully complete the project in time. Required: Testing equipment with calibration certificate, qualified personnel, material, machinery and other relevant resources.	30
T2.2-06 Health and Safety Requirements	<ol style="list-style-type: none"> 1. Contract specific Health & Safety Evaluation 2. Valid Letter/s of Good Standing 3. Safety, Health & Environmental Company Policy 4. Overview of the tenderer's Risk Assessment 5. Synopsis of Health & Safety incidents 	10
Maximum possible score for Functionality		100

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

-
- T2.2-03 Programme
 - T2.2-04 Previous experience
 - T2.2-05 Project Management Organogram, Management & CVs of Key persons
 - T2.2-06 Health and Safety Requirements

Each evaluation criteria will be assessed in terms of scores of 0, 20, 40, 60, 80 or 100 (linear scale, more suitable for NEC3, ECC (construction related procurement))

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.

C.3.11. Only tenders that achieve the minimum qualifying score for functionality will be evaluated further in accordance with the 80/20 as described in Preferential Procurement Regulations.

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

Thresholds	Minimum Threshold
Technical / functionality	70

Evaluation Criteria	Final Weighted Scores
Price	80
Specific goals - Scorecard	20
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 (80/20)
B-BBEE Level of contributor (1 or 2)	5
Entities that are at least 51% Black Owned	5
Entities that are 30% Black Woman Owned	5
Entities that are at least 50% Black Youth 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
B-BBEE	B-BBEE Certificate / Sworn-Affidavit B-BBEE Certificate (in case of JV, a consolidated scorecard will be accept) as per DTIC guidelines
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
+50% Black Youth Owned Entities	Certified copy of ID Documents of the Owners and 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:

<u>DESCRIPTION</u>	<u>POINTS</u>
PRICE	80
B-BBEE Level of contributor (1 or 2)	5
Entities that are at least 51% Black Owned	5
Entities that are 30% Black Woman Owned	5
Entities that are at least 50% Black Youth 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

2.1.1 These schedules are required for eligibility and functionality purposes

- T2.2-01 **Stage One as per CIDB: Eligibility Criteria Schedule** - Certificate of attendance at Compulsory Tender Clarification Meeting

Returnable Schedules:

2.1.2 Stage Five as per CIDB: these schedules will be utilised for Functionality evaluation purposes:

- T2.2-02 **Evaluation Schedule:** Programme
- T2.2-03 **Evaluation Schedule:** Previous experience
- T2.2-04 **Evaluation Schedule:** Project Management Organogram, Management & CVs of Key persons
- T2.2-05 **Evaluation Schedule:** Health and Safety Requirements

Returnable Schedules :

2.1.3 General:

- T2.2-06 Authority to submit tender
- T2.2-07 Record of addenda to tender documents
- T2.2-08 Letter of Good Standing
- T2.2-09 Risk Elements
- T2.2-10 Availability of Equipment and Other Resources
- T2.2-11 Schedule of proposed Subcontractors
- T2.2-12: Site Establishment Requirements

Agreement and Commitment by Tenderer:

- T2.2-13: 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
- T2.2-14 Non-Disclosure Agreement
- T2.2-15 RFP Declaration Form
- T2.2-16 RFP – Breach of Law
- T2.2-17 Certificate of Acquaintance with Tender Document
- T2.2-18 Service Provider Integrity Pact
- T2.2-19 Supplier Code of Conduct
- T2.2-20 Agreement in terms of Protection of Personal Information Act, 4 of 2013 ("POPIA")

2.1.4 Bonds/Guarantees/Financial/Insurance:

- T2.2-21 Insurance provided by the Contractor
- T2.2-22 Three (3) years audited financial statements

2.1.5 Transnet Vendor Registration Form:

- T2.2-23 Transnet Vendor Registration Form

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

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

2.5 C2.2 Bill of Quantities

T2.2-01: 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:	Klerksdorp Transnet CTC Depot Boardroom	
On (date)	22 April 2024	Starting time: 10:00am

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

T2.2-02: Evaluation Schedule: Programme

Note to tenderers:

Programme

The Tenderer details the programme for evaluation and attaches it to this schedule. The programme should meet but not limited to the following:

1. Gantt chart/ any other compatible software explaining step by step how work is going to be executed and commissioned
2. Capacity to Meet the deadline
 - Capacity and Resources.
 - Detailed project Plan, Delivery time outlined.

The scoring of the Programme will be as follows:

0	The Tenderer failed to address the question / issue. Has not submitted the required information.
Score 20	The programme is not acceptable as it will not satisfy project objectives or requirements. The tenderer has misunderstood the scope of work and does not deal with the critical aspects of the overall programme.
Score 40	The programme is generic, not practical and unrealistic, therefore is unlikely to satisfy project objectives or <i>Employer's</i> requirements. The tenderer has misunderstood certain aspects of the scope of the works and does not deal with the critical aspects of the project.
Score 60	<ul style="list-style-type: none">▪ The Programme addresses certain specific project objectives but does not adequately deal with all critical characteristics of the project.
Score 80	<ul style="list-style-type: none">▪ The programme addresses specific project objectives;▪ The programme is transparent in the demonstration of its basis; and▪ The programme contains logic that is horizontally and vertically traceable.
Score 100	Besides meeting the above "80" rating, the important issues are approached in an innovative and efficient way.

T2.2-03: Evaluation Schedule: Previous Experience

Note to tenderers:

Tenderers are required to demonstrate performance in comparable projects of similar size and nature by supplying the following:

- Bidders should provide similar work done previously related to traction Substation, including cabling work, indoor DC equipment's and have contactable references
- A list of past / current comparable projects.
- Sufficient references to substantiate experience indicated (Client name and contact details, project description, duration and contract value)

Score	Previous Experience
0	The Tenderer failed to address the question / issue. Has not submitted the required information.
20	The Tenderer's previous experience presented has no relevance to the scope of this project and did not address any of the required categories. Tenderers generally have experience in one (1) project relating to the scope of works. The tenderer has limited or poor evidence of previous experience.
40	The Tenderer's previous experience presented has some relevance to the project but lacks detail i.e. Description of previous projects, value and references. Tenderers generally have experience in three (3) projects relating to scope of <i>works</i> . The tenderer lacks convincing evidence of knowledge of previous experience, specific to the <i>works</i> .
60	The Tenderer's previous experience presented demonstrates sufficient knowledge and experience to successfully execute this project scope. Tenderers generally have experience in four (4) projects relating to the scope of works. The tenderer has reasonable and relevant previous experience to the particular requirements of the <i>works</i> .
80	The Tenderer's previous experience presented demonstrates a real understanding and substantial evidence of the ability meet the stated project requirements. Tenderers generally have experience in five (5) projects relating to the scope of works. The tenderer has extensive previous experience in relation to the <i>works</i> .
100	The Tenderer's previous experience presented demonstrates real confidence extensive understanding in all of the categories as required. Tenderers generally have experience in more than five (5) projects relating to the scope of works. The tenderer has comprehensive previous experience in projects of a similar nature.

T2.2-04: Evaluation Schedule - Management & CV's of Key Personnel

The tender must be able to demonstrate that the project personnel have sufficient knowledge, experience and qualifications to provide the required services and submit the following documents as a minimum with the tender:

1. The bidder must prove that he/she has the resources to successfully complete the project in time. Required: Testing equipment with calibration certificate, qualified personnel, material, machinery and other relevant resources.
2. The experience of assigned key persons in relation to the scope of work will be evaluated from three different points of view, namely:
 - i. Relevant experience – total number of Traction substations previously worked on
 - ii. The education, training and skills of the assigned staff in the specific sector, field, subject, etc. which is directly linked to the Scope of Works. Proof of education and training must be attached to the C.V.
3. Comprehensive CV's should be attached to this schedule:

As a minimum each CV should address the following, but not limited to;

- i. Personal particulars
 - a. Name
 - b. Place (s) of tertiary education and dates associated therewith
 - c. Professional awards
- ii. Qualifications (degrees, diplomas, grades of membership of professional societies and professional registrations)
- iii. Name of current employer and position in enterprise
- iv. Overview of post graduate experience (year, organization and position)
- v. Outline of recent assignments / experience that has a bearing on the Scope of Works

List of Key Persons assigned to the above disciplines

No.	Key Persons	Name and Surname	CV attached (Yes/No)
1	Project Manager		
2	Site Technical Supervisors		
3	Health and Safety Officer		
4			
5			

The scoring of the Management & CV's of Key Persons will be as follows:

Score 0	Failed to provide information No response.
Score 20	Key staffs do not have suitable levels of relevant experience and qualifications or equivalent specialised training. Inadequate organisation chart. No clear indication of roles and responsibilities and specific function of each team member
Score 40	Key staff has limited recommended levels of relevant experience and qualifications. Key staff has 1 to 3 years' experience. Inadequate indication of roles and responsibilities and specific function of each team member on the organogram.
Score 60	Key staff have acceptable levels of relevant experience and qualifications. Key staff has more than 3 years but up to 5 years' experience. Organisation chart showing reasonable indication of roles and responsibilities and specific function of each team member.
Score 80	Key staff have acceptable levels of relevant experience and qualifications. Keys staff has more than 5 years but up to 7 years' experience. Organisation chart showing adequate indication of roles and responsibilities and specific function of each team member.
Score 100	All Key staff have acceptable levels of relevant experience and qualifications with more than 7 years' experience. Organisation chart showing more than adequate indication of roles and responsibilities and specific function of each team member.

Index of documentation attached to this schedule:

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T2.2-05: Evaluation Schedule: Health and Safety Management

The tenderer must submit the following documents as a minimum with the tender submission:

1. Contract specific Health & Safety Evaluation schedule including the following:
 - Roles and responsibilities of legal appointees in terms of OHSA 85 of 1993 and its Regulations.
 - i. S16.1 CEO,
 - ii. S16.2 Assistant to CEO,
 - iii. CR8.1 Construction manager,
 - iv. CR8.2 Assistant Construction manager,
 - v. CR8.5 Construction Health & Safety officer,
 - vi. CR8.7 Construction Supervisor,
 - vii. CR8.8 Construction assistant supervisor,
 - viii. CR9.1 Risk Assessor
 - ix. Construction Health & Safety Manager
 - Roles and responsibilities of legal appointees in terms of Project and Construction Management Professional Act 48 of 2000
 - x. Project Managers
 - xi. Site Technical Supervisors
2. Valid Letter/s of Good Standing with the Workmen's compensation fund (Letters of Good Standing from all members of a newly formed JV).
3. Safety, Health & Environmental Company Policy signed by the accounting officer. Indicating as minimum the following five elements -
 - i. Commitment to Safety, prevention of pollution,
 - ii. Continual improvement,
 - iii. Compliance to legal requirements, appropriate to the nature of contractor's activities,
 - iv. Hold management accountable for development of the safety systems
 - v. Include objectives and targets.

Overview of Tenderer's SHE system for project

4. Overview of the tenderer's Risk Assessment methodology, and submission of risk assessments indicating major activities of the works and how the risks will be addressed and mitigated.
5. Synopsis of Health & Safety incidents, description, type and action taken to prevent re-occurrence and submission of completed cost breakdown sheet within the last five years.



The scoring of the Tender's Health and Safety criteria is as follows:

	<p>Policy (State points allocated) 1. Commitment to Safety, prevention of pollution, 2. Continual improvement, 3. Compliance to legal requirements, appropriate to the nature of contractor's activities, 4. Hold management accountable for development of the safety systems, 5. Include objectives and targets.</p>	<p>Roles & Responsibilities , such as S16.1 CEO, S16.2 Assistant CEO, 8.1 Construction manager, 8.2 Assistant Construction manager, 8.5 Safety officer CV and proof registration with SACPCMP, 8.7 Construction Supervisor, 8.8 Construction assistant supervisor, 9.1 Risk Assessor, etc. as per the Occupational health and safety Act 85 of 1993</p>	<p>List of job categories for project and competencies required per category and develop a training Matrix for all employees who will be working on the project. This matrix must include Management and highlight training planned dates.</p>	<p>Overview of the tenderer's Risk Assessment methodology, and submission of risk assessments indicating major activities of the project namely, but not limited to: Construction of substation equipment, civil works, equipment installation in the Buildings and roads; Storm water drainage systems; and; security fencing etc.</p>	<p>Five years' synopsis of SHE incidents, description, type and action taken to prevent re-occurrence. Submission of completed cost breakdown sheet.</p>	<p>Complete and return with tender documentation the Contractor Safety Questionnaire with required supporting documentation included as an Annexure.</p>
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Points	1	2	1	2	2	2
(score 0)	The Tenderer has submitted no information or inadequate information to determine a score.					
(score 20)	1 of the 5 key policy components are recognized and meet the <i>Employer's</i> requirement.	Roles and responsibilities do not meet the Occupational health and safety Act as per construction regulations and Transnet health and safety specification.	Key responsible persons are not included on training matrix as per proposed organogram structure.	Information supplied is totally insignificant/inadequate to achieve the required standard of service.	Information supplied is totally insignificant/inadequate to achieve the required standard of service.	Information supplied is totally insignificant/inadequate to achieve the required standard of service.
(score 40)	2 of the 5 key policy components are recognized and meet the <i>Employer's</i> requirement.	Roles and responsibilities are unlikely to ensure compliance as per the Works information and not in line with OHS Act and Transnet health and safety specification.	Not all key responsible persons are included in the training matrix. Trainings matrix submitted does not cover all SHE training listed on Health and Safety specification. Training matrix not signed by responsible personnel.	Poor response/answer/solution lacks convincing evidence, medium risk that stated <i>employer's</i> requirements will not be met.	Poor response/answer/solution lacks convincing evidence, medium risk that stated <i>Employer's</i> requirements will not be met.	Poor response/answer/solution lacks convincing evidence, medium risk that stated <i>Employer's</i> requirements will not be met.



(score 60)	3 of the 5 key policy components are recognized and meet the <i>Employer's</i> requirements.	Satisfactory response on roles and responsibilities as per <i>Employer's</i> requirements.	Satisfactory response on the list of job categories and trainings as per proposed project organogram structure. Training matrix covers most of the trainings listed on Transnet Health and safety specification.	Satisfactory response/answer/solution to the particular aspect of the requirement, evidence given that the stated <i>Employer's</i> requirements will be met.	Satisfactory response/answer/solution to the particular aspect of the requirement, evidence given that the stated <i>Employer's</i> requirements will be met.	Satisfactory response/answer/solution to the particular aspect of the requirement, evidence given that the stated <i>Employer's</i> requirements will be met.
(score 80)	4 of the five key policy components are recognized and meets the <i>Employer's</i> requirements.	Roles and responsibilities are likely to ensure compliance as per Works Information, OHS Act and Transnet health and safety specification.	Most of key persons listed on the training matrix as per proposed project organogram structure. Trainings specified on the matrix are in line with Transnet health and safety specification.	Good response/answer/solution which demonstrates real understanding and evidence of ability to meet stated <i>Employer's</i> requirements.	Good response/answer/solution which demonstrates real understanding and evidence of ability to meet stated <i>Employer's</i> requirements.	Good response/answer/solution which demonstrates real understanding and evidence of ability to meet stated <i>Employer's</i> requirements.



(score 100)	All 5 key policy components are recognized and meets the <i>Employer's</i> requirements	Roles and Responsibilities most likely to ensure compliance as per requirements of OHS Act and Transnet Health and Safety Management Specification and CV and proof of professional registration with SACPCMP submitted.	Training matrix include Management and all employees /personnel in the project. Training matrix had been signed by responsible personnel.	Very good response/answer/solution gives real confidence that the tenderer is most likely to ensure compliance with stated <i>Employer's</i> requirements.	Very good response/answer/solution gives real confidence that the tenderer is most likely to ensure compliance with stated <i>Employer's</i> requirements.	Very good response/answer/solution gives real confidence that the tenderer is most likely to ensure compliance with stated <i>Employer's</i> requirements.
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Attached submissions to this schedule:

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T2.2-05: Health and Safety Questionnaire

Health, Safety Questionnaire

1. SAFE WORK PERFORMANCE			
1A. Injury Experience / Historical Performance - Alberta			
Use the previous three years injury and illness records to complete the following:			
Year			
Number of medical treatment cases			
Number of restricted work day cases			
Number of lost time injury cases			
Number of fatal injuries			
Total recordable frequency			
Lost time injury frequency			
Number of worker manhours			
1 - Medical Treatment Case	Any occupational injury or illness requiring treatment provided by a physician or treatment provided under the direction of a physician		
2 - Restricted Work Day Case	Any occupational injury or illness that prevents a worker from performing any of his/her craft jurisdiction duties		
3 - Lost Time injury Cases	Any occupational injury that prevents the worker from performing any work for at least one day		
4 - Total Recordable Frequency	Total number of Medical Treatment, Restricted Work and Lost Time Injury cases multiplied by 200,000 then divided by total manhours		
5- Lost Time Injury Frequency	Total number of Lost Time Injury cases multiplied by 200,000 then divide by total manhours		
1B. Workers' Compensation Experience			
Use the previous three years injury and illness records to complete the following (if applicable):			
Industry Code:		Industry Classification:	
Year			
Industry Rate			
Contractor Rate			
% Discount or Surcharge			
Is your Workers' Compensation account in good standing? (Please provide letter of confirmation)		<input type="checkbox"/> Yes <input type="checkbox"/> No	
2. CITATIONS			
2A.	Has your company been cited, charged or prosecuted under Health, Safety and/or Environmental Legislation in the last 5 years? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, provide details:		
2B.	Has your company been cited, charged or prosecuted under the above Legislation in another Country, Region or State? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, provide details:		



3. CERTIFICATE OF RECOGNITION

Does your company have a Certificate of Recognition?
 Yes No If Yes, what is the Certificate No. _____ Issue Date _____

4. SAFETY PROGRAM

Do you have a written safety program manual? Yes No
If Yes, provide a copy for review

Do you have a pocket safety booklet for field distribution? Yes No
If Yes, provide a copy for review

Does your safety program contain the following elements:

	YES	NO		YES	NO
CORPORATE SAFETY POLICY	<input type="checkbox"/>	<input type="checkbox"/>	EQUIPMENT MAINTENANCE	<input type="checkbox"/>	<input type="checkbox"/>
INCIDENT NOTIFICATION POLICY	<input type="checkbox"/>	<input type="checkbox"/>	EMERGENCY RESPONSE	<input type="checkbox"/>	<input type="checkbox"/>
RECORDKEEPING & STATISTICS	<input type="checkbox"/>	<input type="checkbox"/>	HAZARD ASSESSMENT	<input type="checkbox"/>	<input type="checkbox"/>
REFERENCE TO LEGISLATION	<input type="checkbox"/>	<input type="checkbox"/>	SAFE WORK PRACTICES	<input type="checkbox"/>	<input type="checkbox"/>
GENERAL RULES & REGULATIONS	<input type="checkbox"/>	<input type="checkbox"/>	SAFE WORK PROCEDURES	<input type="checkbox"/>	<input type="checkbox"/>
PROGRESSIVE DISCIPLINE POLICY	<input type="checkbox"/>	<input type="checkbox"/>	WORKPLACE INSPECTIONS	<input type="checkbox"/>	<input type="checkbox"/>
RESPONSIBILITIES	<input type="checkbox"/>	<input type="checkbox"/>	INVESTIGATION PROCESS	<input type="checkbox"/>	<input type="checkbox"/>
PPE STANDARDS	<input type="checkbox"/>	<input type="checkbox"/>	TRAINING POLICY & PROGRAM	<input type="checkbox"/>	<input type="checkbox"/>
ENVIRONMENTAL STANDARDS	<input type="checkbox"/>	<input type="checkbox"/>	COMMUNICATION PROCESSES	<input type="checkbox"/>	<input type="checkbox"/>
MODIFIED WORK PROGRAM	<input type="checkbox"/>	<input type="checkbox"/>			

5. TRAINING PROGRAM

5A. Do you have an orientation program for new hire employees? Yes No
If Yes, include a course outline. Does it include any of the following:

