

TRANSNET FREIGHT RAIL, a division of

TRANSNET SOC LTD

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

REQUEST FOR QUOTATION [RFQ] No: SCS D0785 (CRAC DNR 13323)

FOR THE SUPPLY OF: LOW-VOLTAGE POWER SUPPLY DEVICES

REQUIRED AT: LADYSMITH

ISSUE DATE: 24 FEBRUARY 2014

BRIEFING: N/A

CLOSING DATE: 13 MARCH 2014

CLOSING TIME: 10:00

Section 1 NOTICE TO BIDDERS



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

METHOD: [COURIER / HAND DELIVER TO TENDER BOX]

CLOSING VENUE: [TENDER BOX ALLOCATED AT THE CHAIRPERSON TRANSNET FREIGHT RAIL ACQUISITION COUNCIL GROUND FLOOR, INYANDA HOUSE 1, 21 WELLINGTON ROAD, PARKTOWN, JOHANNESBURG]

1 Responses to RFQ

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

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

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

2.1 B-BBEE Scorecard and Rating

As prescribed in terms of the Preferential Procurement Policy Framework Act (PPPFA), Act 5 of 2000 and its Regulations, Respondents are to note the following:

- Proposals will be evaluated on price which will be allocated 80 points and preference which will be allocated 20 points, dependent on the value of the Goods
- The 80/20 preference point system applies where the acquisition of the Goods will be less than R1 000 000.00.
- If the 80/20 preference point system is stipulated and all Bids received exceed R1 000 000.00,
 the RFP will be cancelled

In compliance with the Government Gazette No 34612, Notice No. 754 dated 23 September 2011, as from 1 October 2011 valid B-BBEE Verification Certificates must be issued by:

- a) Verification Agencies accredited by the South African National Accreditation System [SANAS]; or
- b) Registered Auditors approved by the Independent Regulatory Board of Auditors [**IRBA**], in accordance with the approval granted by the Department of Trade and Industry.

Enterprises will be rated by such agencies based on the following:

- c) Large Enterprises [i.e. annual turnover greater than R35 million]:
 - Rating level based on all seven elements of the B-BBEE scorecard
- d) Qualifying Small Enterprises QSE [i.e. annual turnover between R5 million and R35 million]:
 - Rating based on any four of the elements of the B-BBEE scorecard
- e) Exempted Micro Enterprises EME [i.e. annual turnover less than R5 million]:

In accordance with B-BBEE Codes of Good Practice [Statement 000, Section 4], any enterprise with an annual total revenue of R 5 million or less qualifies as an EME.



- Automatic rating of B-BBEE Level 4 irrespective of race or ownership
- Black ownership greater than 50% or Black Women ownership greater than 50% automatically qualify as B-BBEE Level 3

Sufficient evidence to qualify as an EME would be a certificate (which may be in the form of a letter) from an auditor or accounting officer or a certificate from a Verification Agency accredited by SANAS. The certificate must confirm the company's turnover, black ownership / black female ownership and B-BBEE status level.

Respondents are required to furnish proof of the above to Transnet. [i.e. a detailed scorecard as stipulated above in respect of Large Enterprises and QSEs, or a certificate in respect of EMEs].

Transnet will accordingly allocate a maximum of **10 [ten] points** in accordance with the **90/10** preference point system prescribed in the Preferential Procurement Policy Framework Act (PPPFA), Act 5 of 2000 and its Regulations to the Respondent's final score based on an entity's B-BBEE scorecard rating. [Refer Annexure A for further details].

N.B. Failure to submit a B-BBEE certificate, which is valid as at the Closing Date of this RFP, will result in a score of zero being allocated for B-BBEE.

[Refer Section 3, Vendor Application Form, for Returnable Documents required]

2.2 Further Recognition Criteria

a) Further Recognition Criteria (Current)

As a pre-qualification criterion, certain minimum requirements with regard to the Respondent's CURRENT B-BBEE status at the time of submission of their bid must be met. These minimum requirements will be measured based on the extent to which the Respondent's current black ownership, management control and employment equity meets or exceeds certain minimum targets. Please note that a Respondent's ownership, management control and employment equity at the time of the submission of the bid, may differ from that which is reflected in the B-BBEE scorecard. When claiming that the minimum targets for FRC (Current) has been met, the Respondent must reflect his B-BBEE status at the time of submitting the bid. Supporting documentation may be requested in this regard. The minimum requirements for this RFP for FRC (Current) are stipulated in the table below:

PREQUALIFICATION CRITERIA	MINIMUM COMPLIANCE TARGET (%) AS A PERCENTAGE OF THE ORGANISATION	
Further Recognition Criteria (Current):		
	2%	
Black Ownership	2%	
Black Management Control	10/	
Employment Equity	1%	

N.B. Failure to achieve the minimum prequalification targets allocated for FRC. (Current) for any one of the criteria listed above at the closing date of this tender will result in disgualification.



Note: Should a JV be envisaged, the principal Respondent is required to submit the required responses as indicated above.

3 Communication

- Respondents are warned that a response will be liable for disqualification should any attempt be made by a Respondent either directly or indirectly to canvass any officer(s) or employee of Transnet in respect of this RFQ between the closing date and the date of the award of the business.
- b) A Respondent may, however, before the closing date and time, direct any written enquiries relating to the RFQ to the following Transnet employee:

Name:

DAREN REDDY

SINDI NKOSI

Email:

daren.reddy@transnet.net

sindi.nkosi@transnet.net

TEL: (031) 3614276

TEL: (036) 2712027

RFQ Document may be obtained on or after **Monday 24 February 2014** at the Reception, Tender Advice Centre, Inyanda House 1, Ground Floor, 21 Wellington Road, Parktown, Johannesburg, free of charge alternatively at Reception, Supply Chain Services, 100 Eel Road, Bayhead, Durban

c) Respondents may also, at any time after the closing date of the RFQ, communicate with, PRUDENCE NKABINDE on any matter relating to its RFQ response:

Telephone

011 5449486

Email

tac.secretariat@transnet.net

4 Tax Clearance

The Respondent's original valid Tax Clearance Certificate must accompany the Quotation. Failure to provide this document with the RFQ submission will result in disqualification.

5 VAT Registration

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

6 Legal Compliance

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

7 Changes to Quotations

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

8 Pricing

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

9 Prices Subject to Confirmation

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

10 Negotiations

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

11 Binding Offer

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

12 Disclaimers

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

- modify the RFQ's goods / service(s) and request Respondents to re-bid on any changes;
- reject any Quotation which does not conform to instructions and specifications which are detailed herein;
- disqualify Quotations submitted after the stated submission deadline;
- not necessarily accept the lowest priced Quotation;
- reject all Quotations, if it so decides;
- place an order in connection with this Quotation at any time after the RFQ's closing date;
- award only a portion of the proposed goods / service/s which are reflected in the scope of this RFQ;
- split the award of the order/s between more than one Supplier/Service Provider; or
- make no award at all.

In addition, Transnet reserves the right to exclude any Respondent from the bloding 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. Respondents are required to indicate below whether or not
they have been found guilty of a serious breach of law during the past 5 [five] years:
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 Respondent 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 Respondent from the bidding process, should that person or entity have been found guilty of a serious breach of law, tribunal or regulatory obligation.

13 Respondent's Samples

Only in cases when the Respondent submits a sample(s) of the goods / products / material quoted for, the sample(s) must be endorsed with the RFQ number and description and forwarded on or before the deadline date to the following addressee:

SINDI NKOSI, sindi.nkosi@transnet.net, TEL: (036) 2712027

14 Evaluation Criteria

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

- Administrative responsiveness Completeness of response and returnable documents
- Substantive responsiveness Prequalification criteria, if any, must be met
- Technical threshold of 90/10 %: Compliance to specification / quality, previous performance, delivery lead-time
- Weighted evaluation based on 90/10 preference point system:
 - Pricing and price basis [firm] whilst not the sole factor for consideration, competitive pricing and overall level of unconditional discounts¹ will be critical

Transnet will utilise the following formula in its evaluation of Price:

$$PS = 90 \left(1 - \frac{Pr - Pmin}{Pmin} \right)$$

Where:

Ps = Score for the Bid under consideration
Pt = Price of Bid under consideration
Pmin = Price of lowest acceptable Bid

B-BBEE status of company

Preference points will be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

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



B-BBEE Status Level of Contributor	Number of points (90/10 system)	
1	20	
2.	18	
3	16	
4	12	
5	8	
6	6	
7	4	
8	2	
Non-compliant contributor	0	

15	Validity Period
	Transnet desires a validity period of 90 [ninety] days from the closing date of this RFQ.
	This RFQ is valid until
16	Banking Details
	BANK:
	BRANCH NAME / CODE:
	ACCOUNT HOLDER:
	ACCOUNT NUMBER:
17	Company Registration
	Registration number of company / C.C.
	Registered name of company / C.C
18	Disclosure of Prices Quoted
	Respondents must indicate here whether Transnet may disclose their quoted prices and conditions to
	other Respondents:
	YES NO
	P. M. H. Warden

19 Returnable Documents

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

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

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

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



	Returnable Documents	Submitted [Yes or No]
SECTIO	N 1 : Notice to Bidders	
//=	Valid B-BBEE Verification Certificate [RSA Large Enterprises and QSEs] Note: failure to provide a valid B-BBEE Verification Certificate at the closing date and time of the tender will result in an automatic score of zero being allocated for B-BBEE scorecard	
78	Valid B-BBEE certificate from auditor, accounting officer or SANAS accredited Verification Agency [RSA EMEs] Note: failure to provide a valid B-BBEE Verification Certificate at the closing date and time of the tender will result in an automatic score of zero being allocated for B-BBEE scorecard	
SECTIO	DN 2 : Quotation Form	
SECTIO	N 3: Vendor Application Form	
9	Original cancelled cheque or bank verification of banking details	
•	Certified copies of IDs of shareholder/directors/members [as applicable]	
0	Certified copy of Certificate of Incorporation [CM29/CM9 name change]	
0	Certified copy of share certificates [CK1/CK2 if C.C.]	
	Entity's letterhead	
	Certified copy of VAT Registration Certificate [RSA entities only]	
0	Certified copy of valid Company Registration Certificate [if applicable]	
•	Original valid Tax Clearance Certificate [Consortia / Joint Ventures / Sub- contractors must submit a separate Tax Clearance Certificate for each party]	

Section 2 QUOTATION FORM



I/We	
W. 600.W. 1.6.	

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

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

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

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

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

Price Schedule

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

Item No	Description of Goods	Unit of Measure	Quantity	Unit Price (ZAR)	Total Price (ZAR)
1	POWER CUBICLE PDC (AS PER DRWAING)	EACH	7		
2	TRANSFORMER CUBICLE (AS PER DRAWING)	EACH	7		
3	19"1U RACK MOUNTED 4 MODULE P/S 60VDC	EACH	15		
4	19"1U RACK MOUNTED 4 MODULE P/S 110VDC	E.ACH	15	161	
5	DIN RAIL MOUNTED RECTIFIER 12VDC 15A	EACH	12		
6	DIN RAIL MOUNTED RECTIFIER 48VDC 10A	EACH	20		

Delivery Lead-Time from date of purchase order: ______ [days/weeks]

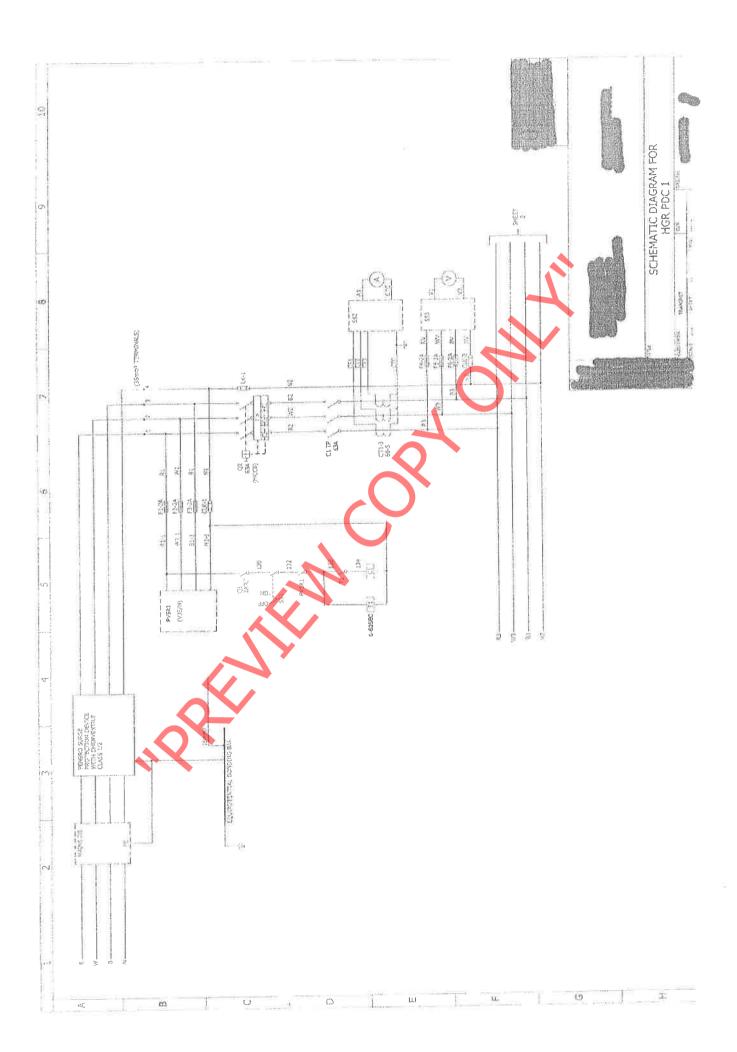
Notes to Pricing:

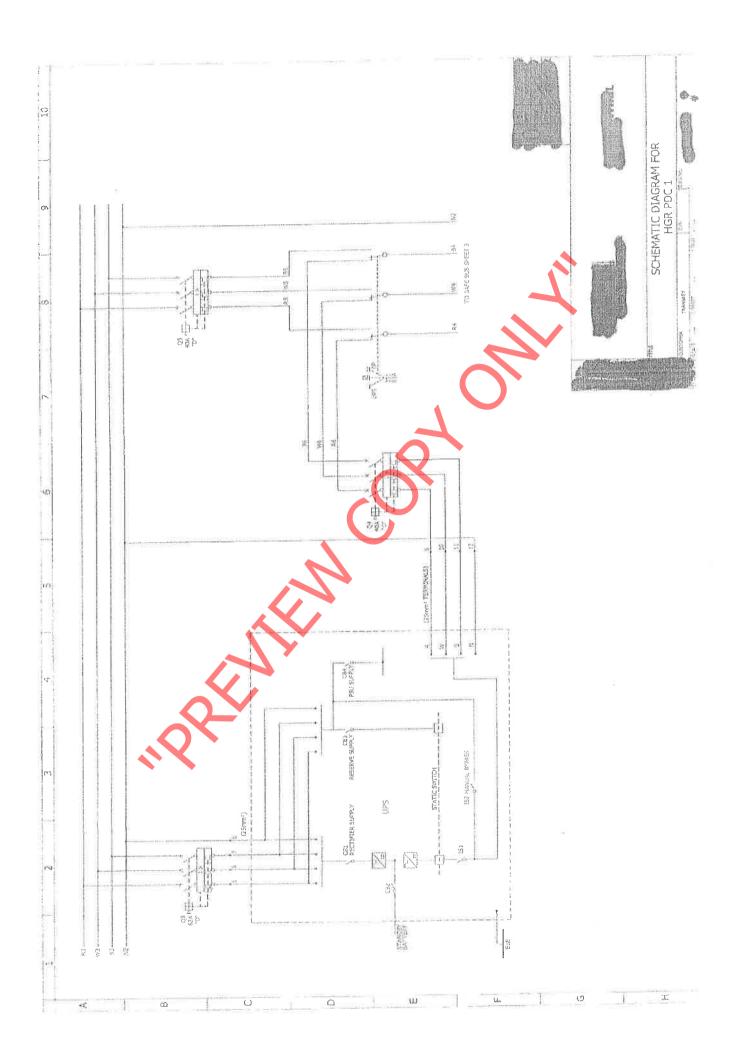
- a) All Prices must be quoted in South African Rand, exclusive of VAT
- b) To facilitate like-for-like comparison bidders must submit pricing strictly in accordance with this price schedule and not utilise a different format. Deviation from this pricing schedule could result in a bid being disqualified.
- c) Please note that should you have offered a discounted price(s), Transnet will only consider such price discount(s) in the final evaluation stage if offered on an unconditional basis.

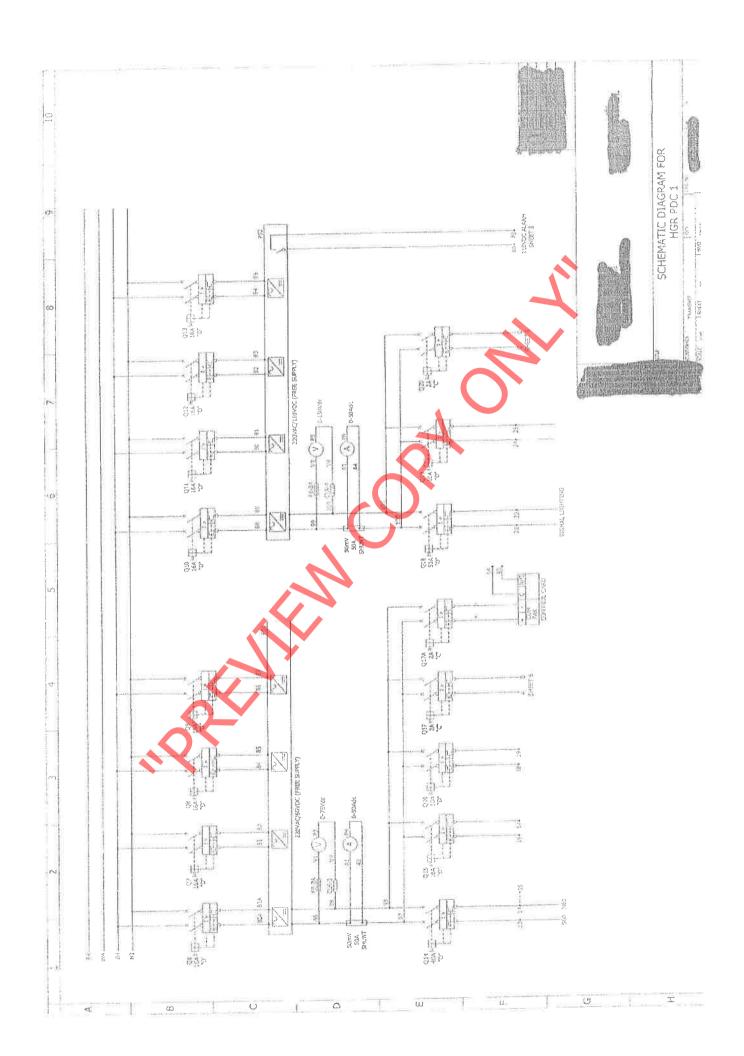
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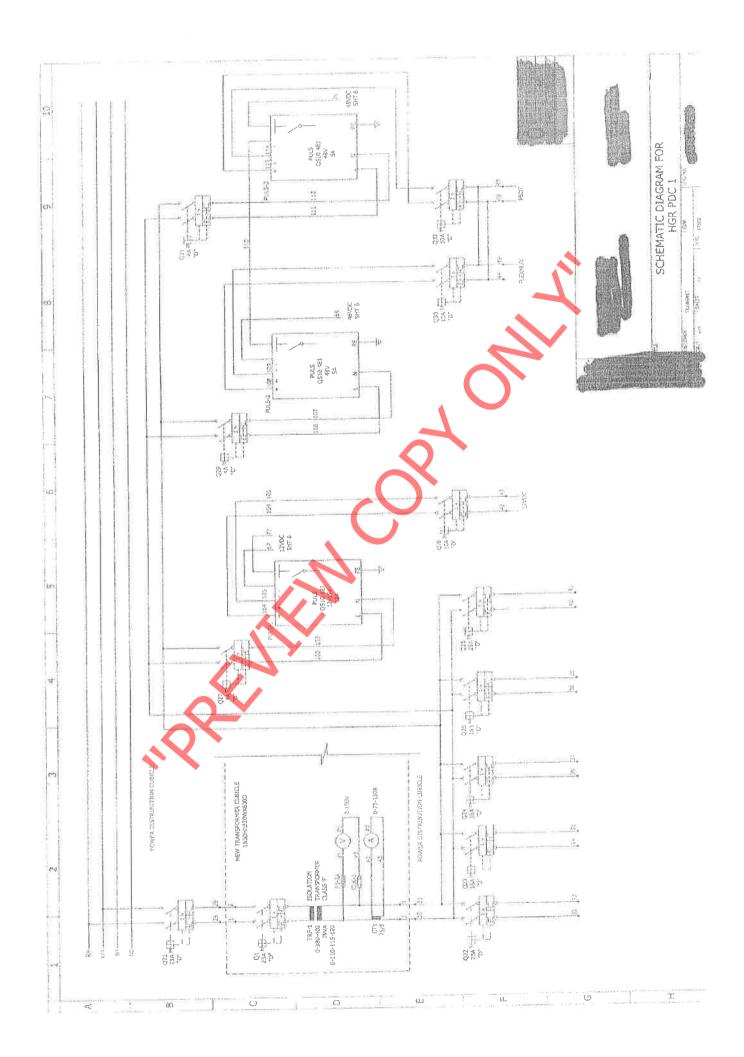
POWER CUBICLE PDC_LDY AS PER ATTACHED DRAWING
TRANSFORMER CUBICLE PDC_LDY AS PER ATTACHED DRAWING
19" 1U RACK MOUNTED 4 MODULE P/S 60VDC (SPEC BBF3861)
19" 1U RACK MOUNTED 4 MODULE P/S 110VDC (SPEC BBF3862)
DIN RAIL MOUNTED RECTIFIER 12VDC 15A (SPEC BBF3705)
DIN RAIL MOUNTED RECTIFIER 48VDC 10A (SPEC BBF3858)