	YES	NO		YES	NO
GENERAL RULES & REGULATIONS	<input type="checkbox"/>	<input type="checkbox"/>	CONFINED SPACE ENTRY	<input type="checkbox"/>	<input type="checkbox"/>
EMERGENCY REPORTING	<input type="checkbox"/>	<input type="checkbox"/>	TRENCHING & EXCAVATION	<input type="checkbox"/>	<input type="checkbox"/>
INJURY REPORTING	<input type="checkbox"/>	<input type="checkbox"/>	SIGNS & BARRICADES	<input type="checkbox"/>	<input type="checkbox"/>
LEGISLATION	<input type="checkbox"/>	<input type="checkbox"/>	DANGEROUS HOLES & OPENINGS	<input type="checkbox"/>	<input type="checkbox"/>
RIGHT TO REFUSE WORK	<input type="checkbox"/>	<input type="checkbox"/>	RIGGING & CRANES	<input type="checkbox"/>	<input type="checkbox"/>
PERSONAL PROTECTIVE EQUIPMENT	<input type="checkbox"/>	<input type="checkbox"/>	MOBILE VEHICLES	<input type="checkbox"/>	<input type="checkbox"/>
EMERGENCY PROCEDURES	<input type="checkbox"/>	<input type="checkbox"/>	PREVENTATIVE MAINTENANCE	<input type="checkbox"/>	<input type="checkbox"/>
PROJECT SAFETY COMMITTEE	<input type="checkbox"/>	<input type="checkbox"/>	HAND & POWER TOOLS	<input type="checkbox"/>	<input type="checkbox"/>
HOUSEKEEPING	<input type="checkbox"/>	<input type="checkbox"/>	FIRE PREVENTION & PROTECTION	<input type="checkbox"/>	<input type="checkbox"/>
LADDERS & SCAFFOLDS	<input type="checkbox"/>	<input type="checkbox"/>	ELECTRICAL SAFETY	<input type="checkbox"/>	<input type="checkbox"/>
FALL ARREST STANDARDS	<input type="checkbox"/>	<input type="checkbox"/>	COMPRESSED GAS CYLINDERS	<input type="checkbox"/>	<input type="checkbox"/>
AERIAL WORK PLATFORMS	<input type="checkbox"/>	<input type="checkbox"/>	WEATHER EXTREMES	<input type="checkbox"/>	<input type="checkbox"/>



5B. Do you have a program for training newly hired or promoted supervisors? Yes No

(If Yes, submit an outline for evaluation. Does it include instruction on the following:

	Yes	No		Yes	No
EMPLOYER RESPONSIBILITIES	<input type="checkbox"/>	<input type="checkbox"/>	SAFETY COMMUNICATION	<input type="checkbox"/>	<input type="checkbox"/>
EMPLOYEE RESPONSIBILITIES	<input type="checkbox"/>	<input type="checkbox"/>	FIRST AID/MEDICAL PROCEDURES	<input type="checkbox"/>	<input type="checkbox"/>
DUE DILIGENCE	<input type="checkbox"/>	<input type="checkbox"/>	NEW WORKER TRAINING	<input type="checkbox"/>	<input type="checkbox"/>
SAFETY LEADERSHIP	<input type="checkbox"/>	<input type="checkbox"/>	ENVIRONMENTAL REQUIREMENTS	<input type="checkbox"/>	<input type="checkbox"/>
WORK REFUSALS	<input type="checkbox"/>	<input type="checkbox"/>	HAZARD ASSESSMENT	<input type="checkbox"/>	<input type="checkbox"/>
INSPECTION PROCESSES	<input type="checkbox"/>	<input type="checkbox"/>	PRE-JOB SAFETY INSTRUCTION	<input type="checkbox"/>	<input type="checkbox"/>
EMERGENCY PROCEDURES	<input type="checkbox"/>	<input type="checkbox"/>	DRUG & ALCOHOL POLICY	<input type="checkbox"/>	<input type="checkbox"/>
INCIDENT INVESTIGATION	<input type="checkbox"/>	<input type="checkbox"/>	PROGRESSIVE DISCIPLINARY POLICY	<input type="checkbox"/>	<input type="checkbox"/>
SAFE WORK PROCEDURES	<input type="checkbox"/>	<input type="checkbox"/>	SAFE WORK PRACTICES	<input type="checkbox"/>	<input type="checkbox"/>
SAFETY MEETINGS	<input type="checkbox"/>	<input type="checkbox"/>	NOTIFICATION REQUIREMENTS	<input type="checkbox"/>	<input type="checkbox"/>

6. SAFETY ACTIVITIES

Do you conduct safety inspections? Yes No Weekly Monthly Quarterly

Describe your safety inspection process (include participation, documentation requirements, follow-up, report distribution).

Who follows up on inspection action items? _____

Do you hold site safety meetings for field employees? If Yes, how often?
 Yes No Daily Weekly Biweekly

Do you hold site meetings where safety is addressed with management and field supervisors?
 Yes No Weekly Biweekly Monthly

Is pre-job safety instruction provided before to each new task? Yes No

Is the process documented? Yes No

Who leads the discussion? _____

Do you have a hazard assessment process? Yes No

- Are hazard assessments documented? If yes, how are hazard assessments communicated and implemented on each project? Who is responsible for leading the hazard assessment process?

Does your company have policies and procedures for environmental protection, spill clean-up, reporting, waste disposal, and recycling as part of the Health & Safety Program?

Yes No

How does your company measure its H&S success?

- Attach separate sheet to explain

7. SAFETY STEWARDSHIP

7A Are incident reports and report summaries sent to the following and how often?

	Yes	No	Monthly	Quarterly	Annually
Project/Site Manager	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Managing Director	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety Director/Manager	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
/Chief Executive Officer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7B How are incident records and summaries kept? How often are they reported internally?

	Yes	No	Monthly	Quarterly	Annually
Incidents totaled for the entire company	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incidents totaled by project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Subtotaled by superintendent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Subtotaled by foreman	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7C How are the costs of individual incidents kept? How often are they reported internally?

	Yes	No	Monthly	Quarterly	Annually
Costs totaled for the entire company	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Costs totaled by project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Subtotaled by superintendent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Subtotaled by foreman/general foreman	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7D Does your company track non-injury incidents?

	Yes	No	Monthly	Quarterly	Annually
Near Miss	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Property Damage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fire	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Security	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8 PERSONNEL

List key health and safety officers planned for this project. Attach resume.

Name	Position/Title	Designation

Supply name, address and phone number of your company's corporate health and safety representative. Does this individual have responsibilities other than health, safety and environment?

Name	Address	Telephone Number

Other responsibilities:

9 REFERENCES

List the last three company's your form has worked for that could verify the quality and management commitment to your occupational Health & Safety program

Name and Company	Address	Phone Number

T2.2-05 Health and Safety Cost Breakdown

Tenderer (Company)	Responsible Person	Designation	Date
Project/Tender Title	Project/Tender No.	Project Location / Description	

#	Cost element	Unit Cost (R)	# of Units	Total Cost (R)
1.	Human Resources			
2.	Systems Documentation			
3.	Meetings & Administration			
4.	H&S Training			
5.	PPE & Safety Equipment			
6.	Signage & Barricading			
7.	Workplace Facilities			
8.	Emergency & Rescue Measures			
9.	Hygiene Surveys & Monitoring			
10.	Medical Surveillance			
11.	Safe Transport of Workers			
12.	HazMat Management (e.g. asbestos /silica)			
13.	Substance Abuse Testing (3 kits @R500 pm)			
14.	H&S Reward & Recognition			

Total Health and Safety Estimate (R)	
Total Estimate Value (R)	
H&S Cost as % of Tender value	

T2.2-06: 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

T2.2-07: 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		

T2.2-08 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:

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

T2.2-11: Schedule of Proposed Subcontractors

The tenderer is required to provide details of all the sub-contractors that will be utilised in the execution of the *works*.

Tenderer to note that after award, any deviations from this list of proposed sub-contractors will be subject to acceptance by the *Project Manager* in terms of the *Conditions of Contract*.

Provide information of the Sub-contractors below:

Name of Proposed Subcontractor			Address		Nature of work		Amount of Worked	Percentage of work
% Black Owned	EME	QSE	Youth	Women	Disabilities	Rural/ Underdeveloped areas/ Townships	Military Veterans	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Name of Proposed Subcontractor			Address		Nature of work		Amount of Worked	Percentage of work
% Black Owned	EME	QSE	Youth	Women	Disabilities	Rural/ Underdeveloped areas/ Townships	Military Veterans	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Name of Proposed Subcontractor			Address		Nature of work		Amount of Worked	Percentage of work
% Black Owned	EME	QSE	Youth	Women	Disabilities	Rural/ Underdeveloped areas/ Townships	Military Veterans	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



Name of Proposed Subcontractor			Address		Nature of work		Amount of Worked	Percentage of work
% Black Owned	EME	QSE	Youth	Women	Disabilities	Rural/ Underdeveloped areas/ Townships	Military Veterans	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

T2.2-13: 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 **annual 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:

<u>DESCRIPTION</u>	<u>POINTS</u>
PRICE	80
B-BBEE Level of contributor (1 or 2)	5
Entities that are at least 51% Black Owned	5
Entities that are 30% Black Woman Owned	5
Entities that are at least 50% Black Youth Owned	5
Non-Compliant and/or B-BBEE Level 3-8 contributors	0
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 80/20 PREFERENCE POINT SYSTEMS

A maximum of 80 points is allocated for price on the following basis:
80/20

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

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	B-BBEE Certificate / Sworn-Affidavit B-BBEE Certificate (in case of JV, a consolidate scorecard will be accept) as per DTIC guidelines
Entities that are 51 % Black Owned	B-BBEE Certificate / Sworn-Affidavit B-BBEE Certificate (in case of JV, a consolidate scorecard will be accept) as per DTIC guidelines
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
+50% Black Youth Owned Entities	Certified copy of ID Documents of the Owners and 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"/>
-----	--------------------------	----	--------------------------



- Other 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.

<p>WITNESSES</p> <p>1.</p> <p>2.</p>
--

<p>.....</p> <p>SIGNATURE(S) OF BIDDERS(S)</p> <p>DATE:</p>

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 interest¹ 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**

¹ the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise.

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 consortium² 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

² 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.

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

T2.2-14 NON-DISCLOSURE AGREEMENT

[..... 20.....]

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

T2.2-15: 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 T2.2-19 "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.

T2.2-16: 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

T2.2-17 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

T2.2-18 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

T2.2-19 : 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

T2.2-20 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) 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 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	
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NO	
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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/infocreg/>, 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: _____

XXXXX (Pty) Ltd

(Operator)

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

AS WITNESSES:

1. Name: _____ Signature: _____

2. Name: _____ Signature: _____

T2.2-21: Insurance provided by the *Contractor*

Clause 84.1 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 84.2 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.			

T2.2-22: Three (3) years audited financial statements

Attached to this schedule is the last three (3) years audited financial statements of the single tenderer/members of the Joint Venture.

NAME OF COMPANY/IES and INDEX OF ATTACHMENTS:

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T2.2-23 SUPPLIER DECLARATION FORM

Transnet Vendor Management has received a request to load / change your company details onto the Transnet vendor master database. Please return the completed Supplier Declaration Form (SDF) together with the required supporting documents as per Appendix A to the Transnet Official who is intending to procure your company's services / products, to enable us to process this request. Please only submit the documentation relevant to your request.

Please Note: all organisations, institutions and individuals who wish to provide goods and/or services to organs of the State must be registered on the National Treasury's Central Supplier Database (CSD). This needs to be done via their portal at <https://secure.csd.gov.za/> **before applying to Transnet.**

General Terms and Conditions:

Please Note: Failure to submit the relevant documentation will delay the vendor creation / change process.

Where applicable, the respective Transnet Operating Division processing your application may request further or additional information from your company.

The Service Provider warrants that the details of its bank account ("the nominated account") provided herein, are correct and acknowledges that payments due to the Supplier will be made into the nominated account. If details of the nominated account should change, the Service Provider must notify Transnet in writing of such change, failing which any payments made by Transnet into the nominated account will constitute a full discharge of the indebtedness of Transnet to the Supplier in respect of the payment so made. Transnet will incur no liability for any payments made to the incorrect account or any costs associated therewith. In such an event, the Service Provider indemnifies and holds Transnet harmless in respect of any payments made to an incorrect bank account and will, on demand, pay Transnet any costs associated herewith.

Transnet expects its suppliers to timeously renew their Tax Clearance and B-BBEE certificates (Large Enterprises and QSEs less than 51% black owned) as well as sworn affidavits in the case of EMEs and QSEs with more than 51% black ownership as per Appendices C and D.

In addition, please take note of the following very important information:

1. If your annual turnover is R10 million or less, then in terms of the DTI Generic Codes of Good Practice, you are classified as an Exempted Micro Enterprise (EME). If your company is classified as an EME, please include in your submission a sworn affidavit confirming your company's most recent annual turnover is less than R10 million and percentage of black ownership and black female ownership in the company (Appendix C) OR B-BBEE certificate issued by a verification agency accredited by SANAS in terms of the EME scorecard should you feel you will be able to attain a better B-BBEE score. It is only in this context that an EME may submit a B-BBEE verification certificate. These EME sworn affidavits must be accepted by the . Government introduced this mechanism specifically to reduce the cost of doing business and regulatory burden for these entities and the template for the sworn affidavit is available at no cost on the website www.thedti.gov.za or EME certificates at CIPC from www.cipic.co.za.

The B-BBEE Commission said "that only time an EME can be verified by a SANAS accredited verification professional is when it wishes to maximise its B-BBEE points and move to a higher B-BBEE recognition level, and that must be done use the QSE Scorecard".

2. If your annual turnover is between R10 million and R50 million, then in terms of the DTI codes, you are classified as a Qualifying Small Enterprise (QSE). A QSE which is at least 51% black owned, is required to submit a sworn affidavit confirming their annual total revenue of between R10 million and R50 million and level of black ownership (Appendix D). QSE that does not qualify for 51% of black ownership, are required to submit a B-BBEE verification certificate issued by a verification agency accredited by SANAS their QSEs are required to submit a B-BBEE verification certificate issued by a verification agency accredited by SANAS.

Please Note: B-BBEE certificate and detailed scorecard should be obtained from an accredited rating agency (e.g. SANAS Member).

3. If your annual turnover exceeds R50 million, then in terms of the DTI codes, you are classified as a Large Enterprise. Large Enterprises are required to submit a B-BBEE level verification certificate issued by a verification agency accredited by SANAS.

Please Note: B-BBEE certificate and detailed scorecard should be obtained from an accredited rating agency (e.g. SANAS Member).

4. The supplier to furnish proof to the procurement department as required in the Fourth Schedule of the Income Tax Act. 58 of 1962 whether a supplier of service is to be classified as an "employee", "personal service provider" or "labour broker". Failure to do so will result in the supplier being subject to employee's tax.

5. **No payments can be made to a vendor until the** vendor has been registered / updated, and no vendor can be registered / updated until the vendor application form, together with its supporting documentation, has been received and processed. No payments can be made to a vendor until the vendor has met / comply with the procurement requirements.

6. It is in line with PPPFA Regulations, only valid B-BBEE status level certificate issued by an unauthorised body or person OR a sworn affidavit as prescribed by the B-BBEE Codes of Good Practice, OR any other requirement prescribed in terms of the Broad- Based Black Economic Empowerment Act.

7. The B-BBEE Commission advises entities and organs of state to reject B-BBEE certificates that have been issues by verification agencies or professionals who are not accredited by South African National Accreditation Systems ("SANAS) as such B-BBEE certificates are invalid for lack of authority and mandate to issue them. A list of SANAS Accredited agencies is available on the SANAS website at www.sanas.co.za.

8. Presenting banking details. Please note: Banks have decided to enable the customers and provide the ability for customers to generate Account Confirmation/Bank Account letters via their online platform; this is a digital approach to the authentication of banking details.

SUPPLIER DECLARATION FORM

Supplier Declaration Form

Important Notice: all organisations, institutions and individuals who wish to provide goods and/or services to organs of the State must be registered on the National Treasury Central Supplier Database (CSD). This needs to be done via their portal at <https://secure.csd.gov.za/> **before applying to Transnet.**

CSD Number (MAAA xxxxxxx):

Company Trading Name						
Company Registered Name						
Company Registration No Or ID No If a Sole Proprietor						
Company Income Tax Number						
Form of Entity	CC	Trust	Pty Ltd	Limited	Partnership	Sole Proprietor
	Non-profit (NPO's or NPC)	Personal Liability Co	State Owned Co	National Govt	Provincial Govt	Local Govt
	Education al Institution	Specialise d Profession	Financial Institution	Joint Venture	Foreign International	Foreign Branch Office

Did your company previously operate under another name?						Yes	No
If YES state the previous details below:							
Trading Name							
Registered Name							
Company Registration No Or ID No If a Sole Proprietor							
Form of Entity	CC	Trust	Pty Ltd	Limited	Partnership	Sole Proprietor	
	Non-profit (NPO's or NPC)	Personal Liability Co	State Owned Co	National Govt	Provincial Govt	Local Govt	
	Education al Institution	Specialise d Profession	Financial Institution	Joint Venture	Foreign International	Foreign Branch Office	

Your Current Company's VAT Registration Status	
VAT Registration Number	
If Exempted from VAT registration , state reason and	



submit proof from SARS in confirming the exemption status	
If your business entity is not VAT Registered, please submit a current original sworn affidavit (see example in Appendix I). Your Non VAT Registration must be confirmed annually.	

Company Banking Details	Bank Name	
Universal Branch Code	Bank Account Number	

Company Physical Address		Code	
Company Postal Address		Code	
Company Telephone number			
Company Fax Number			
Company E-Mail Address			
Company Website Address			

Company Contact Person Name	
Designation	
Telephone	
Email	

Is your company a Labour Broker?	Yes		No	
Main Product / Service Supplied e.g. Stationery / Consulting / Labour etc.				
How many personnel does the business employ?	Full Time		Part Time	
Please Note: Should your business employ more than 2 full time employees who are not connected persons as defined in the Income Tax Act, please submit a sworn affidavit, as per Appendix II.				

Most recent Financial Year's Annual Turnover	<R10Million EME	>R10Million <R50Million QSE	>R50Million Large Enterprise
--	---------------------------	--	--

Does your company have a valid proof of B-BBEE status?										Yes		No	
Please indicate your Broad Based BEE status (Level 1 to 9)					1	2	3	4	5	6	7	8	9
Majority Race of Ownership													
% Black Ownership		% Black Women Ownership		% Black Disabled person(s) Ownership		% Black Youth Ownership							



% Black Unemployed		% Black People Living in Rural Areas		% Black Military Veterans			
<p>Please Note: Please provide proof of B-BBEE status as per Appendix C and D:</p> <ul style="list-style-type: none"> • Large Enterprise and QSEs with less than 51% black ownership need to obtain a B-BBEE certificate and detailed scorecard from an accredited rating agency; • EMEs and QSEs with at least 51% black ownership may provide an affidavit using the templates provided in Appendix C and D respectively; • Black Disabled person(s) ownership will only be accepted if accompanied with a certified letter signed by a physician on the physician's letterhead confirming the disability; • A certified South African identification document will be required for all Black Youth Ownership. 							

Supplier Development Information Required	
EMPOWERING SUPPLIER	YES <input type="radio"/> NO <input type="radio"/>
<p>An Empowering Supplier is a B-BBEE compliant Entity which complies with at least three criteria if it is a large Entity, or one criterion if it is a Qualifying Small Enterprise ("QSE"), as detailed in Statement 400 of the New Codes.</p> <p>In terms of the requirements of an Empowering Supplier, numerous companies found it challenging to meet the target of 25% transformation of raw materials or beneficiation including local manufacturing, particularly so, if these companies imported goods or products from offshore. The matter was further compounded by the requirement for 25% of Cost of Sales, excluding labour cost and depreciation, to be procured from local producers or suppliers.</p>	
FIRST TIME SUPPLIER	YES <input type="radio"/> NO <input type="radio"/>
<p>A supplier that we haven't as yet Traded within Transnet and will be registered via our database for the 1st time.</p>	
SUPPLIER DEVELOPMENT PLAN	YES <input type="radio"/> NO <input type="radio"/>
<p>Supplier Development Plan is a plan that when we as Transnet award a supplier a long term contract depending on the complexity of the Transaction. We will negotiate supplier development obligations that they must meet throughout the contract duration. e.g. we might request that they (create jobs or do skills development or encourage procurement from designated groups. (BWO, BYO & BDO etc.).</p>	
DEVELOPMENT PLAN DOCUMENT	YES <input type="radio"/> NO <input type="radio"/>



Agreed plan that will be crafted with the supplier in regards to their development (It could be for ED OR SD in terms of their developmental needs they may require with the company).	*If Yes- Attach supporting documents
ENTERPRISE DEVELOPMENT BENEFICIARY A supplier that is not as yet in our value chain that we are assisting in their developmental area.	YES <input type="radio"/> NO <input type="radio"/>
SUPPLIER DEVELOPMENT BENEFICIARY A supplier that we are already doing business with or transacting with and we are also assisting them in their developmental area e.g. (They might require training or financial assistance etc.)	YES <input type="radio"/> NO <input type="radio"/>
GRADUATION FROM ED TO SD BENEFICIARY When a supplier that we assisted with as an ED beneficiary then gets awarded a business and we start Transacting with.	YES <input type="radio"/> NO <input type="radio"/>
ENTERPRISE DEVELOPMENT RECIPIENT A supplier that isn't in our value chain as yet but we have assisted them with an ED intervention	YES <input type="radio"/> NO <input type="radio"/>

By signing below, I hereby verify that I am duly authorised to sign for and on behalf of firm / organisation and that all information contained herein and attached herewith are true and correct			
Name and Surname		Designation	
Signature		Date	

APPENDIX B

Affidavit or Solemn Declaration as to VAT registration status

Affidavit or Solemn Declaration

I, _____ solemnly swear/declare
that _____ is not a registered VAT
vendor and is not required to register as a VAT vendor because the combined value of taxable supplies
made by the provider in any 12 month period has not exceeded or is not expected to exceed R1million
threshold, as required in terms of the Value Added Tax Act.