POWER CUBICLE PDC_LDY AS PER ATTACHED DRAWING TRANSFORMER CUBICLE PDC_LDY AS PER ATTACHED DRAWING 19" LU RACK MOUNTED 4 MODULE P/S 60VDC (SPEC BBF3861) 19" LU RACK MOUNTED 4 MODULE P/S 110VDC (SPEC BBF3862) 19" LU RACK MOUNTED RECTIFIER 12VDC 15A (SPEC BBF3863) 10 IN RAIL MOUNTED RECTIFIER 48VDC 10A (SPEC BBF3863) Note all prices to exclude 14% Note all prices to exclude 14%	DESCRIPTION	QTY	UNIT PRICE EACH	TOTAL PRICE
TOTAL	OWER CUBICLE PDC_LDY AS PER ATTACHED DRAWING	7		
TOTAL	ANSFORMER CUBICLE PDC_LDY AS PER ATTACHED DRAWING	7		
TOTAL	" 1U RACK MOUNTED 4 MODULE P/S 60VDC (SPEC BBF3861)	[m]		
BBF3858) TOTAL	" 1U RACK MOUNTED 4 MODULE P/S 110VDC (SPEC BBF3862)	15		
BBF3858) TOTAL	N RAIL MOUNTED RECTIFIER 12VDC 15A (SPEC BRF3705)	12		
	N RAIL MOUNTED RECTIFIER 48VDC 10A (SPEC 8BF3858)	20		
Note all prices to exclude 14%		TOTAL		
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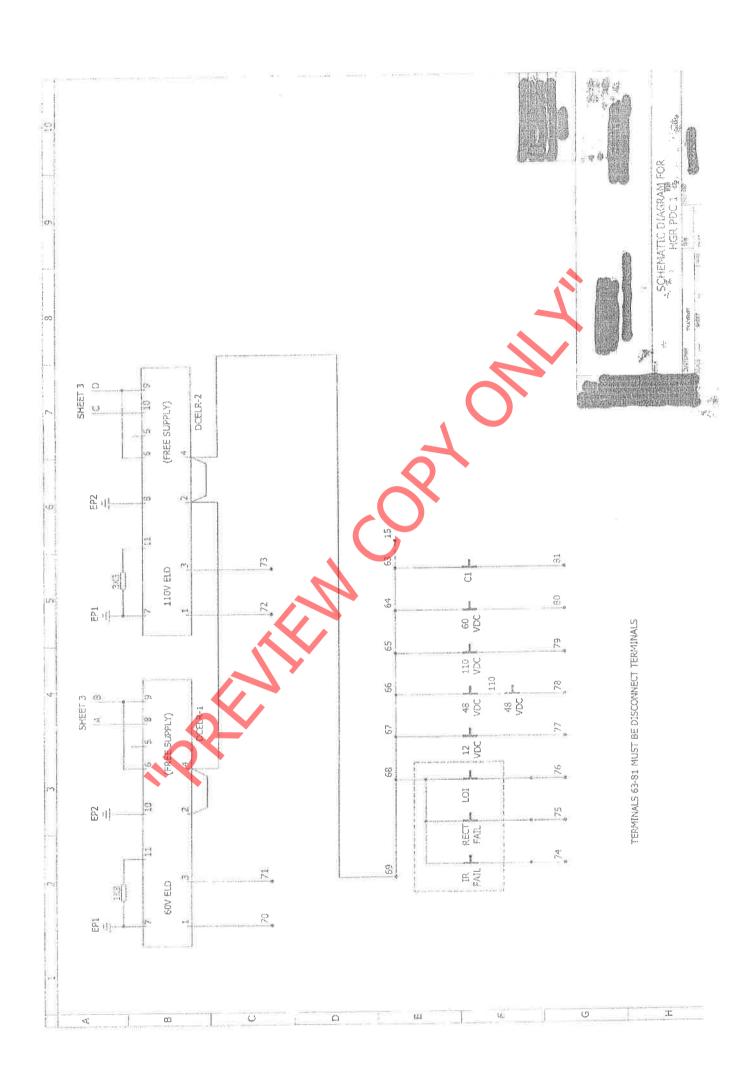