Signature: _____

Designation: _____

Date: _____

Commissioner of Oaths

Thus signed and sworn to before me at _____ on this the _____
day of _____ 20_____,

the Deponent having knowledge that he/she knows and understands the contents of this Affidavit,
and that he/she has no objection to taking the prescribed oath, which he/she regards binding on
his/her conscience and that the allegations herein contained are all true and correct.

Commissioner of Oaths

APPENDIX C

SWORN AFFIDAVIT – B-BBEE QUALIFYING SMALL ENTERPRISE – GENERAL

I, the undersigned,

Full name & Surname	
Identity number	

Hereby declare under oath as follows:

1. The contents of this statement are to the best of my knowledge a true reflection of the facts.
2. I am a Member / Director / Owner of the following enterprise and am duly authorised to act on its behalf:

Enterprise Name:	
Trading Name (If Applicable):	
Registration Number:	
Enterprise Physical Address:	
Type of Entity (CC, (Pty) Ltd, Sole Prop etc.):	
Nature of Business:	
Definition of "Black People"	<p>As per the Broad-Based Black Economic Empowerment Act 53 of 2003 as Amended by Act No 46 of 2013 "Black People" is a generic term which means Africans, Coloureds and Indians –</p> <p>(a) who are citizens of the Republic of South Africa by birth or descent; or (b) who became citizens of the Republic of South Africa by naturalisation- i. before 27 April 1994; or ii. on or after 27 April 1994 and who would have been entitled to acquire citizenship by naturalization prior to that date;"</p>



<p>Definition of “Black Designated Groups”</p>	<p>Black Designated Groups means:</p> <ul style="list-style-type: none"> (a) unemployed black people not attending and not required by law to attend an educational institution and not awaiting admission to an educational institution; (b) Black people who are youth as defined in the National Youth Commission Act of 1996; (c) Black people who are persons with disabilities as defined in the Code of Good Practice on employment of people with disabilities issued under the Employment Equity Act; (d) Black people living in rural and under developed areas; (e) Black military veterans who qualifies to be called a military veteran in terms of the Military Veterans Act 18 of 2011;”
---	--

3. I hereby declare under Oath that:

- The Enterprise is _____% Black Owned as per Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as Amended by Act No 46 of 2013,
- The Enterprise is _____% Black Female Owned as per Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as Amended by Act No 46 of 2013,
- The Enterprise is _____% Black Designated Group Owned as per Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as Amended by Act No 46 of 2013,

- Black Designated Group Owned % Breakdown as per the definition stated above:
- Black Youth % = _____%
- Black Disabled % = _____%
- Black Unemployed % = _____%
- Black People living in Rural areas % = _____%
- Black Military Veterans % = _____%



• Based on the Financial Statements/Management Accounts and other information available on the latest financial year-end of _____, the annual Total Revenue was between R10,000,000.00 (Ten Million Rands) and R50,000,000.00 (Fifty Million Rands),

- Please confirm on the table below the B-BBEE level contributor, **by ticking the applicable box.**

100% Black Owned	Level One (135% B-BBEE procurement recognition level)	
At Least 51% black owned	Level Two (125% B-BBEE procurement recognition level)	

4. I know and understand the contents of this affidavit and I have no objection to take the prescribed oath and consider the oath binding on my conscience and on the owners of the enterprise which I represent in this matter.

5. The sworn affidavit will be valid for a period of 12 months from the date signed by commissioner.

Deponent Signature

.....

Date

.....

Commissioner of Oaths

Signature & stamp

APPENDIX D

SWORN AFFIDAVIT – B-BBEE EXEMPTED MICRO ENTERPRISE – GENERAL

I, the undersigned,

Full name & Surname	
Identity number	

Hereby declare under oath as follows:

1. The contents of this statement are to the best of my knowledge a true reflection of the facts.
2. I am a Member / Director / Owner of the following enterprise and am duly authorised to act on its behalf:

Enterprise Name:	
Trading Name (If Applicable):	
Registration Number:	
Enterprise Physical Address:	
Type of Entity (CC, (Pty) Ltd, Sole Prop etc.):	
Nature of Business:	

<p>Definition of "Black People"</p>	<p>As per the Broad-Based Black Economic Empowerment Act 53 of 2003 as Amended by Act No 46 of 2013 "Black People" is a generic term which means Africans, Coloureds and Indians –</p> <p>(a) who are citizens of the Republic of South Africa by birth or descent;</p> <p>or</p> <p>(b) who became citizens of the Republic of South Africa by naturalisation-</p> <p>i. before 27 April 1994; or</p> <p>ii. on or after 27 April 1994 and who would have been entitled to acquire citizenship by naturalization prior to that date;"</p>
<p>Definition of "Black Designated Groups"</p>	<p>"Black Designated Groups means:</p> <p>(a) unemployed black people not attending and not required by law to attend an educational institution and not awaiting admission to an educational institution;</p> <p>(b) Black people who are youth as defined in the National Youth Commission Act of 1996;</p> <p>(c) Black people who are persons with disabilities as defined in the Code of Good Practice on employment of people with disabilities issued under the Employment Equity Act;</p> <p>(d) Black people living in rural and under developed areas;</p> <p>(e) Black military veterans who qualifies to be called a military veteran in terms of the Military Veterans Act 18 of 2011;"</p>

3. I hereby declare under Oath that:

- The Enterprise is _____% Black Owned as per Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as Amended by Act No 46 of 2013,
- The Enterprise is _____% Black Female Owned as per Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as Amended by Act No 46 of 2013,



- The Enterprise is _____% Black Designated Group Owned as per Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as Amended by Act No 46 of 2013,
- Black Designated Group Owned % Breakdown as per the definition stated above:
 - Black Youth % = _____%
 - Black Disabled % = _____%
 - Black Unemployed % = _____%
 - Black People living in Rural areas % = _____%
 - Black Military Veterans % = _____%
- Based on the Financial Statements/Management Accounts and other information available on the latest financial year-end of _____, the annual Total Revenue was R10,000,000.00 (Ten Million Rands) or less
- Please Confirm on the below table the B-BBEE Level Contributor, **by ticking the applicable box.**

100% Black Owned	Level One (135% B-BBEE procurement recognition)	
At least 51% Black Owned	Level Two (125% B-BBEE procurement recognition level)	
Less than 51% Black Owned	Level Four (100% B-BBEE procurement recognition level)	

4. I know and understand the contents of this affidavit and I have no objection to take the prescribed oath and consider the oath binding on my conscience and on the Owners of the Enterprise which I represent in this matter.

5. The sworn affidavit will be valid for a period of 12 months from the date signed by commissioner.

Deponent Signature

.....

Date

.....

Commissioner of Oaths

Signature & stamp

VENDOR REGISTRATION DOCUMENTS CHECKLIST

Please note that you will have to provide the first two documents on the list (highlighted in red) and the rest will be provided by the supplier:

	Yes	No
1. Complete the "Supplier Declaration Form" (SDF) (commissioned). See attachment.		
2. Complete the "Supplier Code of Conduct" (SCC). See attachment.		
3. Copy of cancelled cheque OR letter from the bank verifying banking details (with bank stamp not older than 3 Months & sign by Bank Teller).		
4. Certified (Not Older than 3 Months) copy of Identity document of Shareholders/Directors/Members (where applicable).		
5. Certified copy of certificate of incorporation, CM29 / CM9 (name change).		
6. Certified copy of share Certificates of Shareholders, CK1 / CK2 (if CC).		
7. A letter with the company's letterhead confirming both Physical and Postal address.		
8. Original or certified copy of SARS Tax Clearance certificate and Vat registration certificate.		
9. BBBEE certificate and detailed scorecard from a SANAS Accredited Verification Agency and/or Sworn Certified Affidavit.		
10. Central Supplier Database (CSD) Summary Registration Report.		

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:

Supply, Install, Test and Commission Electrical 3kV DC Traction Substation Equipment's at Swartgrond Substation

The tenderer, identified in the Offer signature block, has examined the documents listed in the Tender Data and addenda thereto as listed in the Returnable Schedules, and by submitting this Offer has accepted the Conditions of Tender.

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).



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		
4		

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 and secondary Options	W1: Dispute resolution procedure
		X2 Changes in the law
		X7: Delay damages
		X13: Performance Bond
		X18: Limitation of liability
		Z: <i>Additional conditions of contract</i>
	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 Freight Rail 01 Station Road Millsite

		Krugersdorp 1739
10.1	The <i>Project Manager</i> is: (Name)	Michael Mbhiza
	Address	01 Station Road Millsite Krugersdorp 1739
	Tel No.	011 950 1281
	e-mail	Michael.Mbhiza@transnet.net
10.1	The <i>Supervisor</i> is: (Name)	Mthunzi Mabuza
	Address	01 Station Road Millsite Krugersdorp 1739
	Tel No.	011 950 1230
	e-mail	Mthunzi.Mabuza@transnet.net
11.2(13)	The <i>works</i> are	Supply, Install, Test and Commission Electrical 3kV DC Traction Substation Equipments.
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 <i>Contractor's</i> 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	31 October 2024
30.1	The <i>access dates</i> are	Part of the Site 1 Swartgrond Substation Date 01 June 2024
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 June 2024
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 <i>works</i>.
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:

The place where weather is to be recorded (on the Site) is:

Swartgrond Substation

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

Swartgrond Substation

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>.
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8	Risks and insurance	
80.1	These are additional <i>Employer's</i> risks	<ul style="list-style-type: none">● Failure and/ or delay supplying spares and effect repairs● Electrocution● Community unrest● Weather conditions

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
<hr/>		
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
<hr/>		
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.
<hr/>		
	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 **The *Contractor* must comply at a minimum with the provisions of the Compensation for**

and in the course of their employment in connection with this contract for any one event is **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, 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 <i>Contractor</i>.
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:	The Chairman of the Association of Arbitrators (Southern Africa)

	If no <i>Adjudicator nominating body</i> is entered, it is:	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
	The person or organisation who will choose an arbitrator	
	- if the Parties cannot agree a choice or	The Chairman of the Association of Arbitrators (Southern Africa)
	- if the arbitration procedure does not state who selects an arbitrator, is	
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	R1000 per day
X13	Performance bond	
X13.1	The amount of the performance bond is	5% of the total of the Prices
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 The deductible of the relevant insurance policy
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 cost of correcting the Defect
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 Total of the Prices
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	5 years after Completion of the whole of the works

Z ***Additional conditions of contract are:***

Z1 **Additional clause relating to Performance Bonds and/or Guarantees**

Z1.1 **The Performance Guarantee under X13 above shall be an irrevocable, on-demand performance guarantee, to be issued exactly in the form of the Pro Forma documents provided for this purpose under C1.3 (Forms of Securities), in favour of the *Employer* by a financial institution reasonably acceptable to the *Employer*.**

Z2 Additional clauses relating to Joint Venture

Z2.1 Insert the additional core clause 27.5

27.5. In the instance that the *Contractor* is a joint venture, the *Contractor* shall provide the *Employer* 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:

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

Z2.2

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*.

Z3 Additional obligations in respect of Termination

Z3.1

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)**

Z3.2 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"
Z3.3	Amend "R1 – R15 or R18" to "R1 – R15, R18, R22 or R23."
Z4	Right Reserved by the Employer to Conduct Vetting through SSA
Z4.1	<p>The <i>Employer</i> reserves the right to conduct vetting through State Security Agency (SSA) for security clearances of any <i>Contractor</i> who has access to National Key Points for the following without limitations:</p> <ol style="list-style-type: none">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.
Z5	Additional Clause Relating to Collusion in the Construction Industry
Z5.1	<p>The contract award is made without prejudice to any rights the <i>Employer</i> may have to take appropriate action later with regard to any declared tender rigging including blacklisting.</p>
Z6	Protection of Personal Information Act

Z6.1

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	
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	
31.1	The programme identified in the Contract Data is	
B	Priced contract with bill of quantities	
11.2(21)	The <i>bill of quantities</i> is in	
11.2(31)	The tendered total of the Prices is	(in figures) (in words), excluding VAT
	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
	Cover Page	1
C2.1	Pricing instructions: Option B	5
C2.2	The <i>bill of quantities</i>	1

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

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*

N/A

2.4. Amplification of or assumptions about measurement items

N/A

PART C2: PRICING DATA

C2.2 The bill of quantities

Item no	Description	Unit	Qty	Rate	Price
Swartgrond 3kv substation repairs					
1	Re-filling of Main Traction Transformer Oil	Litres	13 000		
2	Perform soil rehabilitation (20 m *10 m)	Sum	1		
3	Supply and Install AC primary circuit breaker control panel. They must have all their protection relays and associated cables in accordance with. Transnet Freight rail Specification BBB.2721 ver-10)	Each	1		
4	Supply and install AC/DC distribution panel with all protection relays and associated cables in accordance with Transnet Freight Rail Specification BBB.2721 ver-10	Each	1		
5	Supply and install 3Kv DC Rectifier with its associated control equipment in accordance with Transnet Freight Rail specification BBB 0496	Each	1		
6	Upgrade fencing all around the substation (anti-climb)	Each	1		
7	Supply and install Wave filter equipment with its cables and busbars. It must be in accordance with Transnet Freight Rail specification BBB 3139 for capacitor, and Specification BBB 3162 for inductor coil	Each	1		
8	Re-do all indoor and outdoor earthing	Sum	1		
9	Supply and installation of battery charger	Each	1		
10	Supply and install HT yard stones (22 mm)	Sum	1		
11	Provide 24/7 security for the duration of the project.	Sum	1		
12	Test and Commissioning of all equipment installed	Sum	1		
	Total Price				
	15% VAT				
	Grand Total				

PART C3: SCOPE OF WORK

Document reference	Title	No of page
C3.1	This cover page	1
	<i>Employer's Works Information</i>	22
Total number of pages		23

C3.1 EMPLOYER'S WORKS INFORMATION

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SECTION 1

1 Description of the *works*

1.1 Executive overview

- 1.1.1 The works that the Contractor is to perform involve supply, installation, testing and commissioning of 3KV DC Traction Substation Equipment's at Swartgrond.
- 1.1.2 Implementation requirements should be specific for Swartgrond substation site, as per the scope of required service. However, adherence to the projects technical specification is mandatory.

1.2 *Employer's objectives*

The objective is to reinstate Swartgrond traction substation back onload. Minimise the use of copper by using more aluminium where possible and improve the security features of the substations.

1.3 Interpretation and terminology

The following abbreviations are used in this Works Information:

Abbreviation	Meaning given to the abbreviation
AIA	Authorised Inspection Authority
BBBEE	Broad Based Black Economic Empowerment
CEMP	Construction Environmental Management Plan
CD	Compact Disc
CDR	Contractor Documentation Register
CDS	Contractor Documentation Schedule
CRL	Contractor Review Label
CSHEO	Contractor's Safety, Health and Environmental Officer
CM	Construction Manager
DTI	Department of Trade and Industry
DGN
DWG	Drawings
EDMS
EO	Environmental Officer
HAW	Hazard Assessment Workshop
HAZOP	Hazard and Operability Study
HSSP	Health and Safety Surveillance Plan
INC	Independent Nominated Consultant
IP	Industrial Participation
IR	Industrial Relations
IPP	Industrial Participation Policy
IPO	Industrial Participation Obligation
IPS	Industrial Participation Secretariat
IRCC	Industrial Relations Co-ordinating Committee
JSA	Job Safety Analysis
CIRP	Contractor's Industrial Relations Practitioner
Native	Original electronic file format of documentation
PES	Project Environmental Specifications

PHA	Preliminary Hazard Assessment
PIRM	Project Industrial Relations Manager
PIRPMP	Project Industrial Relations Policy and Management Plan
PLA	Project Labour Agreements
PSIRM	Project Site Industrial Relations Manager
PSPM	Project Safety Program Manager
PSSM	Project Site Safety Manager
ProgEM	Programme Environmental Manager
ProjEM	Project Environmental Manager
QA	Quality Assurance
R&D	Research and Development
SANS	South African National Standards
SASRIA	South African Special Risks Insurance Association
SES	Standard Environmental Specification
SHE	Safety, Health and Environment
SHEC	Safety, Health and Environment Co-ordinator
SIP	Site Induction Programme
SMP	Safety Management Plan
SSRC	Site Safety Review Committee

2 Engineering and the *Contractor's* design

2.1 *Employer's* design

- 2.1.1 The *Employer's* designs are already contained in relevant Transnet specifications.
- 2.1.2 The *Employer* grants the *Contractor* a licence to use the copyright in design data presented to the *Contractor* for the purpose of the *works* (and the *Contractor's* obligation under paragraph 2.2 of the *Employer's Works* Information) ONLY.

2.2 Parts of the *works* which the *Contractor* is to design

- 2.2.1 The *Contractor* is to design the following parts of the *works*:
- Outdoor yard equipment and indoor substation equipment's as specified in relevant Transnet specifications.
- 2.2.2 The *Contractor* is responsible in his design for the overall integration of the design of the *works* with the design of the *Employer*.
- 2.2.3 Unless expressly stated to form part of the design responsibility of the *Employer* as stated under 2.1 *Employer's* design above and whether or not specifically stated to form part of the design responsibility of the *Contractor* under this paragraph 2.2, all residual design responsibility and overall responsibility for the total design solution for the *works* rests with the *Contractor*.

2.3 Procedure for submission and acceptance of *Contractor's* design

- 2.3.1 The *Contractor* must submit all designs to the Project Manager and to TFR Technical Office (JHB) for approval prior to any construction taking place.
- 2.3.2 The *Contractor* undertakes design safety reviews [TCP-HAS-STD-001] with the Project Manager and his representatives.
- 2.3.3 Documentation Submission

In undertaking the 'Works' (including all incidental services required), the Supplier shall conform and adhere to the requirements of the 'Contractor Document Submittal Requirements' Standard included in Annexure 1 (Refer to BBB 2721).

2.4 Review and Acceptance of *Contractor* Documentation

The *Contractor* submits documentation as the 'Works Information' requires to the *Project Manager* for review and acceptance.

In undertaking the 'Works' (including all incidental services required), the Supplier shall conform and adhere to the requirements of the 'Contractor Document Submittal Requirements' Standard included in Annexure 1 (Refer BBB 2721).

2.5 Other requirements of the *Contractor's* design

N/A

2.6 Use of *Contractor's* design

- 2.6.1 The *Contractor* grants the *Employer* a licence to use the copyright in all design data presented to the *Employer* in relation to the *works* for any purpose in connection with the construction, re-construction, refurbishment, repair, maintenance and extension of the *works* with such licence being capable of transfer to any third party without the consent of the *Contractor*.
- 2.6.2 The *Contractor* vests in the *Employer* full title guarantee in the intellectual property and copyright in the design data created in relation to the *works*.

2.7 Design of Equipment

- 2.7.1 The *Contractor* submits his design details of his proposed principal Equipment to the *Project Manager* for his information only:

2.8 Equipment required to be included in the *works*.

- 2.8.1 Various indoor and outdoor traction substation equipment's

2.9 As-built drawings, operating manuals, and maintenance schedules

2.9.1 As Built/ Final Documentation

In undertaking the 'Works' (including all incidental services required), the Supplier shall conform and adhere to the requirements of the 'Contractor Document Submittal Requirements' Standard included in technical specifications.

2.9.2 Installation, Maintenance and Operating Manuals and Data Books

In undertaking the 'Works' (including all incidental services required), the Supplier shall conform and adhere to the requirements of the 'Data Books and Manuals' Standard included in Annexure 10 (Refer BBB 5452) and the 'Contractor Documentation Submittal Requirements' Standard included in Annexure 1 (Refer to BBB 5452).