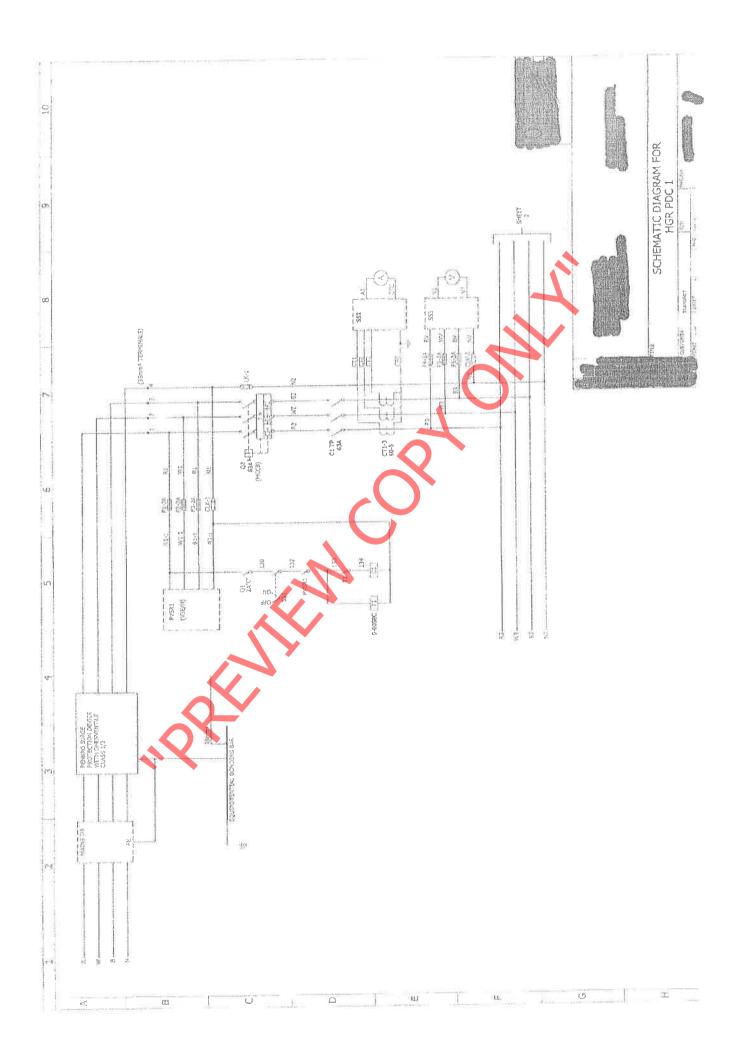


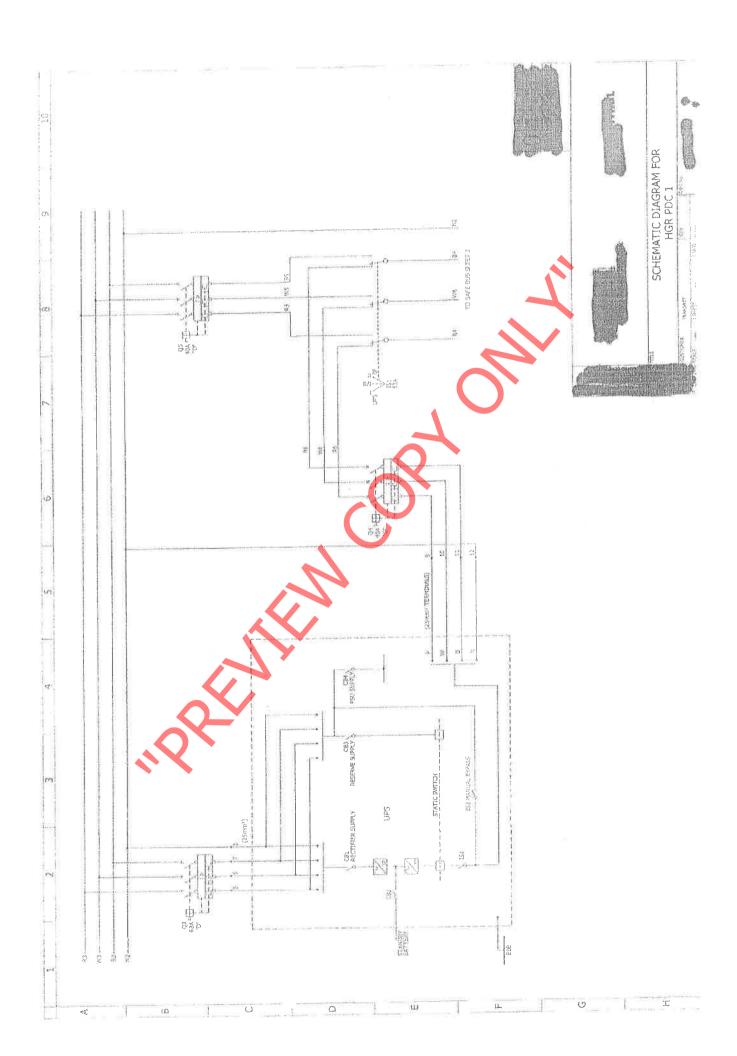


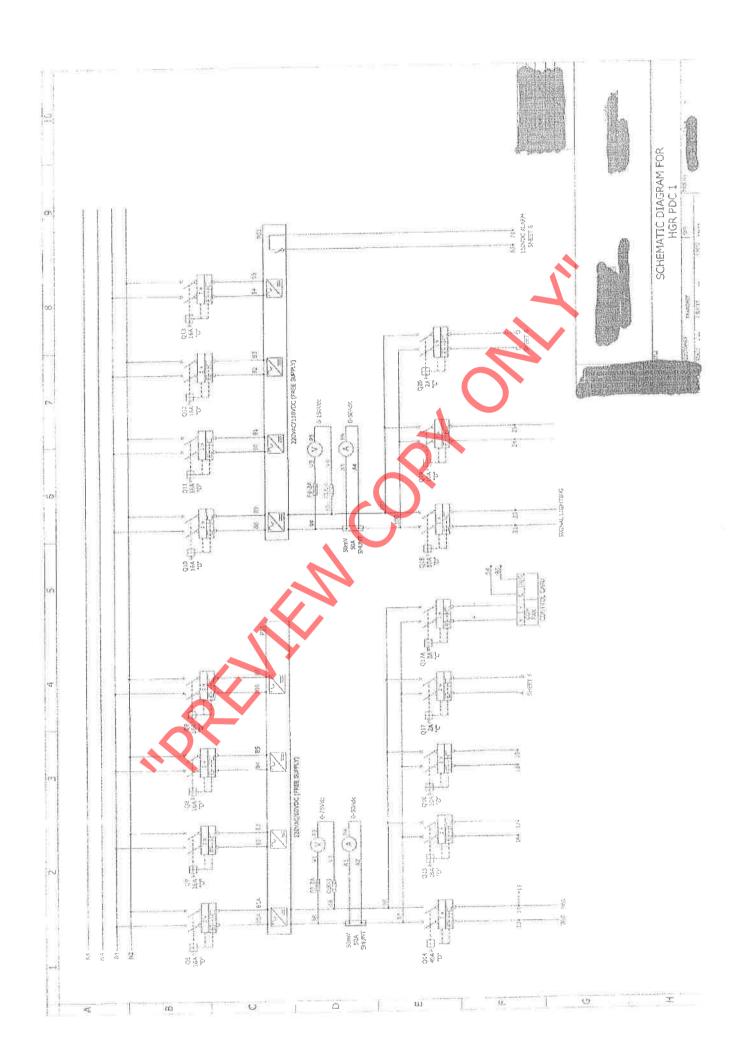


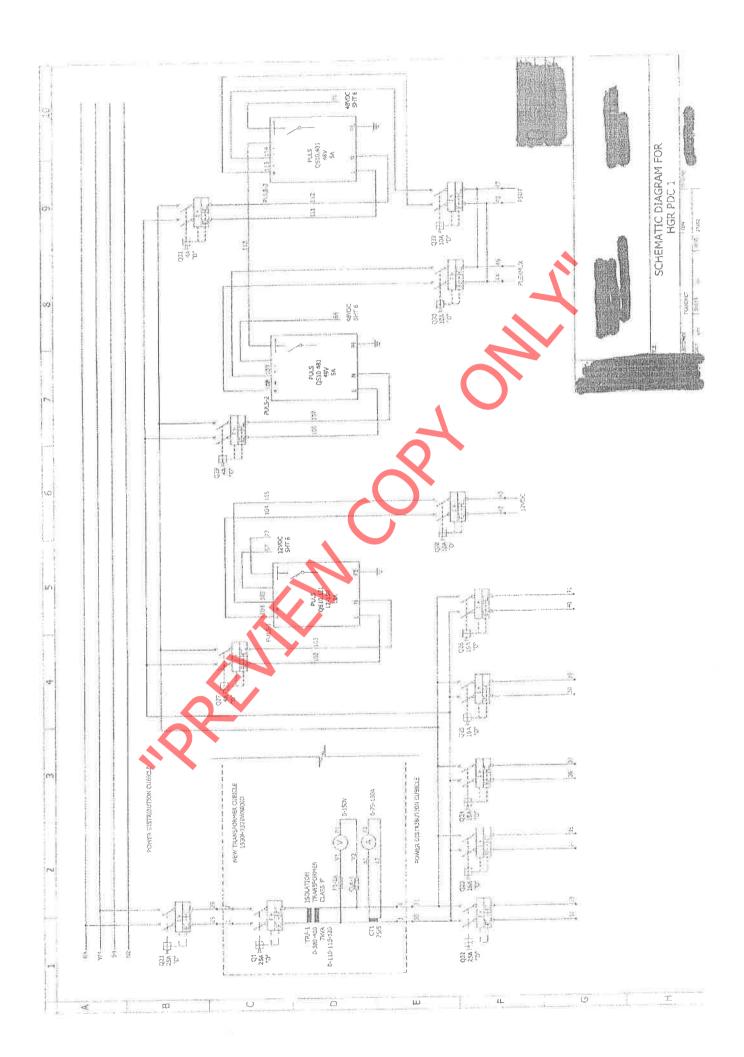


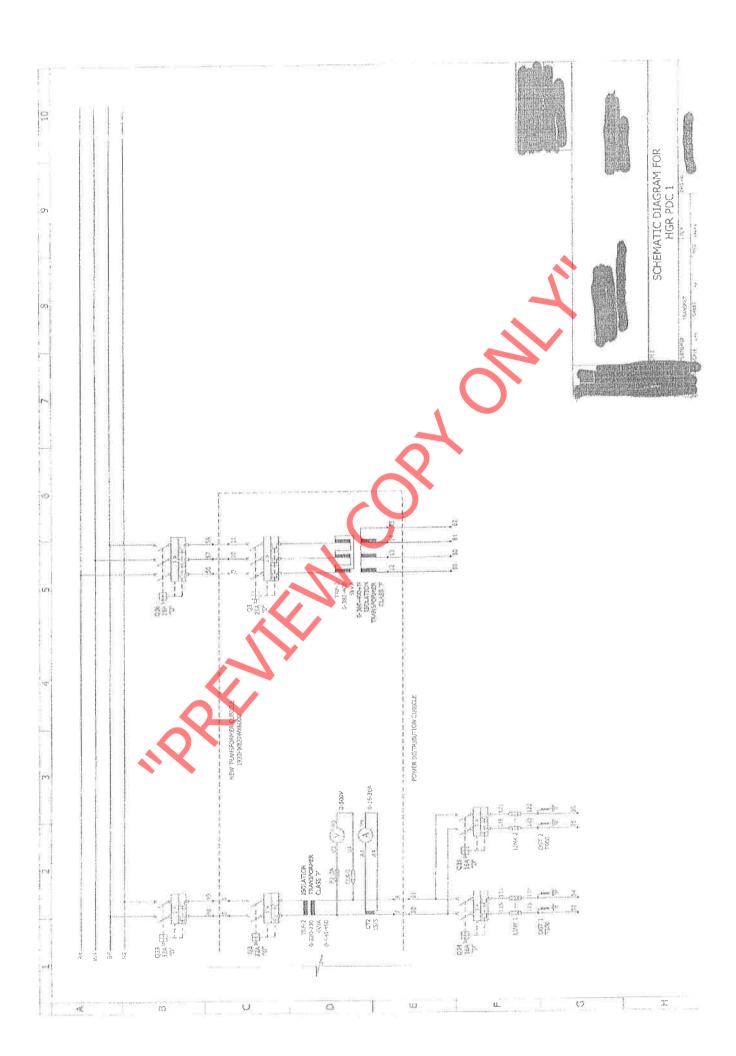


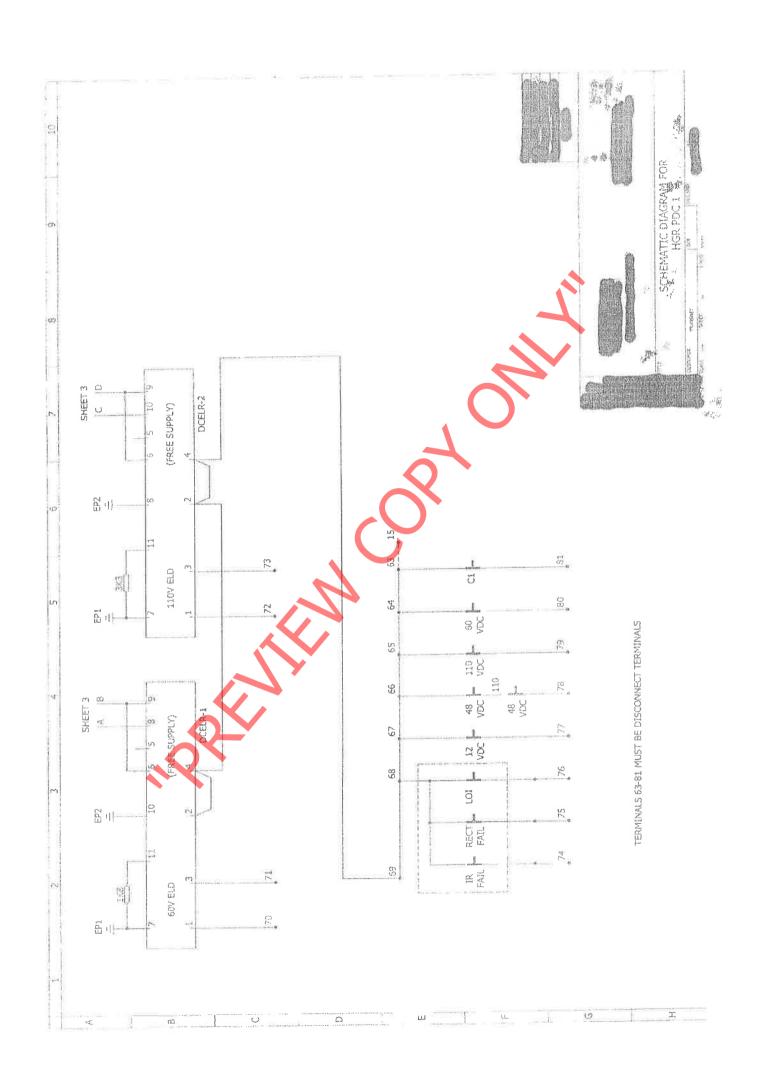


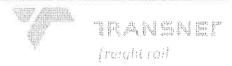












A Division of Transnet SOC Limited

TECHNOLOGY MANAGEMENT

SPECIFICATION

Low-voltage power supply devices, d.c. 12V output, for use in Railway Signalling Applications

Author:

Senior Engineer

Technology Management

Approved:

Chief Engineering Technician

Infrastructure Technical

Approved

Chief Engineering Technician

Technology Management

Authorised:

Principal Engineer

Technology Management

RA Langley

P Doorewaard

R Prinsloo

J Kannemeyer

Date

May 2012

Circulation Restricted To:

Transnet and Relevant Third Parties

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SCOPE

1.1 Identification

Single phase AC / DC input, DC output, 12V, DIN-rail mounted modular power supply,

1.2 Item overview

The power supply is intended to be used as a stable highly available 12V DC supply for Transnet signalling equipment. It will form part of the general standby power configuration found in signaling systems and will be fed by UPS, raw mains or DC from a standby battery bank. The supply may also be required to charge a deep cycle 12V lead acid battery to full capacity. Although power module wattage may differ, the optimum building block for most applications is 150 to 180W continuous output power at 13.6V output voltage.

1.3 Document overview

This document lays down the requirements for a 12V DC output power supply for use in Transnet signaling applications.

2. APPLICABLE DOCUMENTS

2.1 Integrated documents

2.1.1 Transnet documents

- (1) CSE 1154-001; Environmental specification for Spoornet railway signalling systems
- (2) BBC 5665: Single Phase Static Uninterruptable Power Supply 3 to 10kVA
- (3) BBC 5666: Three Phase Static Uninterruptable Power Supply 10 to 125kVA

2.1.2 Standards

- (1) SANS 61204 Low-voltage power supply devices, d.c. output Performance characteristics
- (2) SANS 61000-6-1: Electromagnetic compatibility (EMC) Part 6-1: Generic standards Immunity for residential, commercial and light-industrial environments
- (3) SANS 61000-6-2: Electromagnetic compatibility (EMC) Part 6-2: Generic standards Immunity for industrial environments
- (4) SANS 61000-6-3: Electromagnetic compatibility (EMC) Part 6-3: Generic standards Emission standard for residential, commercial and light-industrial environments
- SANS 61000-6-4: Electromagnetic compatibility (EMC) Part 6-4: Generic standards Emission standard for industrial environments
- (6) EN 50121-4: Railway applications Electromagnetic compatibility Part4: Emission and immunity of signalling and telecommunications apparatus.
- (7) EN 60950-1: Information technology equipment Safety Part 1: General requirements

3. REQUIREMENTS

3.1 Definition

3.1.1 Item definition

The power supply is intended for use as a stable highly available 12V DC supply for signalling equipment. It will form part of the general standby power configuration found in signaling systems.

3.1.2 Interface definition

The power supply shall be fed by single phase 230VAC or 110VAC (via 380/110 transformer) from an industrial type UPS or raw mains, should the UPS revert to static bypass mode. During operation from raw mains, large voltage fluctuations and large harmonic content will be present on the supply input as per 2.1.1(2) appendix B. Where 110V battery banks are used as a standby power source, the supply may be required to run directly off the 110VDC supply over the whole battery voltage range from load shedding voltage (1.85V/cell) to boost voltage (2.35V/cell) of a 55 cell battery bank.

The power supply output shall form the basis of a constant stable 12VDC and higher output voltage to allow the charging of a 12V deep cycle sealed lead acid battery if required. The power supply may be used on its own or may be required to share load with similar modules for increased availability through redundancy or for higher wattage loads. The module output shall be monitored and availability of the output shall be provided in a voltage free contact as interface to the signal remote control system.

3.2 Characteristics

3.2.1 Performance characteristics as per 2.1.2 (1)				
	Performance c	haracteristics as	ner 2 1 2 (*	1

(1) Rated outputs:

Single isolated 12V output

Total module output power - optimum value for

this application is 150W - 180W

(2) Ambient operating temp range:

Grades A, B and C as per 2.1.1 (1) with full output

still available at 60°

(3) Ambient storage temperature:

0,290

-25°C to 70°C

(4) Source voltage and frequency:

AC input range:

Wide range A

85V -264V

DC input range:

100VDC to 135VDC

Frequency range:

DC and range B 48Hz to 63Hz

(5) Source current:

Manufacturer shall specify the full load true rms input current at the lowest and highest input voltages as per 3.2.1 (4). These values shall confirm the efficiency, power factor and power

losses at the specific operating point.

Inrush current:

Limited to below 10A_{peak} with inrush 'energy' below

 $1A^2s$.

Power factor:

>0.9 for output power > half the maximum

specified continuous output rating.

Efficiency:

>90% for output power > half the maximum

specified continuous output rating.

(6) Source regulation:

Criterion (A) 0.1% over full input voltage and

frequency range.

(7) Load regulation:

Criterion (C) 1% for load change (A) 0 to 100%

(8) N/A

(9) Adjustability of output voltage:

Span 100% to 125% continuous adjustment

(10) Periodic and random deviation:

Ripple and noise voltage - criterion (A) <0.5%

(11) N/A

(12) Temperature coefficient:

Criterion (A) 0.01%/"C

(13) Hold-up time:

Criterion (A) more than 20ms from the next zero

crossing following the source voltage outage.

(14) Start-up time:

This value is not critical in this application -

criterion (C) 500ms

(15) Turn-on (off) overshoot:

Criterion (B) 1%, no voltage reversal of output

ever.

(16) Transient response to load current changes:

Criterion (A) 2% for Criterion (A)

1ms duration for criterion (A) load change 100% to

0% and 0% to 100%

(17) Output overvoltage protection:

Criterion (C) 110% to 130% of the maximum of the adjustable output voltage. Overvoltage protection shall be by means of independent redundant electronic circuitry on an inhibit and retry system or by crowbar protection across the output. In the

case of a crow bar circuit the maximum continuous external supply current that can be absorbed by the power supply shall be stated, as well as the required protection circuitry if the supply is used to charge a battery or if module

outputs are run in parallel.

(18) Output overcurrent protection

The manufacturer shall confirm the type of overcurrent protection used and shall illustrate the functioning thereof in a graph as per the relevant annexure of 2.1.2 (1). In this application fold back current limiting is not an option as this will prevent the power supply from charging a discharged 12V

battery.

(19) Mean time between failures:

MTBF MIL-HDBK-217E, 25°C calculation GB

300000h

3.2.2 Protective devices

(1) Thermal Protection:

Continuous full output power shall be available for ambient temperatures up to 60°C, derating to no lower than 50% output power available at 70°C at altitudes up to 2000m above sea level. Thermal shut down shall reset automatically after the module has cooled off to an acceptable level.

(2) Input overcurrent protection

The manufacturer shall confirm that the unit is protected by fuses, or interrupting devices such as circuit breakers, thermal switches or other design providing input current limitation.