3 Construction

- A. Strip out the existing indoor electrical equipment and associated cables and busbar. Transport and deliver to the Infrastructure Maintenance Depot in Millsite, Krugersdorp.
- B. Supply, install and commission new indoor electrical equipment in accordance with Transnet specification BBB 5452. The panels shall also cater for:

- DC earth leakage relay in polycarbon box outside the panel
 - Auxiliary isolating short-circuiting switch.
 - Protection relay for main and auxiliary transformers and AC earth leakage protection. The currently approved relay is FP 2005/2T.
 - 5-pin 63A male/female socket outlet for calibration.
 - 220V AC and 110V DC light.
- C. Supply and install one (1) freestanding 110Volt battery charger in accordance with Specification no. BBB 2502 (Version 6)
- D. Install, all equipment in accordance with Transnet specification BBB 5452 version-5 Only equipment approved by Transnet shall be accepted.
- E. All installations shall include the necessary required insulators, bolts and fasteners.
- F. All copper connections to steel (galvanised) shall be tinned or silver coated, and connection grease shall be used.
- G. Nuts and bolts on busbar connections shall be stainless steel.
- H. If necessary, where old equipment is removed, modified or new equipment installed, the rectifier bay fence must be suitably modified to close off the rectifier HT bay. If circumstances require replacement of the existing fence, the Contractor shall supply and install a new HT fencing similar to the existing fence.
- I. Supply cables in accordance with Transnet specification BBC 0198 version 1.
- J. All cabling shall be clearly marked with high quality permanent markers. Sticker marking numbers on cables will not be accepted.
- K. The following cables shall be supplied and installed:
- 110V DC supply cable (16mm² x 2 core) from control panel to all the high-speed circuit breakers.
 - 110V DC cable (16mm² x 2 core) from the battery bank to the panel.
 - Control cable (2.5mm² x 12 core) from control panel to all the high-speed circuit breakers.
 - Control and protection cables to the control panel from the AC disconnects (2.5mm² x 4 core), CT's (4mm² x 4 core), PCB (2.5mm² x 19 core and 2.5mm² x 2 core for heater), transformer (2.5mm² x 4 core)

- Auxiliary transformer (25mm² x 4 core)
- Multi core cable (1.5mm² x 40 core) from control panel to Tele-control.
- Ensure that painting of steel components of electrical equipment is in accordance with Transnet specification CEE.0045-2001/2.
- Ensure that all steelwork is galvanised in accordance with SANS 121.
- Ensure that all concrete work (i.e. casting of plinths and foundations) is in accordance with Transnet specification S420 (1999)
- Patch up walls and floors where the old equipment has been removed.
- On completion of the installation the Contractor shall submit as build drawings and schematic diagrams of all new equipment, indicating interfaces with existing equipment.

OUTDOOR WORK

- Supply and install outdoor equipment in accordance with Transnet specification BBB 2721 ver 10.
- All fasteners (nuts & bolts) shall be secured using flat or bevelled washers as necessary, as well as lock washers.
- All steelworks shall be galvanised in accordance with SANS 121, CEE 0183 and where required, painted in accordance with specification CEE 0045.
- Cables and earthing conductors connected to the equipment installed on steel support structures shall be supported to the structure by means of a cable tray.
- When doing trenching in the substation outdoor yard for laying cables, the ballast stone shall be removed, soil shall be properly compacted back, and the ballast cleaned and placed back neatly.
- Joints in cables and busbars will not be accepted.
- Junction boxes underground, shall not be used.
- All equipment, tools, material, cleaning agents etc. for execution of the work done in the substation outdoor yard shall be provided by the Contractor.

- Upon completion of the work, the Contractor shall submit as-build drawings, diagrams, catalogues and manuals.

OUTDOOR EARTHING

- Conduct and record earth resistivity measurements. Design a suitable earth system for the specific location in accordance with specification no. BBB 3059 and drawing no. BBB 3620.
- Remove the necessary crusher stone before excavation commences.
- Excavate trenches for the interconnecting conductors between structures and the earthing system.
- Supply and install earth spikes, interconnecting conductors, bonding cables and connections between the various structures. This shall include connections to all steel structures, screens, fences and the substation main earth spike/mat.
- All electrical equipment shall be connected as prescribed by Specification no. BBB 3059 (Ver 1), section 8.0 and drawing no. BBB 3620.
- Close up trenches, compact refill material and restore the crusher stone to its original condition.
- The installed earth system at each substation shall be tested for compliance with the requirements of specification BBB 3059. Transnet Freight Rail's representative shall witness tests.

DESIGN OF THE OUTDOOR EARTH SYSTEM

- The successful tenderer shall conduct tests, measuring the average resistivity of the soil condition for every substation outdoor yard. (This survey shall form part of the work scope and costs incurred must be included in the tendered amount per substation).
- Drawing no. BBB 3620 (Ver4) shall be used as a guideline for designing the earthing systems at every substation. The contractor shall submit his design to the Maintenance Manager prior to any physical work commences at the substations.
- Thus, cognisance shall be taken of the earth resistivity at the individual substations, the local conditions, size and configuration of substation yards when designing the earth system.

TRENCHING

- Before any trenching commences, the contractor shall consult with Transnet Freight Rail staff for supervision and approval of the routing of the trenches in the outdoor yard.
- The contractor shall ensure that the crusher stone is not contaminated during excavations.
- The depth of the trenches shall be a minimum of 700mm.
- The design/s of the earthing system at the substation and tendered prices shall allow for and include excavation in soil.
- Should excavation be done in soft or hard rock, such excavation will be paid for at the relevant rates in Appendix 2 of Specification no. CEE.0023-ISS-2012.

Notes: Soft rock will be taken as broken or friable rock which can be removed by pick or mechanical excavator, or paving breaker. Hard rock will be taken as rock which cannot be removed by mechanical excavator and requires drilling and blasting or splitting. This includes reinforced or plain concrete.

- The contractor and Transnet Freight Rail staff shall inspect the trenches before being backfilled.
- Care should be taken not to damage existing cables and services during trenching.
- All materials to be used shall be in accordance with Specification no BBB 3059 Ver 1.

MECHANICAL INTERLOCKING DEVICES

- Supply and install two (2) complete sets of interlocking mechanisms (similar to existing installation) of the key exchange type, which must include the AC disconnects, positive isolator, auxiliary transformer short out links to the HT bay gate in the correct sequence in accordance with the specification BBB 5452 version 5.

EARTHING AND CHEQUER PLATES

- The Contractor shall repair cosmetics earthing in every substation equipment in accordance with the drawing no. CEE-TBD-7
- The crimping lugs of the interconnection cables shall be correspondingly marked with the busbar as shown on drawing no. CEE-TBD-7.

- Only hexagon crimps will be accepted on all crimping lugs.
- Resistance between the DC earth leakage busbar and the substation earth matt shall not be less than 25 Ohms.
- All exposed cable trenches shall be covered with chequer plates resting on a frame 3 mm below the floor level.
- Should any modification or addition to the chequer plates be necessary, it shall have a thickness of 3 mm and shall be earthed to the DC earth leakage system.
- Contractor shall use welded bolts on the chequer plates with crimping lugs of 95 mm² welding cable to connect the chequer plates to the DC earth leakage system.
- The Contractor shall connect all existing checker plates as well as existing equipment (all indoor steelwork) to the DC earth leakage system.

INSTALLATION

- The Contractor shall be responsible for the transport to site, off-loading, handling, storage and security of all material required for the construction/execution of the works. The Contractor shall arrange own security for the duration of the installation until commissioning of the substation.
- All fasteners on steelwork, components and electrical connections (nuts and bolts) shall be secured using flat as well as lock washers.

INTERCONNECTION OF EQUIPMENT

- High conductive silicon grease shall be liberally applied to all the connections.
- 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).
- Conductors between separately mounted outdoor equipment shall incorporate a degree of flexibility to avoid over-stressing of the connections.
- All HT electrical equipment interconnections shall be done using conductors similar to that being used in the existing installation.

WORK TO BE DONE BY TRANSNET.

- Transnet shall have an electrician available for arranging work permits, isolation of electrical equipment, erection of barriers to live electrical equipment and supervision.
- Upon completion of the works and to the satisfaction of Transnet, the required protection tests and commissioning of the equipment shall be performed by Transnet.
- Transnet personnel shall verify the correctness of the wiring to the tele-control equipment in the substation.

INSPECTION AND HANDOVER

- The contractor shall arrange and conduct on site tests. The Transnet Freight Rail supervisor or His designate shall be present to witness such tests.
- The contractor shall issue test certificates for every installation successfully completed, indicating the date of testing, number of rods installed, length earth conductor installed, and test results obtained.
- Transnet Freight Rail shall conduct inspections on completed installations and a defect list shall be completed.
- All defects noted at the inspections mentioned shall be rectified within 14 (fourteen) days from the date of inspection.
- Transnet Freight Rail reserves the right to withdraw the handover certificate should the Contractor fail to correct the defects mentioned, to the satisfaction of the Contract Supervisor.

3.1 Completion, testing, commissioning and correction of Defects

- 3.1.1 The *work* to be completed on or before the Completion Date the Contractor shall have done everything required to provide the Works and in any case before the date stated. The Project Manager cannot certify Completion until all the work listed above has been done and is also free of Defects, which would have, in his opinion, prevented the Employer from using the works and Others from doing their work.
- 3.1.2 The *Contractor* is permitted to carry out the following *works* after Completion: Minor Defects that does not prevent the normal operation of the substation.
- 3.1.3 The *Contractor* ensures that the documentation as described under paragraph 3.8 of the *Works Information* is presented to the *Project Manager* before Completion.
- 3.1.4 The *Contractor* ensures that the *Project Manager* has a full and accurate dossier of As-built documents that represent the state combination of Mechanical, Electrical, General Layout as appropriate status of the completed *works* (to include Plant within the *works*) to present to the *Employer*.
- 3.1.5 The *Contractor* ensures that the *Project Manager* has a full and accurate dossier of state Maintenance and Operating Manuals as appropriate at the earlier of take-over or Completion.
- 3.1.6 Where the *Contractor* has presented state Maintenance and Operating Manuals as appropriate to the *Project Manager* at take-over, the *Contractor* modifies and updates As-built documents as necessary prior to Completion.
- 3.1.7 Access given by the *Employer* for correction of Defects.

4 Plant and Materials Standards and Workmanship

4.1 Investigation, Survey and Site Clearance

- 4.1.1 During the site briefing session, the Contractor is to conduct all necessary investigation regarding the Service.

- 4.1.2 This investigation might not be sufficient, and *Contractor* might want to carry out further investigation of the site before submitting the offer or design. For this, arrangements can be made with the Project Manager for further site visits.

4.2 Building works

- 4.2.1 Where the Association of South African Quantity Surveyors Model Preamble for Trades 1999 are used within the Works Information, the following interpretations and meanings shall apply:
- 4.2.2 In case of any conflict in interpretation, ambiguity or discrepancy between any Model Preamble for Trades 1999 (whether standard or written as a particular project specification) contained in the Works Information and the *conditions of contract*, the *conditions of contract* take precedence within the ECC Contract.
- 4.2.3 In case of any conflict in interpretation, ambiguity or discrepancy between any Model Preamble for Trades 1999 (whether standard or written as a particular project specification) contained in this paragraph 4.2 of C3.1 *Employer's Works Information* and specific statements contained elsewhere in C3.1 *Employer's Works Information*, the specific statements contained elsewhere shall prevail, without prejudice to the *Project Manager's* express duty to resolve any ambiguity or inconsistency in the Works Information under ECC Clause 17.1.
- 4.2.4 Within the Model Preambles for Trades 1999, the following amendments and interpretations shall apply:
- Where the word or expression "Principal Agent" is used, read "*Project Manager*" or "*Supervisor*" as the context requires.
- Where the word or expression "*Contractor*" is used, read "*Contractor*".
- Where the word or expression "Engineer" is used, read "*Project Manager*" or "*Supervisor*" as the context requires.
- Where the Model Preambles for Trades 1999 mention "rates" for measured work and any contractual statements relating to payment, all such statements shall be discounted, with the ECC *conditions of contract* taking precedence.
- 4.2.5 Within the Model Preambles for Trades 1999, A. GENERAL, the following amendments and interpretations shall apply:
- Where the word or expression "bills of quantities" is used, this shall be discounted for the purposes of the Works Information. The ECC Contract Data - Part One states the main option to apply within the ECC Contract between the Parties.
- 4.2.6 Within the Model Preambles for Trades 1999, B. ALTERATIONS, B.2 MATERIALS FROM THE ALTERATIONS, CREDIT, ETC and C. EARTHWORKS, C1.4 Materials from demolitions shall not apply. C3.1 *Employer's Works Information* paragraph 3.1.6 states details of the *Contractor's* title (if any) to Materials arising from excavations and/or demolitions and how such Materials are either to be disposed of or re-used in the works.
- 4.2.7 Within the Model Preamble for Trades 1999 Q. PLUMBING AND DRAINAGE, Q.24 TESTS shall be deemed to be included within paragraph 3.2.1 of C3.1 *Employer's Works Information*.
- 4.2.8 Within the Model Preamble for Trades 1999 U. EXTERNAL WORKS, U.3.8 Process control tests shall be deemed to be included within paragraph 3.2.1 of C3.1 *Employer's Works Information*.
- 4.2.9 The principles, meanings and interpretation stated and established within paragraphs 6.2.1 to 6.2.8 with respect to the Model Preambles for Trades 1999 equally apply to the other Model Preambles for Trades 1999 references used within this paragraph 4.2 of C3.1 *Employer's Works Information*.

4.3 Civil Engineering and Structural Works

- 4.3.1 Where the SANS 1200 series of Specifications are used within the Works Information, the following interpretations and meanings shall apply:
- 4.3.2 In case of any conflict in interpretation, ambiguity or discrepancy between any SANS 1200 Specification (whether standard or written as a particular project specification) contained in the

Works Information and the conditions of contract, the conditions of contract take precedence within the ECC contract.

- 4.3.3 In case of any conflict in interpretation, ambiguity or discrepancy between any SANS 1200 Specification (whether standard or written as a particular project specification) contained in this paragraph 4.3 of the *Employer's Works Information* and specific statements contained elsewhere in C3.1 *Employer's Works Information*, the specific statements contained elsewhere shall prevail, without prejudice to the Project Manger's express duty to resolve any ambiguity or inconsistency in the *Works Information* under ECC Clause 17.1.
- 4.3.4 Within SANS 1200 A: GENERAL, the following amendments and interpretations shall apply:
- Where the word or expression "Employer" is used, read "*Employer*";
- Where the word or expression "Contractor" is used, read "*Contractor*";
- Where the word or expression "Engineer" is used, read "*Project Manager*" or "*Supervisor*" as the context requires;
- Where the word or expression "schedule of quantities" is used, this is deleted in entirety. Assessment and payment is in accordance with the *conditions of contract* (and the ECC main and secondary options stated therein);
- 4.3.5 Within SANS 1200 A: GENERAL 2.3 DEFINITIONS, the following apply:
- "Acceptable. Approved (Approval)" is interpreted as either a *Project Manager* or a *Supervisor* communication or instruction in relation to Works Information compliance, consistent with the *conditions of contract* as the context requires;
- "Adequate" is deleted. The *Project Manager* notifies the *Contractor* where the *Contractor* has not complied with the *Works Information*;
- "Measurement and payment" and the further definitions contained within 6.3 c) are deleted. Assessment and payment is in accordance with the conditions of contract (and the ECC main and secondary options stated therein);
- 4.3.6 Within SANS 1200 A: GENERAL 2.6 APPROVAL, the following applies:
- "Approval" by either the *Project Manager* and/or the *Supervisor* is without prejudice to ECC Clause 14.1 and, inter alia, ECC Clauses 13.1, 14.3 and 27.1.
- 4.3.7 SANS 1200 A: GENERAL 2.8 ITEMS IN SCHEDULE OF QUANTITIES, is deleted in entirety. Assessment and payment is in accordance with the *conditions of contract* (and the ECC main and secondary options stated therein).
- 4.3.8 SANS 1200 A: GENERAL 3.2 STRUCTURES AND NATURAL MATERIAL ON SITE, applies only to the extent that it is consistent with paragraph 3.1.6 of C3.1 *Employer's Works Information*.
- 4.3.9 Within SANS 1200 A: GENERAL 7.1 PLANT, the following applies:
- Where the word or expression "Plant" is used, read "Equipment".
- 4.3.10 SANS 1200 A: GENERAL 7.2 CONTRACTOR'S OFFICES, STORES AND SERVICES, applies but the *Project Manager* resolves any inconsistency with statements included within paragraph 3.1.12 of C3.1 *Employer's Works Information*.
- 4.3.11 SANS 1200 A: GENERAL 3.1 SURVEY, applies only to the extent that it is consistent with paragraph 3.1.14 of C3.1 *Employer's Works Information*.
- 4.3.12 Within SANS 1200 A: GENERAL 3.2 WATCHING, BARRICADING, LIGHTING AND TRAFFIC CROSSINGS, the following applies:
- Where the word or expression "specification" is used, read "*Works Information*".
- 4.3.13 SANS 1200 A: GENERAL 3.4 PROTECTION OF OVERHEAD AND UNDERGROUND SERVICES applies only to the extent that it is consistent with the specific statements made elsewhere in C3.1 *Employer's Works Information* and in any case and at all times consistent with the *conditions of contract*.
- 4.3.14 Within SANS 1200 A: GENERAL 5 TESTING, the following applies:
- Where the word or expression "Engineer" is used, read "*Supervisor*".

- 4.3.15 SANS 1200 A: GENERAL 8 MEASUREMENT AND PAYMENT, is deleted in entirety. Assessment and payment is in accordance with the conditions of contract (and the ECC main and secondary options stated therein).
- 4.3.16 The principles, meanings and interpretation stated and established within paragraphs 6.3.1 to 6.3.15 with respect to SANS 1200 series and to SANS 1200 A: GENERAL equally apply to the other SANS 1200 specification references [state particulars of SANS 1200 used] used within this paragraph 6.3 of C3.1 *Employer's Works Information*.

4.4 Electrical & mechanical engineering works

- 4.4.1 Where SANS 10142 and/or SANS 10198 specifications are used within the Works Information, then where the term "Equipment" (or the like) is used with the meaning of installation and items left behind in the *works*, then please read this term as "Plant" for ECC defined term compliance.
- 4.4.2 The electrical works involve various indoor and outdoor 3kV DC traction substation equipment's

5 List Of Drawings

5.1 Drawings issued by the *Employer*.

This is the list of drawings issued by the *Employer* at or before the Contract Date and which apply to this contract.

Note: Some drawings may contain both Works Information and Site Information.

Drawing number	Revision	Title
BBB 5452	1	3 kV DC Traction Substation Equipment's

SECTION 2

6 Management and start up

6.1 Management meetings

Regular meetings of a general nature may be convened and chaired by the *Project Manager* as follows:

Title and purpose	Approximate time & interval	Location	Attendance by:
Risk register and compensation events	Weekly	On Site / Project Managers Office	Project Manager (and appropriate delegates), Supervisor (as necessary and appropriate delegates) and Contractor (appropriate key persons)
Overall contract progress and feedback	Weekly	On Site / Project Managers Office	Employer, Contractor (appropriate key persons), Supervisor (as necessary and appropriate delegates), and Project Manager (and appropriate delegates)

Meetings of a specialist nature may be convened as specified elsewhere in this Works Information or if not so specified by persons and at times and locations to suit the Parties, the nature and the progress of the *works*. Records of these meetings are to be submitted to the *Project Manager* by the person convening the meeting within five days of the meeting.

All meetings are to be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register are not to be used for the purpose of confirming actions or instructions under the contract as these are to be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

6.2 Documentation Control

In undertaking the '*Works*' (including all incidental services required), the *Contractor* shall conform and adhere to the requirements of the 'Contractor Documentation Submittal Requirements' Standard included in Annexure 1 (refer DOC--STD-0001).

The *Contractor* is to ensure that the latest versions of the required application software and a suitable 'IT' Infrastructure are in place to support the electronic transmission of documentation.

6.3 Safety risk management

- 6.3.1 The *Contractor* complies with the following SMP: Site cardinal rules, Project site induction, Hazard management on site, Risk assessment, Daily safe task instructions, Occupational health and hygiene, Safe systems of work, Incident management, Site management (as a minimum)
- 6.3.2 The *Contractor* ensures that its Subcontractors comply with the requirements of the SMP.
- 6.3.3 The *Contractor* performs the *works* having due regard to the HSSP.
- 6.3.4 The *Contractor* in the performance of the *works* establishes an incentive programme for its employees with respect to SMP compliance.
- 6.3.5 The *Contractor* complies with the requirements of the SSRC with respect to his own activities and others on the Site and Working Areas.
- 6.3.6 The *Contractor* makes the SMP available to its employees and Subcontractors in the *language of this contract* and other local languages as required.
- 6.3.7 The *Contractor* participates in a HAZOP at intervals upon the instruction and direction of the *Project Manager*.
- 6.3.8 The *Contractor* completes a JSA prior to carrying out any operation on the Site and/or Working Area to the approval of the Project Manager
- 6.3.9 The lines of communication of the various personnel acting on behalf of the *Project Manager* who communicate directly with the *Contractor* and his key persons with respect to the SMP are contained within the *Annexure*.
- 6.3.10 The roles and responsibilities of the various personnel acting on behalf of the *Project Manager* with respect to the SMP and health and safety issues are as stated in the paragraphs.
- 6.3.11 The CM is responsible (in the context of the SMP only) for health and safety on the Site and Working Areas and reports to the *Project Manager*.

6.4 Environmental constraints and management

- 6.4.1 The *Contractor* complies with the following ENV-STD-001 Rev01 (CEMP):

The *Contractor* performs the *works* and all construction activities within the Site and Working Areas having due regard to the environment and to environmental management practices as more particularly described within the SES and PES.

The SES describes the minimal acceptable standard for environmental management for a range of environmental aspects commonly encountered on construction projects and sets environmental objectives and targets, which the *Contractor* observes and complies.

The PES may require higher minimal standards than those described in the SES as may be required by the *Project Manager* or Others.

The overarching obligations of the *Contractor* under the CEMP before construction activities commence on the Site and/or Working Areas is to provide an environmental method statement for a particular construction operation at the Site and/or Working Area by the *Contractor* and where requested by the CM and to comply with the following:

Where relevant, method statements, as detailed in the SES and PES, shall be provided by the *Contractor*. These include, but are not limited to, the following where applicable:

- Establishment of construction lay down area
- Hazardous and non-hazardous solid waste management
- Storm water management
- Contaminated water management
- Prevention of marine pollution
- Hydrocarbon spills
- Diesel tanks and refuelling procedures
- Dust control
- Spoil dumping
- Sourcing, excavating, transporting and dumping of fill material
- Noise and vibration control
- Removal of rare, endemic or endangered species
- Removal and stockpiling of topsoil
- Rodent and pest control
- Environmental awareness training
- Site division
- Emergency procedures for environmental incidents
- *Contractor's* SHE Officer
- Closure of construction laydown area

The *Contractor* shall ensure that his management, foremen and the general workforce, as well as all suppliers and visitors to Site have attended the Induction Programme prior to commencing any *work* on Site. If new personnel commence work on the Site during construction, the *Contractor* shall ensure that these personnel undergo the Induction Programme and are made aware of the environmental specifications on Site.

Where applicable, the *Contractor* ensures that he appoints a suitably qualified Subcontractor, to be approved by the *Project Manager*, to undertake the "Removal of rare, endemic or endangered species". This appointment must be completed at least three weeks before commencement of any other work on Site.

The Protection of the Environment Form shall be signed and submitted to the CM within 14 days after the Contract Date.

Where required, one of the first actions to be undertaken by the *Contractor* shall be to erect and maintain a temporary fence along the boundaries of the Site and Working Areas as applicable, and around any no-go areas identified on the layout plans, to the satisfaction of the *Project Manager*.

The plant search and rescue (if applicable) must be undertaken and completed prior to any Site clearance or any other construction activity that may damage the vegetation can commence on Site.

The *Contractor* must appoint a sufficient number of named assistants to the CSHEO to monitor environmental issues e.g., litter, spills, illegal activities, fence patrol, dust etc. These appointments, along with details of the individuals being appointed and job descriptions, must be sent to the *Project Manager* for his approval.

During the construction period, the *Contractor* complies with the following:

A copy of the SES, and the relevant PES shall be available on Site, and the *Contractor* shall ensure that all the personnel on Site (including Subcontractors and their staff) as well as suppliers are familiar with and understand the specifications contained in the SES (as amended by the PES).

Method statements that are required during construction must be submitted to the *Project Manager* for approval at least 20 days prior to the proposed commencement of the activity.

Emergency construction activity method statements may also be required. The activities requiring method statements cannot commence if they have not been approved by the *Project Manager*.

The method statements for Completion by the Contractor are contained within Annexure.

Where applicable, the *Contractor* shall provide job-specific training on an *ad hoc* basis when workers are engaged in activities, which require method statements.

The *Contractor* shall ensure that any Materials delivery drivers are informed of all procedures and restrictions (e.g. which access roads to use, no go areas, speed limits, noise, etc) required by the CEMP before they arrive at Site and off load any Materials.

The *Contractor* shall be responsible for rehabilitating and re-vegetating all areas to the satisfaction of the *Project Manager* as detailed in the SES and PES.

The *Contractor* shall clear and clean the Site and Working Areas and ensure that everything not forming part of the *works* is removed from the Site and Working Areas and that all rehabilitation has taken place in accordance with the PES. An Environmental Closure Certificate has been issued by the SHEC and signed off by the *Project Manager*.

The Contractor complies with environmental inspections and audits as contained within Annexure ENV-STD-001 Rev01.

The *Contractor* makes copies of the CEMP, SES and PES available at the offices of the *Contractor* on Site. The *Contractor* ensures that all personnel on Site (including Subcontractors) are familiar with and understand the requirements of the CEMP.

6.4.2 The *Contractor* complies with the following SES:

The *Contractor* shall identify the kinds of environmental impacts that will occur as a result of his activities and then prepare separate method statements describing how each of those impacts will be prevented or managed so that the standards set out in this document are achieved. These method statements will be prepared in accordance with the requirements set out in the CEMP.

To ensure that environmental issues are taken into account in the establishment of the Site offices and all other facilities on Site.

6.4.3 The *Contractor* must comply with the PES, CEMP and SES. The Contractor abides by the instructions of the Project Manager regarding the implementation of the CEMP.

6.4.4 The lines of communication of the various personnel acting on behalf of the *Project Manager* who communicate to the *Contractor* and his keys persons with respect to the CEMP are contained within Annexure.

6.4.5 The roles and responsibilities of the various personnel acting on behalf of the *Project Manager* with respect to environmental issues are stated in the paragraphs following.

6.4.6 The ProjEM is responsible for ensuring that the *Contractor* complies with the CEMP. The ProjEM acts on behalf of the *Project Manager*.

6.4.7 The *Contractor* complies with the CEMP, SES and PES. The *Contractor* abides by the instructions of the *Project Manager* regarding the implementation of the CEMP.

6.5 Quality assurance requirements

6.5.1 The *Contractor* shall have, maintain and demonstrate its use to the *Project Manager* (and/or the *Supervisor* to satisfy the requirements of paragraphs 7.4, 7.5, 3.2.1 and 3.2.8 as appropriate) the documented Quality Management System to be used in the performance of the *works*. The *Contractor's* Quality Management System shall conform to International Standard ISO 9001 (or an equivalent standard acceptable to the *Project Manager*).

6.5.2 The *Contractor* submits his Quality Management System documents to the *Project Manager* as part of his programme under ECC Clause 31.2 to include details of:

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

- 6.5.3 The *Contractor* develops and maintains a comprehensive register of documents that will be generated throughout the contract including all quality related documents as part of its Quality Plan.
- 6.5.4 The *Project Manager* indicates those documents required to be submitted for either information, review or acceptance and the *Contractor* indicates such requirements within his register of documents. The register shall indicate the dates of issue of the documents with the *Project Manager* responding to documents submitted by the *Contractor* for review or acceptance within the *period for reply* prior to such documents being used by the *Contractor*.
- 6.5.5 The Quality Plan means the *Contractor's* statement, which outlines strategy, methodology, resources allocation, QA and Quality Control co-ordination activities to ensure that the *works* meet the standards stated in the *Works Information*.

6.6 Programming constraints

- 6.6.1 The *Contractor* shows on each programme he submits to the *Project Manager*, the requirements of the CEMP, SES, PES and SMP as described under paragraph 2.4 of the *Works Information*, together with the associated environmental method statements.
- 6.6.2 The *Contractor* shows on each programme he submits to the *Project Manager*, the requirements of Health and Safety issues, design issues, construction operations and procurement issues.
- 6.6.3 The *Contractor* complies with the *Employer's* programme when he submits his first programme.
- 6.6.4 The *Contractor* presents his first programme and all subsequently revised programmes (see ECC Clauses 31.2 and 32.1) in hard copy format and in soft copy format.
- 6.6.5 The *Contractor* uses Microsoft Project for his programme submissions or a similar programme software package equivalent to Microsoft Project subject to the prior written notification and acceptance by the *Project Manager*.
- 6.6.6 The *Contractor* shows on his Accepted Programme and all subsequently revised programmes schedules showing the critical path or paths and all necessary logic diagrams demonstrating sequence of operations.
- 6.6.7 The *Contractor's* programme shows duration of operations in working days [please state here or by cross-reference elsewhere in C3.1 *Employer's Works Information* to normal hours of a working days and what is a normal working week].
- 6.6.8 The *Contractor* submits programme report information to the *Project Manager* on weekly intervals in addition to the intervals for submission of revised programmes stated under Contract Data Part One.
- 6.6.9 The *Contractor's* weekly programme narrative report includes:
- Level 4 Project Schedule – showing two separate bars for each task i.e. the primary bar must reflect the current forecast dates and the secondary bar the latest Accepted programme.
 - 3-week Look ahead Schedule - showing two separate bars for each task i.e. the primary bar must reflect the current forecast dates and the secondary bar the latest Accepted programme.
 - Manpower Histogram – reflecting actual, forecasted and planned activities
 - S-curves – reflecting the actual percentage complete versus the planned percentage for the overall contract utilising the earned values as calculated by the detailed progress report.

6.7 Contractor's management, supervision and key people

- 6.7.1 The *Contractor* employs a CSHEO as a key person under ECC Clause 24.1
- 6.7.2 The CSHEO reports to the SHEC on the Site. The CSHEO ensures that the *works* (to include any part thereof) are subject to a prior environmental method statement(s) approved by the Project Manager, CM or SHEO and ensures that the CEMP is implemented by the *Contractor* in a timely and proper manner. The SCHEO provides the *Project Manager* with all environmental method statements.
- 6.7.3 The CSHEO tasks are:

Daily inspections of the Site and Working Areas.

Monitor compliance with the CEMP (to include the SES and PES) and the environmental method statements submitted to the *Project Manager*.

- Reporting of an environmental incident to the *Project Manager*.
- Attendance at all SHE meetings, toolbox talks and induction programmes.
- Litter control and ensuring the *Contractor* clears litter from the Site and Working Areas; and
- Ensuring that environmental signage and barriers are correctly placed.

The CSHEO submits daily checklists to the SHEC.

6.7.4 The *Contractor* employs a CIRP as a key person under ECC Clause 24.1.

6.7.5 The CIRP is based on the Site and ensures that all reports and IR requests are submitted accurately and in a timely manner to the Project Manager, CM, PIRM, PSIRM or SIRM.

6.7.6 The CIRP tasks are:

- Dedicated to human resources, industrial relations and any other *Contractor* employee related function;
- Resolve all human resources and industrial relations matters arising from the *Contractor's* employees;
- Represent the *Contractor* at all industrial relations meetings [state specific details within paragraph 6.1 management meetings of the *Works Information*];
- Represent the *Contractor* on the IRCC.

6.7.7 The *Contractor* employs an HSR as a *key person* under ECC Clause 24.1

6.8 Training workshops and technology transfer

6.8.1 The *Contractor* arranges for the following technology transfer to the *Employer*:

- An overview of the full operation of the bundwall should the oil leak occur together with the processes to be followed thereafter.

6.9 Insurance provided by the Employer.

6.9.1 Insurance provided by the *Employer* is contained in the Contract Data – Part 1.

6.10 Contract change management.

6.10.1 No additional requirements apply to ECC Clause 60 series.

6.11 Provision of bonds and guarantees.

6.11.1 The form in which a bond or guarantee required by the conditions of contract (if any) is to be provided by the *Contractor* is given in Part 1 Agreements and Contract Data, document C1.3, Sureties.

6.11.2 The *Contractor* provides a bond or guarantee as required by the conditions of contract concurrently with the execution by the Parties of the form of agreement for the ECC contract.

6.12 Records of Defined Cost, payments & assessments of compensation events kept by *Contractor*

6.12.1 The *Contractor* keeps the following records available for the *Project Manager* to inspect:
Records of design employees location of work (if appropriate)

6.12.2 The *Contractor* keeps the following records available for the *Project Manager* to inspect:

- Records of design employees location of work (if appropriate);
- Records of Equipment used and people employed outside the Working Areas (if applicable).

6.13 The *Contractor's* Invoices

- 6.13.1 When the *Project Manager* certifies payment (see ECC Clause 51.1) following an assessment date, the *Contractor* complies with the *Employer's* procedure for invoice submission.
- 6.13.2 The invoice must correspond to the *Project Manager's* assessment of the amount due to the *Contractor* as stated in the payment certificate.
- 6.13.3 The invoice states the following:
Invoice addressed to Transnet SOC Ltd;
Transnet SOC Limited's VAT No: 4720103177;
Invoice number;
The *Contractor's* VAT Number; and
The Contract number.
Purchase Order number
The invoice contains the supporting details.
- 6.13.4 The invoice is presented either by post or by hand delivery.
- 6.13.5 Invoices submitted by post are addressed to:
Transnet SOC Ltd
P O Box 8621
Johannesburg
2000
For the attention of Central Accounting

A copy of the Invoice must also be submitted to the Project Manager either by email or by hand.

The invoice is presented as an original.

- 6.13.6 The invoice is presented either by post or by hand delivery.

6.14 People

- 6.14.1 Minimum requirements of people employed on the Site.
Safety File approved by Transnet safety officers.
People on site must have a valid medical certificate and they must appear on the organogram on the safety file.
Attend the compulsory Transnet Freight Rail safety induction.
Have all appropriate Personal Protective Equipment (PPE)
- 6.14.2 The *Contractor* complies with the following PIRPMP
- 1.1. The *Contractor* warrants that it will be liable to Transnet for any loss or damage caused by strikes, riots, lockouts or any labour disputes by and/or confined to the *Contractor's* employees, which loss will include any indirect or consequential damages;
 - 1.2. The *Contractor* warrants that no negotiations or feedback meetings by the *Contractor's* employees shall take place on Transnet premises, whether owned or rented by Transnet.
 - 1.3. The *Contractor* shall give notice to Transnet of any industrial action by the *Contractor's* employees immediately upon becoming aware of any actual or contemplated action that is or may be carried out on Transnet's premises, whether owned or rented, and shall notify Transnet of all matters associated with such action that may potentially affect Transnet.
 - 1.4. The *Contractor* is responsible for educating its employees on relevant provisions of the Labour Relations Act which deal with industrial action processes, and the risks of non-compliance.

1.5 The *Contractor* is required to develop a Contingency Strike Handling Plan, which plan the *Contractor* is obliged to update on a three monthly basis. The *Contractor* must provide Transnet with this plan and all updates to the Plan. The *Contractor* is responsible to communicate with its employees on site details of the plan.

2. INDUSTRIAL ACTION BY CONTRACTOR EMPLOYEES

2.1. In the event of any industrial action by the Contractor's employees, the Contractor is required to provide competent contingency resources permitted in law to carry out any of the duties that are or could potentially be interrupted by industrial action in delivering the Service.

2.2. The Contractor warrants that it will compensate Transnet for any costs Transnet incurs in providing additional security to deal with any industrial action by the Contractor's employees.

2.3. In the event of any industrial action by the Contractor's employees, the Contractor is obliged:

2.3.1. To prepare and deliver to Transnet, within two (2) hours of the commencement of industrial action an Industrial Action Report. If the industrial action persists the Contractor is required to deliver the report at 8h30 each day.

2.3.2. The Industrial Action Report must provide at least the following information:

- 2.3.2.1. Industrial incident report,
- 2.3.2.2. Attendance register,
- 2.3.2.3. Productivity / progress to schedule reports,
- 2.3.2.4. Operational contingency plan,
- 2.3.2.5. Site security report,
- 2.3.2.6. Industrial action intelligence gathered.

2.3.3. The final Industrial Action Report is to be delivered 24 hours after finalisation of the industrial action.

2.3.4. The management of the Contractor is required to hold a daily industrial action teleconference with personnel identified by Transnet to discuss the industrial action, settlement of the industrial action, security issues and the impact on delivery under the contract.

2.4. The resolution of any disputes or industrial action by the Contractor's employees is the sole responsibility of the Contractor.

2.5. Access to Transnet premises by the Contractor and its employees is only provided for purposes of the Contractor delivering its services to Transnet. Should the Contractor and its employees not, for any reason, be capable of delivering its services Transnet is entitled to restrict or deny access onto its premises and unless otherwise authorized; such person will be deemed to be trespassing.

6.14.3 The *Contractor* complies with the requirements of the IRCC involving the engineering construction *Contractors* engaged (including all future *Contractors*) by the *Employer*.

6.14.4 The roles and responsibilities of the various personnel acting on behalf of the *Project Manager* with respect to IR issues are stated in the paragraphs following:

The PIRM is responsible for ensuring that the Contractor complies with the PIRPMP. The PIRM acts on behalf of the *Project Manager*.

6.14.5 The PIRM specific tasks are:

- To complete the PLA prior to the Contract Date; and
- To assign specific duties to the PSIRM.

6.14.6 The SIRM is responsible, *inter alia*, for day-to-day IR on the Site and Working Areas through the implementation of the PIRPMP. The SIRM reports directly to the PSIRM and the *Project Manager*.

6.14.7 The SIRM specific tasks are:

- To liaise with the Contractor prior to the commencement of construction activities (as per the Contractor's programme accepted by the Project Manager) with respect to IR issues under the SIP.

6.15 Plant and Materials

6.15.1 The *Contractor* provides Plant and Materials for inclusion in the *works* in accordance with SANS 1200A sub-paragraph 2.1, unless otherwise stated elsewhere in the *Works Information* provided by the *Employer*. All Plant and Materials are new, unless the use of old or refurbished goods and/or Materials are expressly permitted as stated elsewhere in this *Works Information* or as may be subsequently instructed by the *Project Manager*.

6.15.2 Where Plant and Materials for inclusion in the *works* originate from outside the Republic of South Africa, all such Plant and Materials are new and of merchantable quality, to a recognised national standard, with all proprietary products installed to manufacturers' instructions.

6.15.3 The *Contractor* replaces any Plant and Materials subject to breakages (whether in the Working Areas or not) or any Plant and Materials not conforming to standards or specifications stated and notifies the *Project Manager* and the *Supervisor* on each occasion where replacement is required.

6.15.4 The *Contractor* provides all Plant and Materials necessary for the *works*. The Employer will not be providing any "free issue" Plant and Materials.

6.16 Tests and inspections before delivery

6.16.1 The *Contractor* submits to the Supervisor details to certify that tests and inspections have been carried out on Plant and Materials by others which include:

- AIA and INC

PART 4: SITE INFORMATION

Core clause 11.2(16) states

"Site Information is information which

- describes the Site and its surroundings and
- is in the documents which the Contract Data states it is in."

In Contract Data, reference has been made to this Part 4 of the contract for the location of Site Information.

1. Description of the Site and its surroundings

1.1. General description

The contract area is owned, or maintained, by Transnet Freight Rail. The Contractor may be required to work in areas where varying degrees and types of security situations are prevailing such as may occur in remote rural areas through to densely populated metropolitan areas. The railway tracks are located in areas of varying horizontal and vertical dimensions of the land surface. In some areas, tracks fall in deep cuttings as well as in high embankments.

1.2. Existing buildings, structures, and plant & machinery on the Site

There are fixed assets that are situated alongside the linear state of the railway infrastructure. These structures are but not limited to, bridges, platforms, culverts and track side components. The Contractor shall ensure that all the works being carried out does not deform the existing structures.

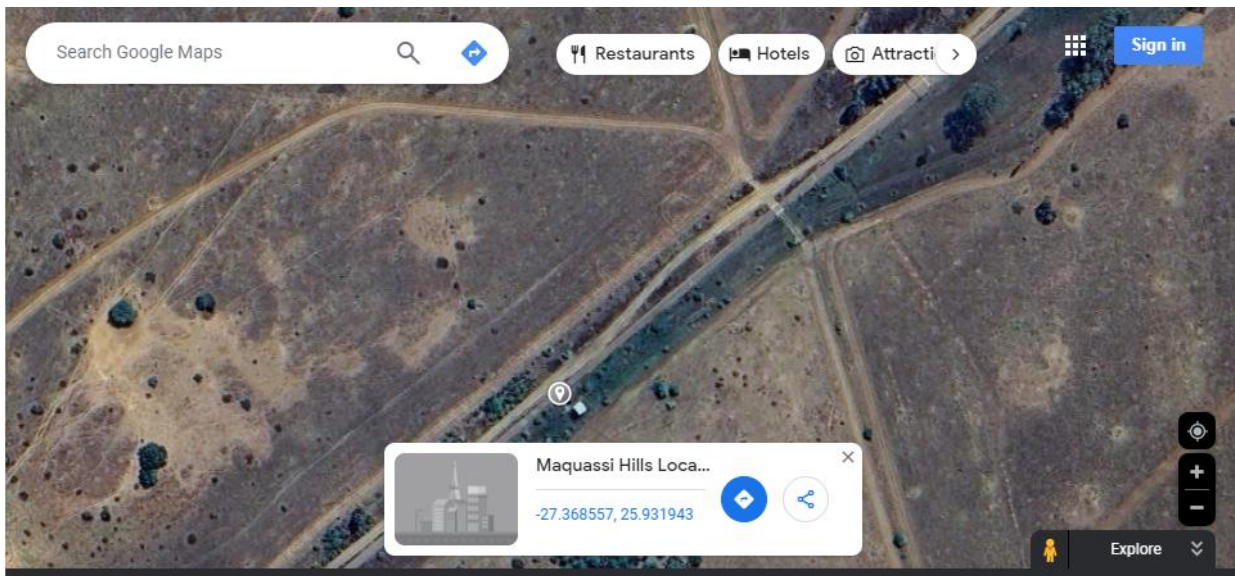
1.3. Hidden services

There are underground services that were previously erected and the as-built data to locate such services will be utilised. There are situations where the as-built data cannot be traced and, in such situations, activities must be carried out with caution. During the execution phases of the project, there is a possibility of disruption of such hidden services. These services include conduits (oil, water and sewage), electrical cables and any other structure that may be present. The employer shall inform the contractor through a baseline risk assessment of any possibilities in anticipation.