3.2.3 Isolation

- (1) The output voltage shall be floating with no ohmic connection to ground.
- (2) The output shall be isolated from the input up to a test voltage of 1kV dc. applied as per 2.1.2 (7).

3.2.4 Additional Requirements

(1) Remote control:

No remote control of the power supply is required.

The output voltage shall be set on the module

during installation.

(2) Remote sensing:

The power module shall provide a voltage free contact to be used for remote sensing. The contact shall be closed while the module functions within specified limits. The contact shall be rated for at least 60VDC at 300mA with a resistive load.

3.2.5 Interchangeability

Future modules of the supply shall be backward compatible to the currently offered product and shall allow the paralleling of the outputs of future models with the current models.

3.2.6 Mechanical Characteristics

- (1) Modules shall mount on a 35mm DIN-rail with a height of 7.5 or 15mm.
- (2) Modules shall weigh less than 1kg
- (3) The modules shall be constructed so that no additional covers are required for use in the prescribed locations.
- (4) All electrical connections shall be on the front panel of the power module to allow replacement with an alternative product without requiring extensive rewiring of the frame.
- (5) Electrical connections shall be by high quality bi-stable, quick connect spring clamp terminals usable with or without ferrules

3.2.7 Parallel operation

The power modules shall allow the parallel connection of the respective module outputs of up to three similar modules without any additional components such as series diodes required, although the addition of series diodes may improve the functionality of the paralleled installation.

3.2.8 <u>EMC</u>

The power modules will be mounted in the vicinity of other sensitive electronic equipment and the output will form the supply of sensitive electronic equipment. EMI generated by the power module shall be limited to not interfere with the above equipment.

The power module may be mounted in the close vicinity of and fed from other sources of EMI such as the switch mode UPS. This interference shall cause no degradation of performance or loss of function due to this interference.

Standard 2.1.2 (6) tables the various environmental phenomena, basic standard and test setup.

3.3 Documentation

Full product documentation shall be supplied. Documentation shall include detailed performance characteristics as required by 2.1.2, installation and operation instructions and application notes.

3.4 Approval requirements

The power supply forms part of Transnet's safety equipment and therefore needs to be approved by Transnet before it can be considered for implementation. Approval of new power supplies include laboratory testing against this specification and a sample installation of at least two units for a period of at least 6 months in a typical working environment.

3.5 Logistics.

3,5.1 <u>Supply</u>

Modules shall be readily available from a local South African supplier with a lead time for smaller orders (less than 10 modules) of two weeks from order to delivery. Larger orders (> 10 modules) shall be available within two months from ordering.

3.5.2 Support

The equipment shall carry a full guarantee for at least one year after installation.

3.5.3 Transportability

Power supply modules shall be suitably packaged to allow transport in light delivery vehicles without physical or functional damage over Transnet service roads.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection

REVIEW

Transnet accredited agents shall be responsible for inspection and testing of all delivered products and services.

END



A Division of Transnet SOC Limited

TECHNOLOGY MANAGEMENT

SPECIFICATION

Low-voltage power supply devices, d.c. 48V output, for use in Railway Signalling Applications

Author:

Senior Engineer

RA Langley

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May 2012

1. SCOPE

1.1 Identification

Single phase AC / DC input, DC output, 48V, DIN-rail mounted modular power supply.

1.2 Item overview

The power supply is intended to be used as a stable highly available 48V DC supply for Transnet signalling equipment. It will form part of the general standby power configuration found in signaling systems and will be fed by UPS, raw mains or DC from a standby battery bank. The supply may also be required to charge a deep cycle 48V lead acid battery to full capacity. Although power module wattage may differ, the optimum building block for most applications is 250W continuous output power at 54.5V output voltage.

1.3 Document overview

This document lays down the requirements for a 48V DC output power supply for use in Transnet signaling applications.

2. APPLICABLE DOCUMENTS

2.1 Integrated documents

2.1.1 Transnet documents

- (1) CSE 1154-001 Environmental specification for Spoornet railway signalling systems
- (2) BBC 5665: Single Phase Static Uninterruptable Power Supply 3 to 10kVA
- (3) BBC 5666: Three Phase Static Uninterruptable Power Supply 10 to 125kVA

2.1.2 Standards

- (1) SANS 61204: Low-voltage power supply devices, d.c. output Performance characteristics
- (2) SANS 61000-6-1: Electromagnetic compatibility (EMC) Part 6-1: Generic standards Immunity for residential, commercial and light-industrial environments
- (3) SANS 61000-6-2: Electromagnetic compatibility (EMC) Part 6-2: Generic standards Immunity for industrial environments
- (4) SANS 61000-6-3: Electromagnetic compatibility (EMC) Part 6-3: Generic standards Emission standard for residential, commercial and light-industrial environments
- (5) SANS 61000-6-4: Electromagnetic compatibility (EMC) Part 6-4: Generic standards Emission standard for industrial environments
- (6) EN 50121-4: Railway applications Electromagnetic compatibility Part4: Emission and immunity of signalling and telecommunications apparatus.
- (7) EN 60950-1: Information technology equipment Safety Part 1: General requirements

3. REQUIREMENTS

3.1 Definition

Item definition 3.1.1

The power supply is intended for use as a stable highly available 48V DC supply for signalling equipment. It will form part of the general standby power configuration found in signaling systems.

3.1.2 Interface definition

The power supply shall be fed by single phase 230VAC or 110VAC (via 380/110 transformer) from an industrial type UPS or raw mains, should the UPS revert to static bypass mode. During operation from raw mains, large voltage fluctuations and large harmonic content will be present on the supply input as per 2.1.1(2) appendix B. Where 110V battery banks are used as a standby power source, the supply may be required to run directly off the 110VDC supply over the whole battery voltage range from load shedding voltage (1.85V/cell) to boost voltage (2.35V/cell) of a 55 cell battery bank.

The power supply output shall form the basis of a constant stable 48VDC and higher output voltage to allow the charging of a 48V deep cycle sealed lead acid battery if required. The power supply may be used on its own or may be required to share load with similar modules for increased availability through redundancy or for higher wattage loads. The module output shall be monitored and availability of the output shall be provided in a voltage free contact as interface to the signal remote control system.

3.2 Characteristics

3.2.1 Performance characteristics as per 2.1.2 (1

> (1) Rated outputs: Single isolated 48V output

> > otal module output power – optimum value for this application is 250W continuous rating at 54.5V

output voltage.

(2) Ambient operating temp range: Grades A, B and C as per 2.1.1 (1) with full output

still available at 60°

(3) Ambient storage temperature: -25°C to 70°C

(4) Source voltage and frequency:

AC input range Wide range A 85V -264V

DC input range 100VDC to 135VDC

Frequency range: DC and range B 48Hz to 63Hz

Source current: Manufacturer shall specify the full load true rms

input current at the lowest and highest input voltages as per 3.2.1 (4). These values shall confirm the efficiency, power factor and power

losses at the specific operating point.

Limited to below 10A_{peak} with inrush 'energy' below Inrush current:

 $1A^2s$.

>0.9 for output power > half the maximum Power factor:

specified continuous output rating at the

appropriate input voltage where the module will be

used.

Efficiency: >90% for output power > half the maximum

specified continuous output rating at the

appropriate input voltage where the module will be

used.

(6) Source regulation:

Criterion (A) 0.1% over full input voltage and

frequency range.

(7) Load regulation:

Criterion (B) 0.5% for load change (A) 0 to 100%

(8) N/A

(9) Adjustability of output voltage:

100% to 120% continuous adjustment Span

(10) Periodic and random deviation:

Ripple and noise voltage - criterion (A) <0.5%

(11) N/A

(12) Temperature coefficient:

Criterion (A) 0.01%/°C

(13) Hold-up time:

Criterion (A) more than 20ms from the next zero crossing following the source voltage outage.

(14) Start-up time:

This value is not critical in this application -

criterion (C) 500ms

(15) Turn-on (off) overshoot:

Criterion (B) 1%, no voltage reversal of output

ever.

(16) Transient response to load current changes:

Criterion (A) 2% for Criterion (A) 1ms duration for criterion (A) load change 100% to

0% and 0% to 100%

(17) Output overvoltage protection

Criterion (C) 110% to 130% of the maximum of the adjustable output voltage. Overvollage protection shall be by means of independent redundant electronic circuitry on an inhibit and retry system or by crowbar protection across the output. In the case of a crow bar circuit the maximum continuous external supply current that can be absorbed by the power supply shall be stated, as well as the required protection circuitry if the supply is used to charge a battery or if module

outputs are run in parallel.

(18) Output overcurrent protection:

The manufacturer shall confirm the type of overcurrent protection used and shall illustrate the functioning thereof in a graph as per the relevant annexure of 2.1.2 (1). In this application fold back current limiting is not an option as this will prevent the power supply from charging a discharged 48V

battery.

(19) Mean time between failures:

MTBF MIL-HDBK-217E, 25°C calculation GB

300000h

Protective devices

(1) Thermal Protection:

Continuous full output power shall be available for ambient temperatures up to 60°C, derating to no lower than 50% output power available at 70°C at altitudes up to 2000m above sea level. Thermal shut down shall reset automatically after the module has cooled off to an acceptable level.

(2) Input overcurrent protection

The manufacturer shall confirm that the unit is protected by fuses, or interrupting devices such as circuit breakers, thermal switches or other design

providing input current limitation.

3.2.3 Isolation

- (1) The output shall be floating with no ohmic connection to ground.
- (2) The output shall be isolated from the input up to a test voltage of 1kV dc. Applied as per 2.1.2 (7)

3.2.4 Additional Requirements

(1) Remote control:

No remote control of the power supply is required.

The output voltage shall be set on the module

during installation.

(2) Remote sensing:

The power module shall provide a voltage free contact to be used for remote health sensing. The contact shall be closed while the module functions within specified limits. Output voltage outside 10% of the adjusted value and any other indicated fault condition shall cause the contact to open. The contact shall be rated for at least 60VDC at

300mA with a resistive load.

3.2.5 <u>Interchangeability</u>

Future modules of the supply shall be backward compatible to the currently offered product and shall allow the paralleling of the outputs of future models with the current models.

3.2.6 Mechanical Characteristics

- (1) Modules shall mount on a 35mm DIN-rail with a height of 7.5 or 15mm.
- (2) Modules shall weigh less than 1kg
- (3) The modules shall be constructed so that no additional covers are required for use in the prescribed locations.
- (4) All electrical connections shall be on the front panel of the power module to allow replacement with an alternative product without requiring extensive rewiring of the frame.
- (5) Electrical connections shall be by high quality bi-stable, quick connect spring clamp terminals usable with or without ferrules

3.2.7 Parallel operation

The power modules shall allow the parallel connection of the respective module outputs of up to three similar modules without any additional components such as series diodes required, although the addition of series diodes may improve the functionality of the paralleled installation.

3.2.8 EMC

The power modules will be mounted in the vicinity of other sensitive electronic equipment and the output will form the supply of sensitive electronic equipment. EMI generated by the power module shall be limited to not interfere with the above equipment.

The power module may be mounted in the close vicinity of and fed from other sources of EMI such as the switch mode UPS. This interference shall cause no degradation of performance or loss of function due to this interference.

Standard 2.1.2 (6) tables the various environmental phenomena, basic standard and test setup.

3.3 Documentation

Full product documentation shall be supplied. Documentation shall include detailed performance characteristics as required by 2.1.2, installation and operation instructions and application notes.

3.4 Approval requirements

The power supply forms part of Transnet's safety equipment and therefore needs to be approved by Transnet before it can be considered for implementation. Approval of new power supplies include laboratory testing against this specification and a sample installation of at least two units for a period of at least 6 months in a typical working environment.

3.5 Logistics.

3.5.1 Supply

Modules shall be readily available from a local South African supplier with a lead time for smaller orders (less than 10 modules) of two weeks from order to delivery. Larger orders (> 10 modules) shall be available within two months from ordering.

3.5.2 Support

The equipment shall carry a full guarantee for at least one year after installation:

3.5.3 Transportability

Power supply modules shall be suitably packaged to allow transport in light delivery vehicles without physical or functional damage over Transnet service roads.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection

Transnet accredited agents shall be responsible for inspection and testing of all delivered products and services.



A Division of Transnet SOC Limited

TECHNOLOGY MANAGEMENT

SPECIFICATION

Low-voltage power supply devices, ac to dc converter with 60V output, for use in Railway Signalling Applications

Author:

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Technology Management

Chief Engineering Technician Infrastructure Technical

Approved

Approved:

Chief Engineering Technician

Technology Management

Authorised:

Principal Engineer

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June 2012

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SCOPE

1.1 Identification

Single phase AC input per module, DC output, 60V, sub rack mounted modular power supply.

1.2 Item overview

The power supply is intended to be used as a stable highly available 60V DC supply for Transnet signalling equipment. It will form part of the general standby power configuration found in signaling systems and will be fed by UPS or raw mains. The supply may also be required to charge a deep cycle 60V lead acid battery to full capacity. Although power module wattage may differ, the optimum building block for most applications is 2000W continuous output power at 68V output voltage.

1.3 Document overview

This document lays down the requirements for a 60V DC output power supply for use in Transnet signaling applications.

2. APPLICABLE DOCUMENTS

2.1 Integrated documents

2.1.1 Transnet documents

- (1) CSE 1154-001. Environmental specification for Spoornet railway signalling systems
- (2) BBC 5665: Single Phase Static Uninterruptable Power Supply 3 to 10kVA
- (3) BBC 5666: Three Phase Static Uninterruptable Power Supply 10 to 125kVA

2.1.2 Standards

- (1) SANS 61204: Low-voltage power supply devices, d.c. output Performance characteristics
- (2) SANS 61000-6-1: Electromagnetic compatibility (EMC) Part 6-1: Generic standards Immunity for residential, commercial and light-industrial environments
- (3) SANS 61000-6-2: Electromagnetic compatibility (EMC) Part 6-2: Generic standards Immunity for industrial environments
- (4) SANS 61000-6-3: Electromagnetic compatibility (EMC) Part 6-3: Generic standards Emission standard for residential, commercial and light-industrial environments
- (5) SANS 61000-6-4: Electromagnetic compatibility (EMC) Part 6-4: Generic standards Emission standard for industrial environments
- (6) EN 50121-4: Railway applications Electromagnetic compatibility Part4: Emission and immunity of signalling and telecommunications apparatus.
- (7) EN 60950-1: Information technology equipment Safety Part 1: General requirements

3. REQUIREMENTS

3.1 **Definition**

3.1.1 <u>Item definition</u>

The power supply is intended for use as a stable highly available 60V DC supply for signalling equipment. It will form part of the general standby power configuration found in signaling systems.

3.1.2 Interface definition

The power supply modules shall be fed by single phase 230VAC from an industrial type UPS or raw mains, should the UPS revert to static bypass mode. During operation from raw mains, large voltage fluctuations and large harmonic content will be present on the supply input as per 2.1.1(2) appendix B.

The power supply output shall form the basis of a constant stable 60VDC and higher output voltage to allow the charging of a 60V deep cycle sealed lead acid battery if required. The power supply may be used on its own or may be required to share load with similar modules for increased availability through redundancy or for higher wattage loads. Where more than one module is used, modules may be connected to different phases of a three phase supply to allow a better balanced three phase load. The module output shall be monitored and availability of the output shall be provided in a voltage free contact as interface to the signal remote control system.

3.2 Characteristics

3.2.1 Performance characteristics as per 2 1.2 (1) except where otherwise stated

(1) Rated outputs:

Single isolated 60V output

Total module output power – optimum value for

this application is 2000W

(2) Ambient operating temp range:

Grades A, B and C as per 2.1.1 (1) with full output

still available at 60°

(3) Ambient storage temperature:

-25°C to 70°C

(4) Source voltage and frequency:

AC input range:

High range D

187V - 264V

Frequency range:

range B

48Hz to 63Hz

(5) Source current:

Manufacturer shall specify the full load true rms input current at the lowest and highest input voltages as per 3.2.1 (4). These values shall confirm the efficiency, power factor and power

losses at the specific operating point.

Inrush current:

Limited to below 15A_{peak} with inrush 'energy' below

 $1A^2s$.

Power factor:

>0.95 for output power > half the maximum

specified continuous output rating.

Efficiency:

>90% for output power > half the maximum

specified continuous output rating.

(6) Source regulation:

Criterion (A) 0.1% over full input voltage and

frequency range.

(7) Load regulation:

Criterion (B) 0.5% for load change (B) 10 to 100%

(8) N/A

(9) Adjustability of output voltage:

Span

100% to 125% continuous adjustment

(10) Periodic and random deviation:

Ripple and noise voltage – criterion (A) <0.5%

(11) N/A

(12) Temperature coefficient:

Criterion (A) 0.01%/°C

(13) Hold-up time:

Criterion (A) more than 20ms from the next zero

crossing following the source voltage outage.

(14) Start-up time:

This value is not critical in this application -

criterion (C) 500ms

(15) Turn-on (off) overshoot:

Criterion (B) 1%, no voltage reversal of output

ever.

(16) Transient response to load current changes:

Criterion (B) 5% for Criterion (D)

50ms duration for criterion (B) load change 100%

to 10% and 10% to 100%

(17) Output overvoltage protection:

Criterion (C) 110% to 130% of the maximum of the adjustable output voltage. Overvoltage protection shall be by means of independent redundant electronic circuitry on an inhibit and retry system or by crowbar protection across the output. In the

case of a crow bar circuit the maximum continuous external supply current that can be absorbed by the power supply shall be stated, as well as the required protection circuitry if the supply is used to charge a battery or if module

outputs are run in parallel.

(18) Output overcurrent protection:

The manufacturer shall confirm the type of evercurrent protection used and shall illustrate the functioning thereof in a graph as per the relevant annexure of 2.1.2 (1). In this application fold back current limiting is not an option as this will prevent the power supply from charging a discharged

battery.

(19) Mean time between failures

MTBF MIL-HDBK-217E, 25°C calculation GB

300000h

3.2.2 Protective devices

(1) Thermal Protection:

Continuous full output power shall be available for ambient temperatures up to 60°C, derating to no lower than 50% output power available at 70°C at altitudes up to 2000m above sea level. Thermal shut down shall reset automatically after the module has cooled off to an acceptable level.

(2) Input overcurrent protection

The manufacturer shall confirm that the unit is protected by fuses, or interrupting devices such as circuit breakers, thermal switches or other design providing input current limitation.

3.2.3 Isolation

- (1) The output voltage shall be floating with no ohmic connection to ground.
- (2) The output shall be isolated from the input up to a test voltage of 1kV dc. applied as per 2.1.2 (7).

3.2.4 Additional Requirements

(1) Remote control:

No remote control of the power supply is required.

The output voltage shall be set on the module

during installation.

(2) Remote sensing:

The power module shall provide a voltage free contact to be used for remote sensing. The contact shall be closed while the module functions within specified limits. The contact shall be rated for at least 60VDC at 300mA with a resistive load.

3.2.5 Interchangeability

Future modules of the supply shall be backward compatible to the currently offered product and shall allow the paralleling of the outputs of future models with the current models for a period of 10 years.

3.2.6 Mechanical Characteristics

- (1) Modules shall be 19 inch sub rack mounted.
- (2) Modules shall weigh less than 4kg per 2000W module
- (3) The modules shall be constructed so that no additional covers are required for use in the prescribed locations.
- (4) All electrical connections shall be done in the sub rack to allow easy unplugging and changing of faulty modules.

3.2.7 Parallel operation

The power modules shall allow the parallel connection of the respective module outputs of up to four similar modules with or without a controller module to share the output load.

3.2.8 EMC

The power modules will be mounted in the vicinity of other sensitive electronic equipment and the output will form the supply of sensitive electronic equipment. EMI generated by the power module shall be limited to not interfere with the above equipment.

The power module may be mounted in the close vicinity of and fed from other sources of EMI such as the switch mode UPS. This interference shall cause no degradation of performance or loss of function due to this interference.

Standard 2.1.2 (6) tables the various environmental phenomena, basic standard and test setup.

3.3 Documentation

Full product documentation shall be supplied. Documentation shall include detailed performance characteristics as required by 2.1.2, installation and operation instructions and application notes.

3.4 Approval requirements

The power supply forms part of Transnet's safety equipment and therefore needs to be approved by Transnet before it can be considered for implementation. Approval of new power supplies include laboratory testing against this specification and a sample installation of at least two units for a period of at least 6 months in a typical working environment.

3.5 Logistics.

3.5.1 Supply

Modules shall be readily available from a local South African supplier with a lead time for smaller orders (less than 10 modules) of two weeks from order to delivery. Larger orders (> 10 modules) shall be available within two months from ordering.

3.5.2 Support

The equipment shall carry a full guarantee for at least one year after installation.

3.5.3 Transportability

Power supply modules shall be suitably packaged to allow transport in light delivery vehicles without physical or functional damage over Transnet service roads.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection

Q PLINIC

Transnet accredited agents shall be responsible for inspection and testing of all delivered products and services.





A Division of Transnet SOC Limited

TECHNOLOGY MANAGEMENT

SPECIFICATION

Low-voltage power supply devices, ac to dc converter with 110V output, for use in Railway Signalling Applications

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Technology Management

Chief Engineering Technician Infrastructure Technical

Chief Engineering Technician Approved

Technology Management

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June 2012

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SCOPE

1.1 Identification

Single phase AC input per module, DC output, 110V, sub rack mounted modular power supply.

1.2 Item overview

The power supply is intended to be used as a stable highly available 110V DC supply for Transnet signalling equipment. It will form part of the general standby power configuration found in signaling systems and will be fed by UPS or raw mains. The supply may also be required to charge a deep cycle 110V lead acid battery to full capacity. Although power module wattage may differ, the optimum building block for most applications is 2000W continuous output power at 125V output voltage.

1.3 Document overview

This document lays down the requirements for a 110V DC output power supply for use in Transnet signaling applications.

2. APPLICABLE DOCUMENTS

2.1 Integrated documents

2.1.1 Transnet documents

- (1) CSE 1154-001: Environmental specification for Spoornet railway signalling systems
- (2) BBC 5665: Single Phase Static Uninterruptable Power Supply 3 to 10kVA
- (3) BBC 5666: Three Phase Static Uninterruptable Power Supply 10 to 125kVA

2.1.2 Standards

- (1) SANS 61204: Low-voltage power supply devices, d.c. output Performance characteristics
- (2) SANS 61000-6-1: Electromagnetic compatibility (EMC) Part 6-1: Generic standards Immunity for residential, commercial and light-industrial environments
- (3) SANS 61000-6-2: Electromagnetic compatibility (EMC) Part 6-2: Generic standards Immunity for industrial environments
- SANS 61000-6-3: Electromagnetic compatibility (EMC) Part 6-3: Generic standards Emission standard for residential, commercial and light-industrial environments
- (5) SANS 61000-6-4: Electromagnetic compatibility (EMC) Part 6-4: Generic standards Emission standard for industrial environments
- (6) EN 50121-4: Railway applications Electromagnetic compatibility Part4: Emission and immunity of signalling and telecommunications apparatus.
- (7) EN 60950-1: Information technology equipment Safety Part 1: General requirements

3. REQUIREMENTS

3.1 Definition

3.1.1 Item definition

The power supply is intended for use as a stable highly available 110V DC supply for signalling equipment. It will form part of the general standby power configuration found in signaling systems.

3.1.2 Interface definition

The power supply modules shall be fed by single phase 230VAC from an industrial type UPS or raw mains, should the UPS revert to static bypass mode. During operation from raw mains, large voltage fluctuations and large harmonic content will be present on the supply input as per 2.1.1(2) appendix B.

The power supply output shall form the basis of a constant stable 110VDC and higher output voltage to allow the charging of a 110V deep cycle sealed lead acid battery if required. The power supply may be used on its own or may be required to share load with similar modules for increased availability through redundancy or for higher wattage loads. Where more than one module is used, modules may be connected to different phases of a three phase supply to allow a better balanced three phase load. The module output shall be monitored and availability of the output shall be provided in a voltage free contact as interface to the signal remote control system.