1.4. Other reports and publicly available information

Swartgrond Substation

Location: Swartgrond substation is situated along the N12 between Makwassie and Bloemhof





TECHNOLOGY MANAGEMENT.

SPECIFICATION.

REQUIREMENTS FOR BATTERY CHARGERS FOR 3kV DC TRACTION SUBSTATIONS.

Author:	Chief Engineering Technician Technology Management	D.O.Schulz
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Date: 21st September 2009

Circulation Restricted To:

Transnet Freight Rail – Chief Engineer Infrastructure
- Technology Management

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1.0 SCOPE.

- 1.1 This specification covers the requirements for the design, manufacture and supply of battery charger units used in 3 kV DC traction substations.

2.0 GENERAL.

- 2.1 The equipment is required to charge a 53 cell lead acid 3 kV DC substation or tie station battery bank. The ampere-hour rating of the battery bank may vary between 100 to 250 ampere hours. The charger must be able to supply the substation or tie station load as well as float charge the battery under normal conditions.
- 2.2 The battery could be subjected to momentary heavy discharges from 50 amperes to 250 amperes for a period of 1 to 3 seconds. The discharge current is for the closing coils of the 3 kV DC high-speed circuit breakers. The discharge current is dependent of the model of the circuit breaker used.
- 2.3 In addition to charging the battery bank the charger must supply a constant voltage to the high-speed circuit breaker's holding coils. As the trip calibration of the high-speed circuit breakers is dependent on the holding coil voltage, the voltage must be maintained at 110 volts by means of a suitably tapped diode string or other means. In the event of failure of the battery charger, the diode string shall be automatically short-circuited and the holding coils of the track breakers shall be fed directly from the battery.

3.0 STANDARDS.

The following latest editions of the following publications are referred to herein.

3.1 SOUTH AFRICAN NATIONAL STANDARDS

SANS 1091:	National colours standards for paint.
SANS 1274:	Coatings applied by the powder-coating process.
SANS 1652:	Battery chargers – Industrial type

3.2 TRANSNET FREIGHT RAIL.

BBB0041: infrastructure.	Preparation of drawings for Transnet Freight Rail
CEE.0045:	Painting of steel components of electrical equipment.
CEE.0224:	Drawings, catalogues, instruction manuals and spares lists for electrical equipment supplied under contract.

4.0 DEFINITIONS

- 4.1 **BOOST CHARGE:** A partial charge, generally at a high rate, for a short period. It is also known as a fast charge or a quick charge.
- 4.2 **FLOAT CHARGE:** A constant voltage charge ideally sufficient to maintain a cell or battery in a fully charged state.
- 4.3 **EQUALISING CHARGE:** An extended charge applied to correct relative density imbalance amongst the cells of a battery.
- 4.4 **INITIAL CHARGE:** An increased charge for new or uncharged battery cells.

5.0 TENDERING PROCEDURE

- 5.1 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.
- 5.2 A statement of non-compliance shall be motivated by the tenderer.

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

5.4 Failure to comply with clauses 4.1, 4.2, and 4.3 could preclude a tender from consideration.

6.0 SERVICE CONDITIONS.

The battery charger shall be designed to operate under the following service conditions.

6.1	Altitude:	0 – 1800 meters above sea level.
6.2	Ambient Temperature Range:	-10°C to +45°C.
6.3	Relative Humidity:	10% to 90%
6.4	Lightning Conditions:	12 Ground flashes per square kilometre per annum.

7.0 ELECTRICAL REQUIREMENTS

7.1 INPUT VOLTAGE.

7.1.2 The charger must be capable of working off an auxiliary supply with a poor waveform, as a result of thyristor controlled locomotives, line switching and lightning induced surges. A total harmonic voltage distortion figure of 27% must be catered for.

7.1.3 Appendix 1 shows the Quality of Supply characteristics of a typical 230 Volt AC auxiliary supply of a 3 kV DC traction substation.

7.1.4 The battery charger output shall be fitted with low pass filtering to reduce the effect of harmonic frequencies and ripple on the battery and load circuits.

7.2 The following input supplies are available at the 3 kV DC traction substations.

1. Single phase 230 volts AC \pm 10% (r.m.s)
2. Three phase 400 volts AC \pm 10% (r.m.s)
3. Frequency 50Hz \pm 2Hz.

7.3 OUTPUTS.

7.3.1 The charger must be capable of driving varying loads and be unaffected by sudden changes in load current and transients generated by the load.

7.3.2 With no battery connected to the output, the charger must be capable of withstanding a short-circuit across its terminals, without any resultant component damage.

7.3.3 The conductors of the battery charger output must be rated to carry the maximum load current continuously. For a 100 ampere hour battery bank, 35 milli meter square conductors are recommended to make provision for short circuit ratings.

7.3.4 Upon switch on, the charger must incorporate a soft start feature, so that at no time either the DC output current or voltage exceeds their full load values.

7.3.5 The charger outputs shall be voltage and current limited for "float" and "boost" charging.

7.4 OUTPUT PARAMETERS.

The following parameters shall be complied with:

7.4.1 SYSTEM DC VOLTAGE.

7.4.1.1 The nominal voltage shall be 110 volts.

7.4.1.2 The charging battery voltage shall be 110volts to 119.25volts for the automatic mode. (2.25volts per cell).

- 7.4.1.3 The charging battery voltage shall be 110 volts to 127.2 volts for the boost mode.
(2.35 volts to 2.40 volts per cell)
- 7.4.2 TOTAL CURRENT**
- 7.4.2.1 The output current shall be 30 ampere (current limit in the automatic mode)
- 7.4.2.2 The current shall be 5 ampere to 25 ampere in the boost mode.
- 7.4.3 LINE REGULATION**
- 7.4.3.1 The line regulation shall be a maximum of 0.75% when the input varies $\pm 10\%$.
- 7.4.4 RIPPLE VOLTAGE**
- 7.4.4.1 For all output current up to 100% battery charger capacity into a resistive load:
The maximum peak to peak ripple voltage at the charger output terminals (with resistive load coupled to the output terminals instead of the battery) shall not exceed 5% of the nominal battery voltage.
- 7.4.4.2 The peak to peak ripple voltage shall be measured at nominal input voltage.
- 7.4.5 RIPPLE CURRENT**
- 7.4.5.1 The maximum peak to peak ripple (AC) voltage measured across the shunt for the total current shall not exceed 5% of the nominal battery voltage.
- 7.4.5.2 The peak to peak ripple current shall be measured at nominal input voltage.
- 7.4.5.3 The maximum superimposed r.m.s value of the AC component shall always have a positive value even if it is very small i.e. 100 milli ampere. The AC ripple shall be limited to 5% of the ampere hour rating capacity expressed in amps for example 5 ampere or less for a 100 ampere hour battery bank.
- 7.4.5.4 The battery charger shall meet the requirement that the charging current never becomes negative (discharge) in value.
- 7.4.6 DC OUTPUT CHARGE VOLTAGE**
- 7.4.6.1 The DC output voltage must remain within $\pm 1\%$ of the respective value for boost and float modes and within 5% for initial charge mode.
- 7.4.7 FLOAT MODE**
- 7.4.7.1 The output voltage shall be pre-set at 2,25 volts per cell but adjustable by $\pm 5\%$. For 53 cells the float voltage shall be 119,25 volts adjustable. The values shall be within 1% in the automatic mode.
- 7.4.8 BOOST MODE**
- 7.4.8.1 The output voltage shall be pre-set at between 2,35 volts to 2,40 volt – 5% per cell, adjustable. For 53 cells the boost voltage shall be set at 124,55 volts. (2,35 volts per cell) to 127.2 volts (2.40 volts per cell). The boost voltage shall remain within 1% of the required boost voltage. In automatic operational mode the battery charger shall revert back to float charge mode when the boost charge cycle is completed.
- 7.4.9 MANUAL BOOST MODE**
- 7.4.9.1 A push button is required to switch the charger to "boost mode" manually. The battery charger shall revert back to float charge mode when the boost charge cycle is completed i.e. when the set boost voltage is reached. (124.55 volts to 127.2 volts). An additional push button shall be provided to be able to cancel the boost mode when required.
An adjustable 0-4 hour timer shall be installed to automatically switch off the manual boost in the event of the manual boost mode not being switched off by the technical staff.
After the boost mode has being switched off, the charger shall remain in the trickle charge mode for a period of not less 30 minutes before changing back to automatic boost mode if the battery voltage has not reached the required float voltage.

7.4.10. AUTOMATIC BOOST CHARGE.

7.4.10.1 The battery charger shall initiate an automatic boost charge every 28 days to ensure maximum life and reliability of the battery. The battery charger shall revert back to float charge when the battery is fully charged.

7.4.11 CURRENT LIMITING

7.4.11.1 Current limiting is required for the battery charger current. In float and boost modes these limits must be downward adjustable by 25% of the maximum values.
The charger shall control limits within $\pm 5\%$ of the adjustable value.

7.5 EFFICIENCY

7.5.1 The efficiency shall not be less than 60% for single phase chargers at maximum charger output capacity.

7.5.2 The efficiency shall not be less than 70% for three phase chargers at maximum charger output capacity.

7.6 INPUT TRANSFORMER.

7.6.1 The main power transformer shall incorporate an electrostatic screen between the primary and secondary windings. The screen shall be connected to the frame.

7.7 ELECTRONIC CIRCUITRY.**7.7.1 PRINTED CIRCUIT BOARDS**

Printed circuit boards shall comply with the following requirements in accordance to SANS 1652:

7.7.1.1 They shall be made of material similar to epoxy fibreglass laminate or better.

7.7.1.2 They shall be suitably protected from the effects of moisture and dust.

7.7.1.3 They shall be marked to allow the board type, and each individual component to be readily identified.

7.7.1.4 Printed circuit boards shall be provided with rigid and positive support and shall be easily replaceable.

7.7.1.5 The plug-in-boards shall be polarised to prevent the plug-in-boards being plugged into a wrong socket or being inserted upside down.

7.8 CONTROL AND ALARM SETTINGS.

The battery charger shall be fitted with the following alarms and alarm relays:

7.8.1 Charger low voltage alarm between 90 volts and 105 volts adjustable. Relay to be fitted for flag operation when relay is de-energised.

7.8.2 Charger high volt alarm. (Float). This alarm is pre-set just above normal float voltage. This alarm allows boost charging while providing protection against overcharging. Relay to be fitted. (127.2 volts).

7.8.3 Charger high volt alarm. (Boost). This alarm level is pre-set just above normal boost volts. When the normal boost voltage is exceeded the boost mode shall be terminated and a high volt alarm and relay contacts shall be initiated.

7.8.4 Battery charger input voltage mains failure relay and contacts.

7.9 ILLUMINATED INDICATORS.

7.9.1 Only Light Emitting Diodes (LED's) are to be used.

7.9.2 The following colours for the LED's shall be used:

Green: Normal condition. Mains on.

Red: Fault condition. Battery voltage low, high volts etc.

Amber: To indicate a specific status e.g. Boost charge, Initial charge.

7.10 METERS.**7.10.1 VOLTMETER**

7.10.1.1 The digital Voltmeter shall be able to measure between 80 volts to 150 volts. The display shall be 3.5 digits, 12 milli meters high with an accuracy of $\pm 0.5\%$.

7.10.1.2 The digital Voltmeter shall be connected so that it can measure both the battery voltage and the high speed circuit breaker holding coil voltage. A high quality two-way selector switch shall be employed and mounted on the face of the battery charger.

7.10.2 AMMETER

7.10.2.1 The digital ammeter shall be 3.5 digits, 12 milli meters high with an accuracy of $\pm 0.5\%$, class 0.5. The ammeter shall measure the total charger current by means shunt sensing.

7.10.2.2 The ammeter shall be connected so that it can measure total current and battery charging current. A high quality two-way selector switch shall be employed and mounted on the face of the battery charger.

7.10.2.3 The markings for both voltage and current positions shall be by means of labels, which are riveted or screwed to the face of the panel.

7.10.2.4 Both Voltmeters and ammeters shall be protected against transients and surges. Suitable protection circuitry such as metal oxide varistors and resistance capacitance circuits shall be fitted to the input leads of the meter.

7.11 LIGHTNING AND SURGE PROTECTION

7.11.1 The equipment shall be fitted with surge and lightning protection on the input AC supply to the charger. The supplier shall provide circuitry or protection units for this purpose. Separate external modules are acceptable for protection. The protection circuitry shall consist of a combination of resistors, capacitors, metal oxide varistors and gas arresters. Dehnventile type or equivalent protection will be preferred.

7.12 HIGH SPEED CIRCUIT BREAKER SERIES DROPPING DIODES.

7.12.1 A regulated supply is required for the high speed circuit breaker holding coils. Suitably rated series dropping diodes shall be employed for this purpose. Refer to clause 2.3.

7.12.2 The charger shall be supplied with a suitably rated series diode dropping chain for the high-speed circuit breakers holding coils. The series diode dropping chain shall be able to be bridged out by means of electrical contactors for regulation purposes as required.

7.12.3 The charger shall be provided with a minimum of three output terminals namely, battery positive, holding coil positive and battery negative.

8.0 CONSTRUCTURAL REQUIREMENTS

8.1 The battery charger shall be a self-contained unit housed in a rigidly constructed sheet metal cubicle, suitable for floor or wall mounting.

8.2 The inside and outside of the cubicle shall be powder coated in accordance with SANS 1274. The coating shall be type 4 for corrosion-resistant coatings for interior use using thermosetting type high gloss coatings. The exterior finishing colour shall be Eau-de-Nil to SANS 1091 colour No H 43 and the interior high gloss white.

- 8.3 The cubicle shall be adequately ventilated to prevent overheating of the electrical equipment and be vermin-proof. Natural cooling shall be used. The use of cooling fans is not permissible.
- 8.4 The design and arrangement of the cubicle and equipment shall provide ease of inspection and maintenance.
- 8.5 The cubicle shall be provided with an earthing terminal welded to the frame to facilitate the connection of a 95mm² earthing cable using a M12 lug.
- 8.6 Provision shall be made for suitable cable or conduit entry for the incoming AC supply and DC output supplies.
- 8.7 The wiring shall be executed in a neat and orderly fashion and shall consist of PVC insulated stranded copper conductors to ensure flexibility and mechanical strength and be suitably rated for the current carrying capacity of the circuits.
- 8.8 The wiring shall be provided with identification tags at terminals and shall be marked in accordance with the wiring diagrams.
- 8.9 The control switches, m.c.b.'s etc mounted on the panel shall be suitably labelled to clearly indicate their function. The lettering of the labels shall consist of white lettering on a black background.
- 8.10 The labels shall be permanently fixed with screws, rivets or other approved method.
- 9.0 INSPECTION AND TESTING.**
- 9.1 Transnet Freight Rail reserves the right to carry out inspection and any tests on the equipment at the works of the supplier/ manufacture.
- 9.2 Arrangements must be made timeously for such inspections to be carried out before delivery of the equipment to the client.
- 10.0 DRAWINGS, INSTRUCTION MANUALS AND SPARES LISTS**
- 10.1 Drawings, instruction manuals and spare parts catalogues shall be supplied in accordance with Transnet Freight Rail's specification CEE.0224.
- 10.2 The preparation of the drawings shall comply with Transnet Freight Rail's specification BBB0041
- 10.3 The tenderer shall supply three copies of instruction/maintenance manuals, schematic diagrams, diode application notes and protection and filter ratings.
- 10.4 The contractor shall submit details of spares required in accordance with specification No. CEE.0224.
- 10.5 All spares recommended for normal maintenance purposes that are not available locally (requires importation) must be highlighted.
- 11.0 SPECIAL TOOLS AND/OR SERVICING AIDS**
- 11.1 Special tools or servicing aids necessary for the efficient maintenance, repair or calibration of the equipment shall be quoted for separately.
- 11.2 Tenderers shall submit detailed offers for special tools and servicing aids including all specialised equipment required for the servicing and maintenance of the equipment supplied.
- 12.0 TRAINING**
- 12.1 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.
- 13.0 GUARANTEE AND DEFECTS**
- 13.1 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.

-
- 13.2 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.
- 13.3 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.
- 13.4 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

END

3*

APPENDIX 1

QUALITY OF SUPPLY CHARACTERISTICS OF A TYPICAL 230 VOLT AC AUXILIARY SUPPLY'S OF A 3 KV DC TRACTION SUBSTATION.

1. 230 VOLT AC AUXILIARY SUPPLY SERVICE CONDITION

- 1.1 The auxiliary supply is derived from the tertiary windings within the traction transformer or from the secondary of the traction transformer by means of a step down transformer. Under traction load, i.e. an electric train drawing power from the substation the AC waveform is distorted due to harmonics created by the traction rectifier.
- 1.2 The Total Harmonic Distortion, which can be expected is up to 27 %.
- 1.3 A typical voltage waveform, which can be expected, is shown in figure 1 and its corresponding frequency spectrum (FFT) is shown in figure 2.

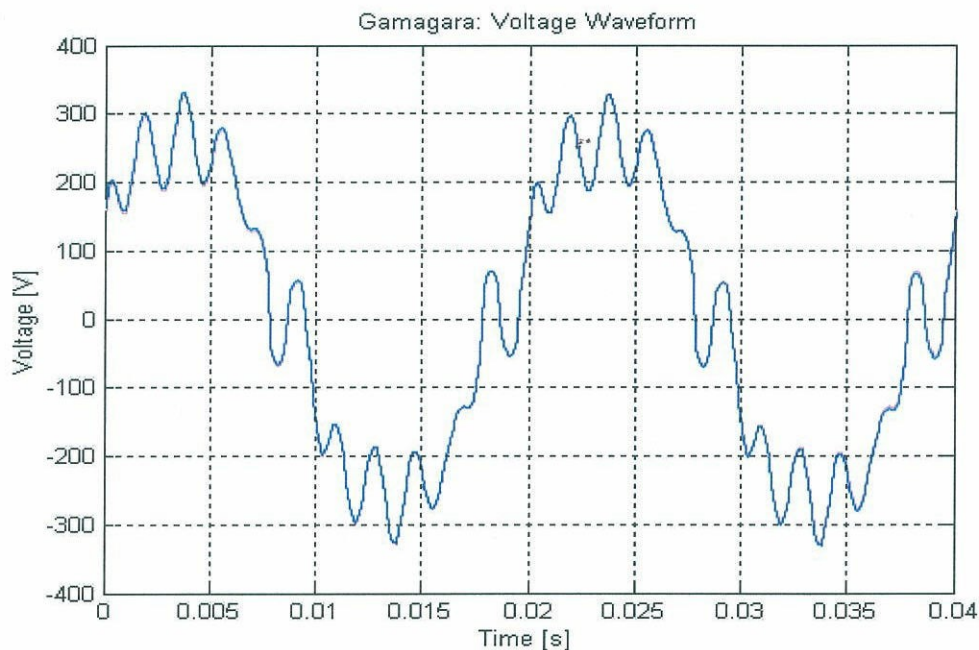


Figure 1: Voltage waveform under traction load (traction = 3000A)

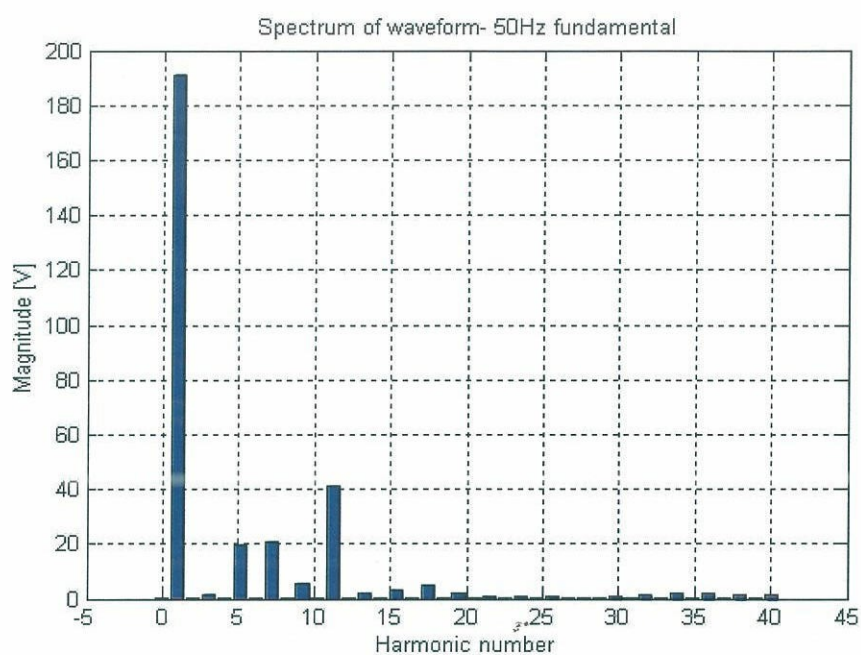


Figure 2: Frequency spectrum (FTT) of voltage waveform as shown in figure 1.

END

APPENDIX 2

TECHNICAL DATA SHEET.
(To be completed by client)

- 1.0 SUBSTATION NAME: _____
- 2.0 SUPPLY VOLTAGE: _____
- 3.0 AMPERE HOUR RATING: _____
- 4.0 CONSTRUCTION:
FLOOR MOUNTED: YES / NO
WALL MOUNTED: YES / NO

END



A Division of Transnet SOC Limited

TECHNOLOGY MANAGEMENT SPECIFICATION

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

Author:	Chief Engineering Technician Technology Management	B.L. Ngobeni
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Three handwritten signatures in black ink, each written over a horizontal dotted line. The signatures correspond to the names listed in the table to the left: B.L. Ngobeni, L.O. Borchard, and S.E. Sibande.

Date: 08 March 2016

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1.0 SCOPE

This specification covers Transnet Freight Rail'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. The purpose of the AC primary circuit breaker control panel and AC/DC distribution panel is to house the protective and control equipment for the suitable operation of the substation.

2.0 BACKGROUND.

3 kV DC traction substation comprises of a high voltage outdoor yard and a building housing the indoor equipment. The outdoor yard equipment consists of HV disconnects, primary circuit breakers, current and voltage transformers, and 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.

3.0 STANDARDS AND PUBLICATIONS.

The following publications are referred to:

3.1 IEC - INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

3.2 SOUTH AFRICAN NATIONAL STANDARDS

- 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.)

3.3 TRANSNET FREIGHT RAIL'S SPECIFICATIONS

- 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.

3.4 TRANSNET FREIGHT RAIL'S DRAWINGS

- CEE-TBD-7: Earthing arrangement for 3kV DC traction substation.
- CEE-TBK-0027: Control circuit diagram. No - Volt coil protection.

4.0 APPENDICES

The following appendices form part of this specification:

- Appendix 1: Shows the recommended layout of the AC/DC Distribution Panel.
- Appendix 2: Shows the recommended layout of the AC Primary Circuit Breaker Control Panel.
- Appendix 3: Schedule of requirements.

5.0 METHOD OF TENDERING

- 5.1 Tenderers shall indicate clause by clause compliance with this 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 in English.
- 5.2 The tenderer shall motivate a statement of non-compliance.
- 5.3 Tenderers shall submit schematics and wiring diagrams, general constructional details and principal dimensions of the panels.
- 5.4 Failure to comply with clauses 5.1, 5.2, and 5.3 could preclude a tender from consideration.

6.0 SERVICE CONDITIONS

The primary circuit breaker control panel and AC/DC distribution panel shall be designed and rated for continuous operation under the following conditions:

6.1 ATMOSPHERIC CONDITIONS

Altitude:	0 to 1800m above sea level.
Ambient temperature:	-10°C to +55 °C.
Relative humidity:	10% to 90%
Lightning Conditions:	20 ground flashes per square kilometre per annum.
Pollution:	Heavily salt laden or polluted with smoke from industrial sources.

6.2 MECHANICAL

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.

6.3 ELECTRICAL

Nominal DC control voltage:	110 V (Minimum being 88V and maximum 128V)
Nominal AC auxiliary supply:	400 V / 230 V, 50Hz

The existing main protection current transformers are of the bushing or free standing post type. The class of the current transformers are 10P10, the burden rating is of the order of 15VA or greater and the ratios are as follows:

Supply Voltage	Ratio
132kV	30/1 or 30/5
88kV	50/1 or 50/5
66kV	75/1 or 75/5

Equipment within the substation-building environment is subjected to electromechanical interference as well as voltage surges.

7.0 GENERAL REQUIREMENTS OF CONTROL /DISTRIBUTION PANELS.

- 7.1. The successful supplier shall be responsible for the design, the ratings of all, cabling, wiring, protection circuitry, sizing of contactors, relays, moulded circuit breakers, (mcb's) Isolators, fused isolators, fuse ratings, terminations and any other equipment and circuitry used. In the event of a dispute, Transnet Freight Rail staff's shall make the final decision on technical matters.
- 7.2 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. Refer to Appendix 1 Clauses 1.0, 2.0 and 3.0.

- 7.3 The control/distribution panels shall be so designed that the control switches are accessible and indicating lights, flag indicators, volt and ammeters are visible without opening the doors.
- 7.4 Appendix 1 and Appendix 2 show the recommended layout of the control equipment on the front door of the substation control panels.
- 7.5 All circuitry shall be wired in the fail to safe mode i.e. relays and contactors must be de-energised under fault conditions.
- 7.6 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.
- 7.7 Laminated plasticised labels shall be used for labelling inside the panel and panel door. The lettering shall be either engraved or etched.

8.0 AC PRIMARY CIRCUIT BREAKER CONTROL PANEL

The panel shall be fitted with the following:

- Flag relays and associated LED Annunciator panel. (Clause 8.1)
- AC Primary circuit breaker control circuitry and equipment (Clause 8.2)
- Rectifier control circuitry and equipment. (Clause 8.3)
- Main AC thermal overload and instantaneous over current protection relays. (Clause 8.4)
- Auxiliary transformer overload protection relay. (Clause 8.7)
- AC earth leakage protection relay. (Clause 8.5)
- DC Earth leakage protection relay. (Clause 8.6)
- Main and auxiliary transformer protection circuitry. (Clause 8.7)
- Local and remote control circuitry and equipment. (Clause 8.8)
- Emergency stop button. (Clause 8.11)
- Lock out reset button and indication. (Clause 8.12)

8.1 FLAG ANNUNCIATOR UNIT

- 8.1.1 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.
- 8.1.2 The design of the flag annunciator unit shall allow any input condition to trigger the flag annunciator alarm and the corresponding indicator shall illuminate.
- 8.1.3 All inputs shall be latchable and shall continue to indicate even after a power failure.
- 8.1.4 The flag annunciator alarm shall be equipped with a "Test button" which will apply power supply voltage to all inputs for test purposes.
- 8.1.5 The alarm annunciator system shall be supplied with a "Reset button" to clear any alarm.
- 8.1.6 When buzzers or flashing indicators are fitted an alarm "Accept button" shall be provided.
- 8.1.7 The flag relay and annunciator unit shall make provision for a minimum of 20 annunciator circuits.
- 8.1.8 The annunciator shall have the following minimum indications.
- Main overload.
 - Main overload protection relay fault. (Watchdog facility)

-
- Auxiliary Overload (If applicable).
 - Oil temperature.
 - Winding temperature.
 - DC Earth Leakage.
 - AC Earth leakage.
 - Main transformer Buchholz operation.
 - Aux transformer Buchholz operation (If applicable).
 - Rectifier Attenuation and over temperature.
 - Rectifier diode failure
 - Rectifier fan failure.
 - Battery undervoltage.
 - 400V 3 phase auxiliary supply phase failure.
 - Low SF6 gas pressure (If applicable).

8.2 AC PRIMARY CIRCUIT BREAKER CONTROL AND INDICATION

8.2.1 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).

8.3 RECTIFIER FAN CONTROL AND PROTECTION CIRCUITRY

8.3.1 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.

8.4 MAIN AC THERMAL OVERLOAD AND INSTANTANEOUS OVERLOAD PROTECTION RELAYS.

8.4.1 The protection relays shall be of the type readily available on the open market.

- 8.4.2 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.
- 8.4.3 The protection relays shall incorporate a watchdog facility, which shall energise in the event of failure of the relay or relay functions.
- 8.4.4 The high voltage AC primary circuit breaker shall be provided with AC thermal overload and instantaneous overload protection on each of two phases
- 8.4.5 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.
- 8.4.6 In the event of protection relay failure, the relay shall fail-safe and shall trip the AC primary circuit breaker.
- 8.4.7 The thermal overload protection shall be provided to permit loads not less than the specified load-rating curve of the 3kV rectifier, which is tabled 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.
- 8.4.8 The operating level of the overload elements and time delay settings shall be independently adjustable.
- 8.4.9 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.
- 8.4.10 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 provided sufficient time delay of operation to ensure that only the 3 kV DC high speed track circuit breakers operate under fault conditions.
- 8.5 AC EARTH LEAKAGE PROTECTION RELAY**
- 8.5.1 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.
- 8.5.2 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.
- 8.5.3 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.
- 8.5.4 The relay shall be fitted in the primary circuit breaker control panel.
- 8.6 DC EARTH LEAKAGE PROTECTION RELAY.**
- 8.6.1 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.
- 8.6.2 The steelwork of all 3kV DC equipment installed in a traction substation is 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.

- 8.6.3 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.
- 8.6.4 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.
- 8.6.5 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.
- 8.6.6 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. Drawing CEE-TBD-7 which shows a typical layout of the interconnections between the steelwork of the equipment and the DC earth leakage busbar.
- 8.6.7 The DC earth leakage relay shall be robustly constructed and protected against the ingress of dust, dirt and moisture.
- 8.6.8 The DC earth leakage relay shall have provision for lead-and-wire sealing to prevent unauthorised tampering with the calibration.
- 8.6.9 Once the DC earth leakage relay has operated it shall remain latched in the tripped position until it is manually reset.
- 8.6.10 The operation of the DC earth leakage relay shall be instantaneous.
- 8.6.11 The DC earth leakage relay shall be provided with a flag indicator and facilities for electrical remote flag indication.
- 8.6.12 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.
- 8.6.13 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. (See Engineering Instruction S.013 Issue 2).
- 8.6.14 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.
- 8.6.15 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.
- 8.6.16 The calibration must be stable and accurate to plus minus 10 percent of the trip setting of the DC earth leakage relay.
- 8.6.17 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.
- 8.6.18 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.
- 8.7 MAIN AND AUXILIARY TRANSFORMER GAS ACTUATED AND TEMPERATURE PROTECTION RELAYS CIRCUITRY**
- 8.7.1 Provision shall be made for the main transformer Buchholz relay and oil and winding temperature relay alarm and trip circuits.
- 8.7.2 Provision shall be made for the auxiliary transformer Buchholz relay and oil / winding temperature alarm and trip circuits as required.

8.8 OVERLOAD PROTECTION FOR AUXILIARY TRANSFORMERS

- 8.8.1 An overload relay shall be supplied for the protection of the primary winding of the auxiliary transformer.
- 8.8.2 The overload protection relay shall be the Strike FP2004 or other type approved by Technology Management.

8.9 LOCAL AND REMOTE CONTROL CIRCUITRY AND INDICATION EQUIPMENT

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

8.10 TRIP CONDITIONS

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.
- 400 V auxiliary supply phase failure with time delay module adjustable from 0 to 60 seconds.
- Wave filter room interlock (where fitted).

8.11 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.
- Buchholz auxiliary transformer (If applicable).
- Low SF6 gas (If applicable).
- Winding temperature.
- Rectifier fan failure.
- No volt coil protection. Refer to Transnet Freight Rail's drawing No CEE-TBK-27 for control circuitry.

8.12 EMERGENCY STOP

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.

8.13 LOCK OUT RESET BUTTON AND INDICATION.

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.

9.0 AC/DC DISTRIBUTION PANEL

The panel shall make provision for:

- AC Distribution (400 V, 3 Phase) (Clause 9.1.)
- DC Distribution (110 V DC) (Clause 9.2)
- DC Control and supervisory circuitry and track breaker control. (Clause 9.3)

9.1 AC DISTRIBUTION. (400V, 3 PHASE)

Provision shall be for the following:

- 3 phase 15 kA short circuit rated, 415 V moulded case circuit breaker / fused isolator for the protection of the three-phase auxiliary transformer supply. The fused isolator shall be the AEG or equivalent type that has been approved by Technology Management.
- Busbars protected by clear Perspex barriers shall be marked with a danger sign and "400 V".
- 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.

9.1.1 400V 3PHASE 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.

- 60 A calibrating set supply.
- Substation distribution board.
- Substation building fan.
- Battery room fan including overload protection.
- Spare supply points as required.
- 40 A 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.

9.1.2 3 PHASE DETECTION FAILURE RELAY.

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

- Phase failure.
- Sequence reversal.
- Excessive phase unbalance.
- The relay shall have of 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.

9.1.3 230 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.

- Telecontrol supply.
- Eskom metering supply.
- 3 pin 230 V, 15 A 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.

9.1.4 400V AUXILIARY SUPPLY CHANGE OVER SYSTEM

9.1.4.1 Unless otherwise specified a 400 V auxiliary supply change over system shall be installed in the panel to provide a continuous 400 V 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 been switched off.

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

9.1.5 INDICATING INSTRUMENTS FOR THE 400 V AC DISTRIBUTION

The panel shall be fitted with the following indicating instrument for the AC distribution auxiliary supply.

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

9.2 110 DC VOLT DISTRIBUTION

9.2.1 The 110 V 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:

9.2.2 INDICATING INSTRUMENTS

- 9.2.2.1 One 0 to 150 V DC voltmeter labelled “DC VOLTS” to indicate the battery output voltage. The voltmeter shall be provided with a selector switch to be able 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)
- 9.2.2.2 One 0 to 150V DC voltmeter labelled “HOLDING COIL VOLTS” to indicate the holding coil supply voltage.
- 9.2.2.3 One 0 to 30A DC ampere meter labelled “HOLDING COIL AMPERES” to indicate the holding coil current.
- 9.2.2.4 One 0 to 30A DC ampere meter labelled “DC AMPERES” to indicate the battery output current.
- 9.2.2.5 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 fault conditions i.e.
- Charging batteries at the maximum rate.
 - Reverse current through the ammeter when the battery charger is disconnected.

9.3 110V DC DISTRIBUTION SUPPLY

- 9.3.1 The following 110 V DC supplies are normally required but could vary for each substation. These supplies shall be individually protected by moulded case circuit breakers.
- Panel lamps and switches.
 - Primary circuit breaker control panel.
 - 3 pin 110 V, 15 A DC socket outlet.
 - Substation distribution board.
 - Eskom metering.
 - Telecontrol.
 - 3 kV DC undervoltage relay.
 - For the 110V battery supply a double pole, 100 to 150A DC Isolator or MCB, dependant on the ampere-hour rating of the batteries shall be provided.
 - Protection and control circuit supplies for regenerative braking equipment. (If specified).
- 9.3.2 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.

9.4 DC CONTROL AND SUPERVISORY CIRCUITRY AND TRACK BREAKER CONTROL.

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

- Battery undervoltage relay adjustable from 80 to 110 V DC.
- 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.

10.0 PROTECTION RELAYS

10.1 The protection relays (see clause 8.4 and 8.5) shall be flush mounted on the panel door.

11.0 CIRCUIT BREAKERS, CONTACTORS, RELAYS AND INDICATING LAMPS.

- 11.1 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.
- 11.2 All circuit breakers, contactors, relays and indicating lamps shall be readily available on the open market.
- 11.3 Contactors and relays shall be of the sturdiest construction and shall not be affected by vibration.
- 11.4 DC operated relays shall be capable of satisfactory operation between 85V and 140V without any damage to the relays.
- 11.5 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.
- 11.6 The contractor shall supply and install surge protection for the 400V 3 phase AC and 110V DC supplies to the control panels.
- 11.6.1 Dehn 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.
- 11.6.2 A DehnGuard MTT pole surge protection unit or equivalent shall be provided for the 400 volt three phase AC supply to the control panels.
- 11.7 All low voltage circuits in the panel, which require protection, shall be suitably protected by moulded case circuit breakers, which comply with the requirements of SANS 156.
- 11.8 The low voltage moulded case circuit breakers shall be of suitable rating and rupturing capacity.
- 11.9 Selector switches used for the DC voltmeter shall be of the make before break type.

12.0 ELECTRICAL MEASURING INSTRUMENTS

12.1 The type of measuring instruments shall be readily available on the open market.

- 12.2 All analogue electrical indication meters shall be in accordance with IEC 60051-1. The meters shall be flush mounted.
- 12.3 Analogue meters shall be used for the measurement of AC values and shall have a class index of 1.5. The analogue face of the meters shall not be less than 96mm x 96mm with a 90 degree display.
- 12.4 Analogue or digital meters may be used for the measurement of DC voltage and current.
- 12.5 Digital instruments shall have a display of 3.5 digits, 12 milli meters high and have an accuracy of 0.5%.

13.0 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:

13.1 AC PRIMARY CIRCUIT BREAKER

- Open, Close and Lockout conditions.

13.2 3 kV DC HIGH SPEED CIRCUIT BREAKERS.

- Open, Close and Lockout conditions.

13.3 TRANSFORMERS (Main and Auxiliary where applicable)

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

13.4 EARTH FAULT CONDITIONS

- DC Earth Leakage.
- AC Earth Leakage.

13.5 RECTIFIER FAILURE

- Over temperature.
- Diode failure.
- Fan failure.

13.6 SUPPLY VOLTAGE FAILURES

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

13.7 BATTERY

- Battery undervoltage.

13.8 MAIN OVERLOAD/AC EARTH LEAKAGE RELAY FAILURE

- Protection relay failure. (Watchdog)

14.0 WIRING AND TERMINALS.

- 14.1 Sufficient terminal strips shall be provided for the number of circuit breakers to be controlled.
- 14.2 All terminals on equipment such as switches and relays shall be suitably numbered and reflected on the substation schematics and wiring diagrams.
- 14.3 All terminal blocks and groups of terminal blocks shall be suitably numbered.
- 14.4 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.
- 14.5 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.
- 14.6 Suitable terminal strips shall be provided to facilitate wiring between the various items of equipment and to the remote control station or telecontrol.
- 14.7 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.
- 14.8 The method of loop wiring from one relay to another without protection for the individual circuits is not acceptable.
- 14.9 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.
- 14.10 All wires and conductors for low voltage circuits shall be a minimum of 2.5 square mm with the exception of the main battery supply cables between the main battery switch and busbars, which shall be at least 16 square mm.
- 14.11 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.
- 14.12 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.
- 14.13 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 Perspex barriers to prevent accidental contact with the live busbars. The barriers shall be provided with warning signs.
- 14.14 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.
- 14.15 The panels shall be provided with earthing studs for 95mm earthing cables. (CEE-TBD-7 Earthing arrangement for 3kV DC traction substations.)

PROTECTION TEST BLOCK

- 14.16 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
- 14.17 The test block shall be the PK2 or Chamberlain & Hookam type.
- 14.18 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.

15.0 PANEL CONSTRUCTION.

- 15.1 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.

- 15.1.1 Only on special request will the panels be constructed from stainless steel or other rust resistant steel.
- 15.2 The minimum dimensions shall be:
Height 2100mm (Including metal plinth)
Width 1000mm
Depth 900 mm
- Any deviation from the above dimensions shall be discussed with Transnet Freight Rail's electrical staff.
- 15.3 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.
- 15.4 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.
- 15.5 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.
- 15.6 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.
- 15.7 The control panel shall be mounted and secure onto a 75mm high metal plinth.
- 15.8 The panels shall be insulated from the concrete floor to reduce stray currents flowing into the panels.
- 15.9 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.
- 15.10 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.
- 15.11 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.
- 15.12 The panels shall be provided with a 230V AC light with its own standby battery supply. The light shall be switched on by means of a micro switch when the panel door is opened.
- 15.13 Three pin 15-ampere industrial plugs shall be supplied for both the 230V AC and 110V DC supplies.
- 16.0 QUALITY ASSURANCE**
- 16.1 Transnet Freight Rail reserves the right to carry out inspection and any tests on the equipment at the works of the supplier/ manufacture.
- 16.2 Arrangements must be made timeously for such inspections to be carried out before delivery of the equipment to the client.
- 17.0 SITE TESTS AND COMMISSIONING.**
- 17.1 The contractor shall be responsible for carrying out on-site functional tests before the commissioning of the equipment.