3.2 Characteristics

	are a company of the	tatac
3.2.1	Performance characteristics as per 2.1.2 (1) except where otherwise s	aleu

(1) Rated outputs: Single isolated 110V output

Total module output power – optimum value for

this application is 2000W

(2) Ambient operating temp range: Grades A, B and C as per 2.1.1 (1) with full output

still available at 60°

(3) Ambient storage temperature: -25°C to 70°C

(4) Source voltage and frequency:

AC input range: High range D 187V - 264V

Frequency range range B 48Hz to 63Hz

(5) Source current:

Manufacturer shall specify the full load true rms input current at the lowest and highest input voltages as per 3.2.1 (4). These values shall confirm the efficiency, power factor and power

losses at the specific operating point.

Inrush current: Limited to below 15Apoak with inrush 'energy' below

1A²s.

Power factor: >0.95 for output power > half the maximum

specified continuous output rating.

Efficiency: >90% for output power > half the maximum

specified continuous output rating.

(6) Source regulation: Criterion (A) 0.1% over full input voltage and

frequency range.

(7) Load regulation: Criterion (B) 0.5% for load change (B) 10 to 100%

(8) N/A

(9) Adjustability of output voltage: Span 100% to 125% continuous adjustment

(10) Periodic and random deviation. Ripple and noise voltage – criterion (A) <0.5%

(11) N/A

(12) Temperature coefficient: Criterion (A) 0.01%/°C

(13) Hold-up time: Criterion (A) more than 20ms from the next zero

crossing following the source voltage outage.

(14) Start-up time: This value is not critical in this application –

criterion (C) 500ms

(15) Turn-on (off) overshoot Criterion (B) 1%, no voltage reversal of output

ever.

(16) Transient response to load current changes: Criterion (B) 5% for Criterion (D)

50ms duration for criterion (B) load change 100%

to 10% and 10% to 100%

(17) Output overvoltage protection: Criterion (C) 110% to 130% of the maximum of the

adjustable output voltage. Overvoltage protection shall be by means of independent redundant electronic circuitry on an inhibit and retry system or by crowbar protection across the output. In the

case of a crow bar circuit the maximum

continuous external supply current that can be absorbed by the power supply shall be stated, as well as the required protection circuitry if the supply is used to charge a battery or if module

outputs are run in parallel.

(18) Output overcurrent protection. The manufacturer shall confirm the type of

overcurrent protection used and shall illustrate the functioning thereof in a graph as per the relevant annexure of 2.1.2 (1). In this application fold back current limiting is not an option as this will prevent the power supply from charging a discharged

battery.

(19) Mean time between failures: MTBF MIL-HDBK-217E, 25°C calculation GB

300000h

3.2.2 Protective devices

(1) Thermal Protection: Continuous full output power shall be available for

ambient temperatures up to 60°C, derating to no lower than 50% output power available at 70°C at altitudes up to 2000m above sea level. Thermal shut down shall reset automatically after the

module has cooled off to an acceptable level.

(2) Input overcurrent protection

The manufacturer shall confirm that the unit is protected by fuses, or interrupting devices such as

circuit breakers, thermal switches or other design

providing input current limitation.

3.2.3 Isolation

(1) The output voltage shall be floating with no ohmic connection to ground.

(2) The output shall be isolated from the input up to a test voltage of 1kV dc. applied as per 2.1.2 (7).

3.2.4 Additional Requirements

(1) Remote control:

No remote control of the power supply is required.

The output voltage shall be set on the module

during installation.

(2) Remote sensing:

The power module shall provide a voltage free contact to be used for remote sensing. The contact shall be closed while the module functions within specified limits. The contact shall be rated for at least 60VDC at 300mA with a resistive load.

3.2.5 Interchangeability

Future modules of the supply shall be backward compatible to the currently offered product and shall allow the paralleling of the outputs of future models with the current models for a period of 10 years.

3.2.6 Mechanical Characteristics

- (1) Modules shall be 19 inch sub rack mounted.
- (2) Modules shall weigh less than 4kg per 2000W module.
- (3) The modules shall be constructed so that no additional covers are required for use in the prescribed locations.
- (4) All electrical connections shall be done in the sub rack to allow easy unplugging and changing of faulty modules.

3.2.7 Parallel operation

The power modules shall allow the parallel connection of the respective module outputs of up to four similar modules with or without a controller module to share the output load.

3.2.8 EMC

The power modules will be mounted in the vicinity of other sensitive electronic equipment and the output will form the supply of sensitive electronic equipment. EMI generated by the power module shall be limited to not interfere with the above equipment.

The power module may be mounted in the close vicinity of and fed from other sources of EMI such as the switch mode UPS. This interference shall cause no degradation of performance or loss of function due to this interference.

Standard 2.1.2 (6) tables the various environmental phenomena, basic standard and test setup.

3.3 Documentation

Full product documentation shall be supplied. Documentation shall include detailed performance characteristics as required by 2.1.2, installation and operation instructions and application notes.

3.4 Approval requirements

The power supply forms part of Transnet's safety equipment and therefore needs to be approved by Transnet before it can be considered for implementation. Approval of new power supplies include laboratory testing against this specification and a sample installation of at least two units for a period of at least 6 months in a typical working environment.

3.5 Logistics.

3.5.1 Supply

Modules shall be readily available from a local South African supplier with a lead time for smaller orders (less than 10 modules) of two weeks from order to delivery. Larger orders (> 10 modules) shall be available within two months from ordering.

3.5.2 Support

The equipment shall carry a full guarantee for at least one year after installation,

3.5.3 Transportability

Power supply modules shall be suitably packaged to allow transport in light delivery vehicles without physical or functional damage over Transnet service roads.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection

26 M

Transnet accredited agents shall be responsible for inspection and testing of all delivered products and services.

END



A Division of Transnet SOC Limited

TECHNOLOGY MANAGEMENT

SPECIFICATION

POWER DISTRIBUTION CUBICLES FOR SIGNAL INSTALLATIONS

Author:

Chief Engineering Technician

Infrastructure Technical

Approved:

Senior Engineer
Technology Management

Authorised:

Principal Engineer

Technology Management

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RA Langley

J Kannemeyer

May 2013-Date:

Circulation Restricted To:

Transnet and Relevant Third Parties

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TABLE OF CONTENTS

1.	SCOPE	3
2.	APPLICABLE DOCUMENTS	3
3.	REQUIREMENTS	4
4.	DOCUMENTATION	5
5.	QUALITY ASSURANCE	5

1. SCOPE

This document serves as a specification for Power Distribution Cubicles used in Signal installations to establish performance and test requirements and as basis for the procurement thereof.

2. APPLICABLE DOCUMENTS

2.1 Transnet Documents	TS
2.1.1 2.1 SANS 1973-1	Low-voltage switchgear and control gear ASSEMBLIES Part 1: Type-tested ASSEMBLIES with stated deviations and a rated short-circuit withstand strength above 10kA
2.2 SANS 156	Moulded-case circuit breakers
2.3 SANS 10142-1	The wiring of premises Part 1 Low voltage installations
2.4 SANS 60439-1	Low voltage switchgear and control gear assemblies. Part 1: Type tested and partially type-tested assemblies
2.5 SANS 60947-1	Low voltage switchgear and control gear Part 1: General rules
2.6 SANS 60947-2	Low voltage switchgear and control gear Part 2: Circuit breakers
2.7 SANS 60947-3	Low voltage switchgear and control gear Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units
2.8 SANS 60947-4-1	Low voltage switchgear and control gear Part 4-1: Contactors and motor starters - electromechanical contactors and motor starters
2.9 SANS 60947-5-1	Low voltage switchgear and control gear Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices
2.10 SANS 60947-7-1	Low voltage switchgear and control gear Part 7-1: Ancillary equipment – Terminal blocks for copper conductors
2.11 SANS 60529	Degrees of protection provided by enclosures (IP Code)
2.12 SANS 1274	Coatings applied by the powder-coating process
2.13 IEC 60664-1	Insulation coordination for equipment within low voltage systems – Part 1: Principles, requirements and tests.
2.14 SANS 1195	Busbars
2.15 SANS 1574	Electric flexible cores, cords and cables with solid extruded

dielectric insulation

3: REQUIREMENTS

- 3.1 Physical characteristics
- 3.1.1 The cubicle size shall be approved by Transnet Freight Rail.
- 3.1.2 The cubicle layout shall be approved by Transnet Freight Rail.
- 3.1.3 The enclosure shall be constructed of 2,0mm mild steel plate unless otherwise specified.
- 3.1.4 The cubicle shall be sufficiently strengthened to prevent deformation during transport, delivery and installation.
- 3.1.5 The layout of equipment inside the cubicle shall be of such a nature that it is easily accessible for fault finding and replacements.
- 3.1.6 All equipment shall be clearly labelled by means of durable markings to enable ease of identification.
- 3.2 Environmental conditions
- 3.2.1 Natural convection cooling is required.
- 3.2.2 The equipment must be capable of operation to specification under the following conditions:

Ambient temperatures between -5°C and + 50°C Maximum relative humidity of 95% (non condensing) Dusty and corrosive conditions; Altitude from 0 – 1800m.

- 3.2.3 The protection degree shall be IP4X according to 2.11 Protected against objects greater than 1mm.
- 3.3 Metal treatment
- 3.3.1 As per 2.12.
- 3.4 Final paint finish
- 3.4.1 As per 2.12. The final paint coat shall be applied to produce a uniform dry film thickness of not less than 90 microns.
- 3.4.2 The final paint coat shall be tested for uniform thickness.
- 3.4.3 The colour of the paint shall be structured "light grey" RAL 7032.
- 3.5 Plating specification
- 3.5.1 All sheet metal parts, which are identified for plating, shall be zinc-plated to a minimum thickness of 8 micross
- 3.5.2 All copper bus bars, which are identified for plating shall be tin-plated to a minimum thickness of 8 microns.
- 3.6 Bus bars
- 3.6.1 All bus bars, where specified, shall be insulated by means of heat shrink or air shrink sleeves. Connection points shall not be sleeved.

3.7 Access to cubicle

- 3.7.1 The cubicle shall be fitted with hinged doors at the front. The rear shall be closed off by a "lift out" type panel with approved vent size at the top.
- 3.7.2 The doors shall be adjusted to ensure an even gap between doors and between doors and side frames.

3.8 Electrical

- 3.8.1 Power conductors shall be single flex type 600/1000 volts (par 2.15) and sized to rated load plus
- 3.8.2 Control wiring shall be panel flex type 300/500 volts (par 2.15) with a minimum cross section area of 1,5mm².
- 3.8.3 Control wires shall be numbered at both ends in accordance with the relevant wiring diagram.
- 3.8.4 Power conductors shall be numbered at both ends in accordance with the relevant wiring diagram.
- 3.8.5 Terminal blocks shall be of sufficient size to accommodate wiring and shall be DIN rail mounted.
- 3.8.6 Not more than one wire may be crimped or soldered into any one lug. A maximum of three wires may be connected to a bolt type terminal.
- 3.8.7 The wiring shall be neatly treed in a total access U channel with clip-on cover.
- 3.8.8 Terminal blocks shall be suitably numbered.

3.9 Ergonomics

- 3.9.1 Analogue meters shall be flush mounted on the front door for displaying voltage and current.
- 3.9.2 In case of three phase cubicles, switches for displaying voltage and current per phase shall be mounted on the front door.
- 3.9.3 The on/off main supply switch shall be mounted on the front door.
- 3.9.4 All circuit breakers and related switching equipment shall be mounted inside the cubicle.

4. DOCUMENTATION

- 4.1 Drawings shall show the following:
 - Front view of cubicle with equipment mounted and numbered for reference purposes.
 - Equipment layout inside cubicle and numbered for reference purposes.
 - Detailed wiring diagram numbered for purpose of reference and fault finding.
 - Parts list referencing the quantity, description, rating and manufacturer part number.

5. QUALITY ASSURANCE

- 5.1 Manufacturers shall have a quality management program in place. (ISO standards)
- 5.2 A final test certificate shall be provided and signed off by the responsible person/s of each test as required below:
 - Dimensional inspection
 - Identification inspection
 - Paint thickness inspection
 - Component inspection
 - Mechanical assembly inspection
 - Insulation tests
 - Electrical and functional test

END OF SPECIFICATION

THANSNET

Transnet Supplier Declaration/Application



The Financial Director or Company Secretary

Transnet Vendor Management has received a request to lead your company on to the Transnet vendor database. Please furnish us with the following to enable us to process this request.