- 17.2 Acceptance by the Maintenance Engineer 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.
- 17.3 Commissioning will only take place after all defects have been rectified to the satisfaction of the Maintenance Engineer or the delegated staff.
- 17.4 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.
- 17.5 On completion of commissioning the contractor will hand the equipment over to the Maintenance Engineer or the delegated staff in terms of the relevant engineering instructions.
- 18.0 DRAWINGS, INSTRUCTION MANUALS AND SPARES LISTS**
- 18.1 Drawings, instruction manuals and spare parts catalogues shall be supplied in accordance with Transnet Freight Rail's specification CEE.0224 and BBB0041.
- 18.2 The tenderer shall supply three copies of an instruction/maintenance manuals, schematic and wiring diagram.
- 18.3 Approved schematic and wiring diagrams, which are supplied for maintenance and fault finding, shall be A3. (29,7cm x 42cm).
- 18.4 The contractor shall submit details of spares required in accordance with specification No. CEE.0224.
- 18.5 All spares recommended for normal maintenance purposes that are not available locally (requires importation) must be highlighted.
- 19.0 SPECIAL TOOLS AND/OR SERVICING AIDS**
- 19.1 Special tools or servicing aids necessary for the efficient maintenance, repair or calibration of the equipment shall be quoted for separately.
- 19.2 Tenderers shall submit detailed offers for special tools and servicing aids including all specialised equipment required for the servicing and maintenance of the equipment supplied.
- 20.0 TRAINING**
- 20.1 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.
- 21.0 GUARANTEE AND DEFECTS**
- 21.1 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.
- 21.2 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.
- 21.3 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.

21.4 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.

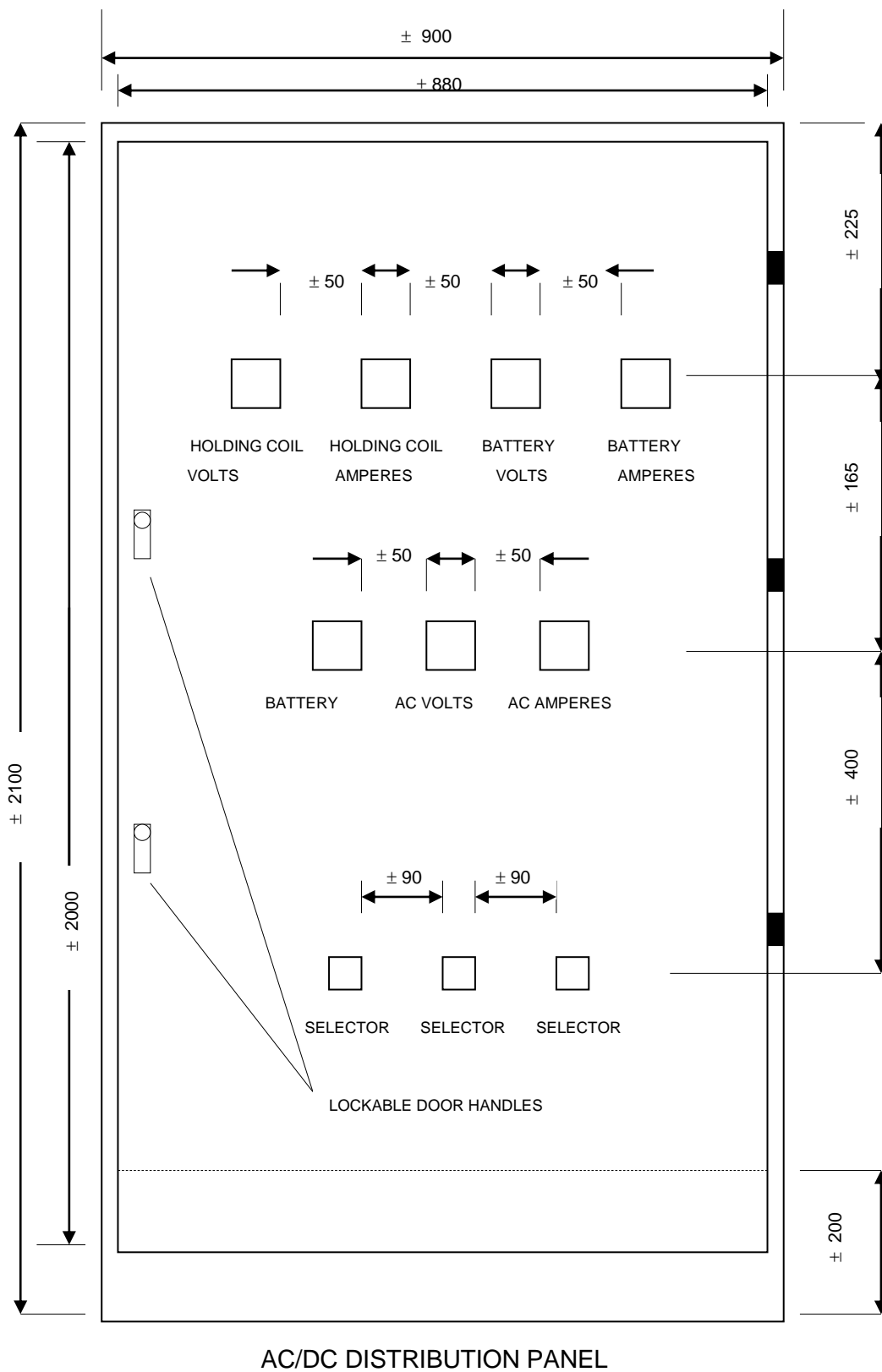
22.0 PACKAGING AND TRANSPORT.

22.1 The tenderer shall ensure that the equipment be packed in such a manner that it will be protected during handling and transport.

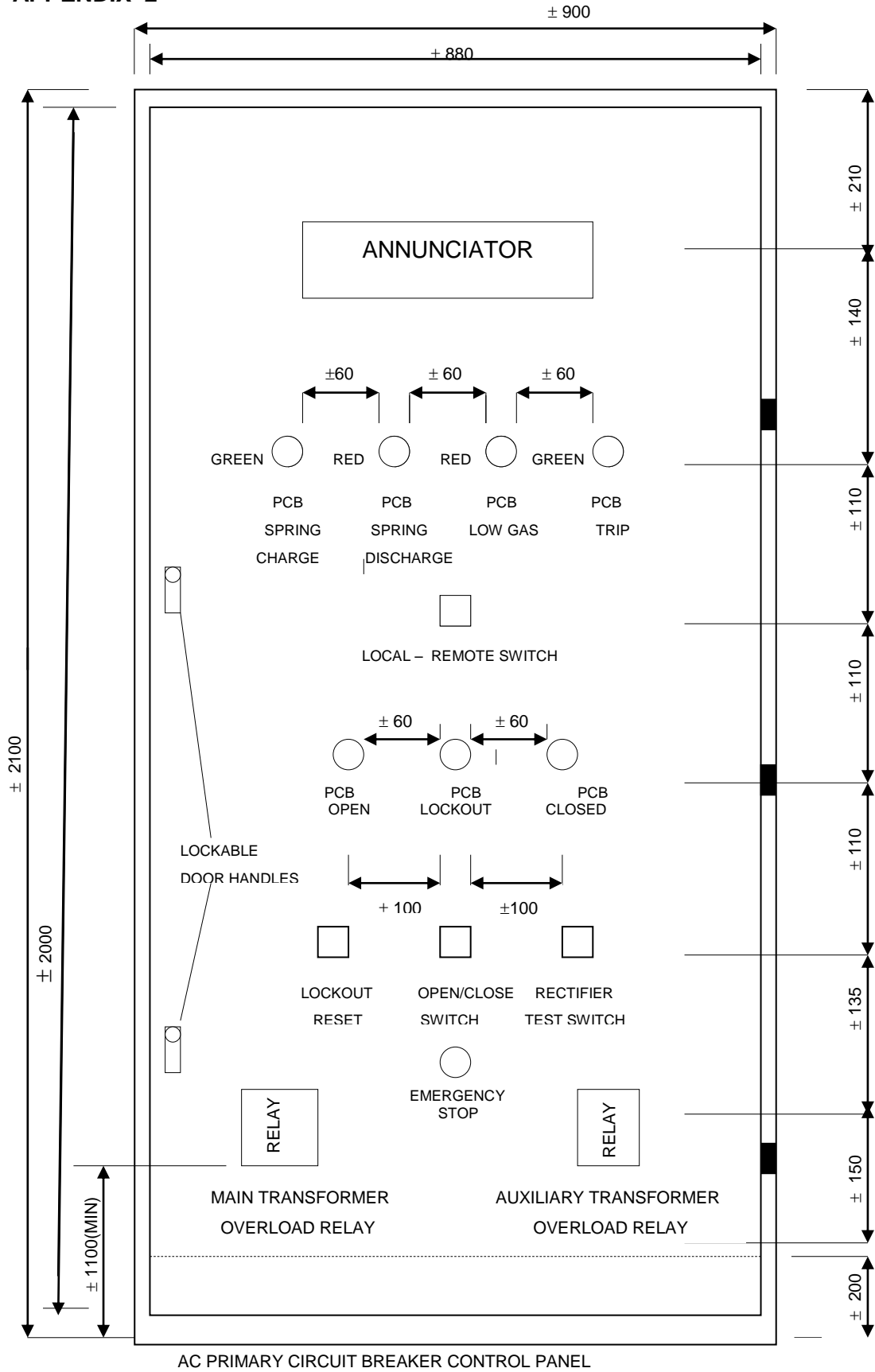
22.2 The tenderer shall provide transport for the delivery of the equipment to the site where required.

END

23.0 APPENDIX 1



24.0 APPENDIX 2



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

25.0 APPENDIX 3**SCHEDULE OF REQUIREMENTS**

(To filled in by the client)

OPTIONS OF CONTROL PANELS CONSTRUCTION.

- | | | |
|-----|---|----------|
| 1.0 | Single AC primary circuit breaker control panel. | YES / NO |
| 2.0 | Single AC/DC distribution panel. | YES / NO |
| 3.0 | Combination of 1.0 and 2.0 into one panel. | YES / NO |
| 4.0 | Name Plate of substation to be fitted on the control panels | YES / NO |



A Division of Transnet SOC Limited

TECHNOLOGY MANAGEMENT

SPECIFICATION

WAVE FILTER CAPACITORS FOR 3kV DC TRACTION SUBSTATIONS

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Date: 24 April 2019

Circulation Restricted To:
Transnet Freight Rail - Rail Network
- Technology Management

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1.0 SCOPE

- 1.1 This specification covers Transnet Freight Rail's requirements for the supply of wave filter capacitors required for DC applications such as harmonic filters.
- 1.2 The capacitors shall be used with the resonant shunts to reduce the magnitude of the 6th, 12th, 18th and the 24th harmonics at the busbar of the 3 000V DC rectifier traction substation.

2.0 STANDARDS AND PUBLICATIONS

Unless otherwise specified all materials used and equipment developed and supplied shall comply with the current edition of the relevant IEC, SANS and Transnet Freight Rail's publications where applicable.

2.1 INTERNATIONAL ELECTROTECHNICAL COMMISSION

IEC 60871 -1: 2014: Shunt capacitors for A.C power systems having a rated voltage above 1 000V.

2.2 SOUTH AFRICAN NATIONAL STANDARDS

SANS 1019: Standard voltages, currents and insulation levels for electricity supply.

SANS 1091: National Colour Standards.

SANS 60137: Insulated Bushings for Alternating Voltages above 1000V

2.3 TRANSNET FREIGHT RAIL'S PUBLICATIONS

CEE 0224: 2002 Drawings catalogues instruction manuals and spares list for electrical equipment supplied under contract.

CEE 0045: 2014 Painting of Steel Components of Electrical Equipment.

CEE TCK 004: Wave filter cell layout.

3.0 TENDERING PROCEDURE

- 3.1 The tenderer shall indicate compliance with the specification. This shall take the form of a separate document listing all the clause numbers of the specification with an individual clause by clause statement of compliance or non-compliance in English.
- 3.2 The tenderer shall motivate a statement of non-compliance.
- 3.3 The tenderer shall submit descriptive literature consisting of detailed technical specifications, general construction details and principal dimensions, together with clear illustrations of the equipment offered.
- 3.4 The tenderer shall complete and submit the technical data sheet in appendix 2.
- 3.5 Failure to comply with clauses 3.1, 3.2, 3.3 and 3.4 could preclude a tender from consideration

4.0 APPENDICES

The following appendices form an integral part of this specification and shall be read in conjunction with it.

4.1 Appendix 1 -"Schedule of Requirements"

This appendix details the specific requirements for this application.

4.2 Appendix 2 -" Information to be provided by tenderer"

This appendix calls for specific technical information to be furnished by tenderer.

5.0 SERVICE CONDITIONS**5.1 ATMOSPHERIC CONDITIONS**

Altitude: 0 to 1800m above sea level.

Ambient Temperature: -10°C to +55°C.

Relative Humidity:	10% to 90%
Lightning Conditions:	20 ground flashes per square kilometre per annum.
Pollution:	Heavily salt laden or polluted with smoke from industrial sources.

5.2 MECHANICAL SERVICE CONDITIONS

- 5.2.1 The 3kV DC traction substations are situated next to railway lines and the equipment will therefore be subjected to vibration. The design must take appropriate counter measures to ensure reliability of equipment that is sensitive to vibration.
- 5.2.2 The capacitors are to be installed in the 3kV DC traction substations and shall be floor mounted.

5.3 ELECTRICAL SERVICE CONDITIONS

- 5.3.1 The nominal no-load DC voltage of a traction substation output varies between 3150V and 3900V.
- 5.3.2 The maximum voltage under no-load conditions can increase up to 4000V depending on the traction transformer tap settings, Eskom's supply voltage and regenerative braking.
- 5.3.3 The substation voltage under load conditions may decrease to 2300 V.

6.0 POWER FILTER CAPACITORS

6.1 GENERAL

- 6.1.1 The capacitors shall form part of the resonant shunt connected to the positive and negative busbar to reduce the magnitude of the following harmonics:
- 6th at 300Hz,
 - 12th at 600Hz
 - 18th at 900Hz,
 - 24th at 1200Hz
- 6.1.2 Substations with 12-pulse rectification are normally tuned for 12th and 24th harmonics at 600Hz and 1200Hz, respectively. The 6-pulse type rectifier substations are normally equipped with 300Hz and 900Hz filters to reduce the effect of the 6th and 18th harmonics.
- 6.1.3 The design, construction and operation of the capacitors shall be in accordance to specification IEC 60871 -1: 2014.
- 6.1.4 A dielectric made from Polyester / Polypropylene film (PPR) is preferable.
- 6.1.5 The capacitor container shall be constructed of steel or stainless steel and shall have adequate mechanical strength to avoid bulging or bursting.
- 6.1.6 If lifting lugs are required each capacitor container shall be provided with two lugs.
- 6.1.7 Each capacitor container shall be provided with an earthing lug drilled for a 10mm screw.
- 6.1.8 The capacitor container shall be hermetically sealed. Moisture and electrical environmental interference shall have no effect on the capacitor
- 6.1.9 Each capacitor shall be provided with two bushings, one for each pole. The creepage and air clearance of the bushings shall not be less than 200 mm between the live parts of the bushings, the metal base of the container and between the bushing terminals.
- 6.1.10 The basic insulation level (BIL) for the bushings shall be at least 100kV.
- 6.1.11 The capacitors shall be immersed in a non-flammable, non-toxic and biodegradable insulating medium and sealed under vacuum.
- 6.1.12 The positioning of the capacitors in the wave filter cell shall be in accordance to drawing CEE TCK 004.

6.1.13 The capacitor shall have an integral discharge resistor.

6.1.14 The wave filter equipment in the traction substation is connected in series to a 100A fuse.

6.2 CAPACITOR RATINGS

6.2.1 The quantities required of the capacitor values are dependent on the substation rectifier arrangement (12-pulse or 6-pulse rectification). The capacitors shall be made up of the following units:

- 10 Microfarad - 80 ampere continuous,
- 20 Microfarad - 80 ampere continuous,
- 50 Microfarad - 80 ampere continuous.

6.2.2 The capacitor shall be rated to handle up to four and one third (13 000 V) of the full load voltage (3kV) for one minute.

6.2.3 The capacitance tolerance of each capacitor shall not vary by more than 5% at 45 °C. Tenderers shall state and guarantee the tolerance of the capacitors offered.

6.2.4 Tenderers are requested to state the following:

- Maximum permissible voltage of the capacitor,
- Maximum permissible current of the capacitor, as per requirement of clauses 19 and 20 of the IEC 60871 -1: 2014 specification.

6.3 ADMISSIBLE OVERLOADS

6.3.1 The continuous rated excess voltage shall be at least 20% of the full load voltage (3 kV).

6.3.2 The excess continuous current rating shall be at least 50% of the rated current.

6.3.3 The rated kilo-Volt-Ampere reactive (kVAR) power shall be at least 40% of the rated power.

6.4 RATING PLATE

6.4.1 A non-corrosive metal nameplate shall be fixed to each capacitor container giving the following information:

- Manufactures Name,
- Identification Number,
- Continuously Rated AC Current,
- Rated DC Voltage,
- Temperature Category,
- Insulating Medium,
- Insulating Level,
- Measured Capacitance in Microfarad.

6.4.2 The nameplate shall be positioned such that it is visible in the position of normal service and installation.

6.5 INSULATION

6.5.1 All capacitors shall be insulated to withstand a pressure of not less than 20 000 volts DC for one minute between the terminals. This must also be applicable between the short-circuited terminals and the container.

6.5.2 Tenderers are requested to state the expected deterioration pattern of the dielectric of the capacitors with time, while in service, and the test voltages that can be applied to the capacitors approximately six months after the manufacturer's tests.

6.6 LIFE EXPECTANCY OF THE CAPACITOR

6.6.1 The capacitor shall have a rated life expectancy of not less than 20 years (175 000 working hours).

6.7 TESTS

6.7.1 The capacitors shall be subjected to the test requirements as set out in specification IEC 60871 -1: 2014.

6.7.2 All the types of tests shall be done in accordance to specification IEC 60871 -1: 2014 and shall be conducted on each type of capacitor offered.

6.7.3 A Type Test certificate shall be submitted for each type of capacitor offered.

6.7.4 The tenderer shall also submit routine test certificates for each capacitor offered.

7.0 QUALITY ASSURANCE

7.1 Transnet Freight Rail reserves the right to carry out inspection and any tests on the equipment at the works of the supplier/manufacturer.

7.2 Arrangements will be made timeously for such inspections to be carried out before the delivery of the equipment.

8.0 GUARANTEE AND DEFECTS

8.1 The tenderer shall guarantee the satisfactory operation of the equipment supplied and accept liability for maker's defects, which may appear in design, materials and workmanship.

8.2 The guarantee period for the equipment shall expire after: A period of 12 months commencing on the date of installation and commissioning of the equipment or the date the equipment is handed over to Transnet Freight Rail whichever is the latest.

9.0 PACKAGING AND TRANSPORT

9.1 The tenderer shall ensure that the equipment be packed in such a manner that it will be protected during handling and transportation.

9.2 The tenderer shall provide transport for the delivery of the equipment to the site where it is required.

10.0 BIBLIOGRAPHY

[1] SANS, "SANS 1019: 2014 Standard voltages, currents and insulation levels for electricity supply," SABS Standards Division, Pretoria, South Africa, 2014.

[2] SANS, "SANS 1091: National Colour Standards," SABS standard division, Pretoria, South Africa.

[3] SANS, "SANS 60137: Insulated Bushings for Alternating Voltages above 1000V," SABS standard division, Pretoria, South Africa.

[4] IEC, "IEC 60871 -1: 2014: Shunt capacitors for A.C power systems having a rated voltage above 1 000V," International Electrotechnical Commission, 2014.

END

11.0 APPENDIX 1

SCHEDULE OF REQUIREMENTS

(To be filled in by Transnet Freight Rail's Maintenance Depot)

1.0 CAPACITORS

1.1 10 MicroFarad

- Quantity Required: _____

1.2 20 MicroFarad

- Quantity Required: _____

1.3 50 MicroFarad

- Quantity Required: _____

2.0 MAINTENANCE DEPOT

2.1 Depot Name: _____

2.2 Depot Address: _____

12.0 APPENDIX 2

TECHNICAL DATA SHEET

(To be filled in by Tenderer)

- Capacitance Value (C_N): _____
- Capacitance Tolerance: _____
- Detailed Description of Capacitor: _____
- Overall Mass of the Capacitor: _____
- Overall Dimensions of the Capacitor: _____
- Dielectric Insulating Medium: _____
- Container Material: _____
- Rated Current in RMS (I_N): _____
- Rated Voltage in RMS (U_N): _____
- Rated Output (Q_N): _____
- Temperature Category: _____
- Maximum Permissible AC Current: _____
- Maximum Permissible AC Voltage: _____
- Maximum Permissible Temperature: _____
- Capacitor Losses: _____
- Active Power: _____
- Steady State Condition: _____
- Residual Voltage: _____
- BIL (Bushing): _____
- Life Expectancy: _____

END