- 1; Complete the "Supplier Declaration Form" (SDF) on page 2 of this letter
- 2. Original cancelled chaque OR letter from the bank verifying banking details (with bank stamp)
- 3. Certified copy of Identity document of Shareholders/Directors/Members (where applicable)
- 4. Certified copy of certificate of incorporation, CM29 / CM9 (name change)
- 5. Certified copy of share Certificates of Shareholders, CK1 / CK2 (if CC)
- 6. A letter with the company's letterhead confirming physical and postal addresses
- 7. Original or certified copy of SARS Tax Clearance certificate and Val registration certificate
- 8. A signed letter from the Auditor / Accountant confirming most recent annual turnover and percentage black ownership in the company AND/OR BBBEE certificate and detailed scoredard from an accredited rating agency (SANAS member).
- NB: Failure to submit the above documentation will dulay the vendor creation process.
 - Where applicable, the respective Transpet business unit processing consequences may request. In the information from you. E.g. proof of an existence of a Sorvice/Business contract between your business and the respective Transpet business unit etc.

IMPORTANT NOTES:

- a) If your annual turnover is less than R5 million, then in terms of the DTI codes, you are classified as an Exempted Micro Enterprise (EME). If your company is classified as an EME, please include in your submission, a signed letter from your Auditor / Accountant confirming your company's most recent annual turnover is less than R5 million and percentage of black ownership and black female ownership in the company AND/OR BBBEE certificate and detailed scorecard from an accredited rating agency (e.g. permanent SANAS Member), should you feel you will be able to attain a better BBBEE score.
- b) If your annual turnover is between R5 million and R35million, then in terms of the DTI codes, you are classified as a Qualifying Small Enterprise (QSE) and you claim a specific BBBEE level based on any 4 of the 7 elements of the BBBEE score-card please include your BEE certificate in your submission as confirmation of your status.

 NB: BBBEE certificate and retails a scorecom should be cuta and from an accredited rating againsy (e.g. permanent SANAS Member).
- c) If your annual turnover is in excess of R35million, then in terms of the DTI codes, you are classified as a Large Enterprise and you claim a specific BEE level based on all seven elements of the BBBEE generic score-card. Please include your BEE certificate in your submission as confirmation of your status.

 NB: EBBEE curtificate and distance accretion should be obtained from an accredited rating agency (permanent SANES Member).
- d) To avoid PAYE tax being automatically deducted from any invoices received from you, you must also contact the Transnet person who lodged this request on your behalf, so as to be correctly classified in terms of Tax legislation.
- e) Unfortunately. No payments can be made to a vendor until the vendor has been registered, and no vendor can be registered until the vendor application form, together with its supporting documentation, has been received and processed.
- f) Please return the completed Supplier Declaration Form (SDF) together with the required supporting documents mentioned above to the Transnet Official who is intending to procure your company's services/products in order that he/she should complete and Internal Transnet Departmental Questionnaire before referring the matter to the appropriate Transnet Vendor Master Office.

Regards

Transnet Vendor/Supplier Management |clease substitute this with your relevant Transnet department before sending this document out

Supplier Declaration Form



							10-41-41-1
Company Trading							
Company Register							
Company Registrat	ion Number (Or ID Numbe	or II A Sol	e Proprietor			
Form of entity	CC	Trust	P.	y Lla 👚 Li	mited Pa	rtnership	Sole Proprieto
VAT number (if reg	gistered)						
Company Telepho	ne Number		- //			_	
Company Fax Nur	nber				_		
Company E-Mail A	Address						
Company Website	Address						
Bank Name				Bank Accoun	t Number		· · · · · · · · · · · · · · · · · · ·
Postal					_	V	
Address						Coc	le
Physical						Cos	
Address						Coc	ie .
Contact Person		0		15	-1577		
Designation							
Telephone							
Email							
Annual Turnover Ra		incial Year)	< R5 M		R5-35 million		> R35 million
Does Your Compar	y Provide		Produc		Services		Both
Area Of Delivery			Nationa		Provincial		Local
Is Your Company A Public Or Private Entity				Public		Private	
Does Your Compar		111			Yes		No
Main Product Or Sc	prvice Supplie	d (E.G.: Stn	tion ory/C	onsulting)	ara meren		
BEE Ownership [Details						
% Black Ownership	C	% Black wome	en ownerst	gio		ed person/s	
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What is your broad					-1	Don't time	1
How many person	nel does the	firm employ		Permanent	_l	Part time	
Transnet Contact I	Person			· Accessor			
Contact number							
Transnet operating	division						
Duly Authorised		And On Be	abalf Of	Firm / Orga	nisation		
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Stamp And Signa	ture Of Cor	nmissioner	Of Oath	 		y//>	
Name				D	ale		
Signature				T	elephone No.		
	The second secon						

NB: Please return the completed Supplier operation Form (SUF) together with the required supporting documents mentioned above to the Transport Official whereas industrially in produce your company's services/products.



NON-DISCLOSURE AGREEMENT

entered into by and between

TRANSNET SOC LTD

Registration Number 1990/000900/30

and

Registration Number ___

RFQ Number: SCS D0785 (CRAC DNR 13323)

TABLE OF CONTENTS

1	INTERPRETATION	12
2	CONFIDENTIAL INFORMATION	
3	RECORDS AND RETURN OF INFORMATION	▲
4	ANNOUNCEMENTS	
5	DURATION	,14
6	PRINCIPAL	14
7	ADEQUACY OF DAMAGES	14
8	PRIVACY AND DATA PROTECTION	14
9	GENERAL	,15

THIS AGREEMENT is made between

Transnet SOC Ltd [Transnet] [Registration No. 1990/000900/30]

Whose registered office is at 49th Floor, Carlton Centre, 150 Commissioner Street, Johannesburg 2001,

and		
	[the Company] [Registration No	
whose registered office is at		
	The state of the s	

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 Bid Document.

IT IS HEREBY AGREED

20 INTERPRETATION

In this Agreement:

- 20.1 **Agents** mean directors, officers, employees, agents, professional advisers, contractors or subcontractors, or any Group member;
- 20.2 **Bid** or **Bid Document** means Transnet's Request for Information [**RFI**] Request for Proposal [**RFP**] or Request for Quotation [**RFQ**], as the case may be;
- 20.3 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:
 - a) 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
 - b) 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
 - c) 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;

- 20.4 **Group** means any subsidiary, any holding company and any subsidiary of any holding company of either party; and
- 20.5 **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.

21 CONFIDENTIAL INFORMATION

- 21.1 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.
- 21.2 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 Bid or for the subsequent performance of any contract between the parties in relation to the Bid.
- 21.3 Notwithstanding clause 21.1 above, the Receiving Party may disclose Confidential Information:
 - a) to those of its Agents who strictly need to know the Confidential Information for the sole purpose set out in clause 21.2 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
 - b) to the extent required by law or the rules of any applicable regulatory authority, subject to clause 21.4 below.
- 21.4 In the event that the Receiving Party is required to disclose any Confidential Information in accordance with clause 21.3b) 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.
- 21.5 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.

21.6 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.

22 RECORDS AND RETURN OF INFORMATION

- 22.1 The Receiving Party agrees to ensure proper and secure storage of all Information and any copies thereof.
- 22.2 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.
- 22.3 The Company shall, within 7 (seven) days of receipt of a written demand from Transnet:
 - a) return all written Confidential Information (including all copies); and
 - 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.
- 22.4 The Company shall on request supply a certificate signed by a director as to its full compliance with the requirements of clause 22.3b) above

23 ANNOUNCEMENTS

- 23.1 Neither party will make or permit to be made any announcement or disclosure of its prospective interest in the Bid without the prior written consent of the other party.
- 23.2 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.

24 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 Bid and continue thereafter for a period of 5 (five) years.

25 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 Bid and in complying with the terms of this Agreement.

26 ADEOUACY 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.

27 PRIVACY AND DATA PROTECTION

27.1 The Receiving Party undertakes to comply with South Africa's general privacy protection in terms of the Bill of Rights (Section 14) in connection with this Bid 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.
- 27.2 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 Bid and against accidental loss or destruction of, or damage to such data held or processed by them.

28 GENERAL

- 28.1 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.
- 28.2 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.
- 28.3 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.
- 28.4 This Agreement may only be modified by a written agreement duly signed by persons authorised on behalf of each party.
- 28.5 Nothing in this Agreement shall constitute the creation of a partnership, joint venture or agency between the parties.
- 28.6 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.

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TABLE OF CONTENTS

1	DEFINITIONS	3
2	GENERAL	3
3	LODGING OF BID DOCUMENTS	3
4	USE OF BID FORMS	3
5	RAISING OF A CHARGE FOR PLANS, SPECIFICATIONS AND BID FORMS	
6	DEFAULTS BY RESPONDENTS	4
7	CURRENCY	
8	EXCHANGE AND REMITTANCE	5
9	ACCEPTANCE OF BID	6
10	LAW GOVERNING CONTRACT	6
11	IDENTIFICATION	······6
12	FORMAL NOTIFICATION REGARDING NAME OF SUCCESSFUL RESPONDENT	6
13	UNAUTHORISED COMMUNICATION ABOUT BIDS	6
14	RESPONDENT'S SAMPLES	7
15	CONTRACT DOCUMENTS	7
16	SECURITIES	
17	PRICE AND DELIVERY BASIS FOR GOODS	8
18	SHIPMENT OF IMPORTED GOODS BY TRANSNET.	9
19	EXPORT LICENCE	9
20	QUALITY OF MATERIAL	
21	PRICES SUBJECT TO CONFIRMATION	
22	DELETION OF ITEMS EXCLUDED FROM BID	
23	ALTERATIONS MADE BY THE RESPONDENT TO BID PRICES	
24	VALUE-ADDED TAX	
2.5	TERMS AND CONDITIONS OF BID	
26	IMPORTANT NOTICE TO RESPONDENTS REGARDING PAYMENT	
27	CONTRACT QUANTITIES AND DELIVERY REQUIREMENTS	11
28	PACKING AND MARKING	
29	PLANS, DRAWINGS, DIAGRAMS, SPECIFICATIONS AND DOCUMENTS	
30	VISITS TO FOREIGN COUNTRIES	
31	BIDS BY OR ON BEHALF OF FOREIGN RESPONDENTS	13

1 DEFINITIONS

Where the following words or phrases are used in this Agreement, such words or phrases shall have the meaning assigned thereto in this clause, except where the context clearly requires otherwise:

- 1.1 Bid or Bid Document(s) shall mean a reference to a Request for Proposal or Request for Quotation;
- 1.2 Goods shall mean the goods required by Transnet as specified in its Bid Document
- 1.3 Respondent(s) shall mean a respondent/bidder to a Transnet Bid;
- 1.4 RFP shall mean Request for Proposal;
- 1.5 RFQ shall mean Request for Orrotation;
- 1.6 REX shall mean REP and/or REO, as the case may be:
- 1.7 Supplier shall mean the successful Respondent;
- 1.8 **Tax Invoice** shall mean the document as required by Section 20 of the Value-Added Tax Act, 89 of 1991, as may be amended from time to time;
- 1.9 Transnet shall mean Transnet SOC Ltd, a State Owned Company; and
- 1.10 VAT shall mean Value-Added Tax chargeable in terms of the Value-Added Tax Act, 89 of 1991, as may be amended from time to time.

2 GENERAL

All Bid Documents and subsequent contracts and orders shall be subject to the following procedures as laid down by Transnet and are to be strictly adhered to by any person or enterprise or company responding to this RFX.

3 LODGING OF BID DOCUMENTS

- 3.1 A Bid, which shall hereinafter include reference to an RFP or RFQ, shall be lodged with Transnet no later than the closing date and time specified for the receipt thereof, in accordance with the directions issued with Bid Documents.
- 3.2 Bids shalf be transmitted in a scaled envelope and placed in the tender box at a venue stipulated in the Bid Documents with the Bid number and subject endorsed on the left hand bottom corner of the envelope.
- 3.3 The Respondent's return address must be stated on the reverse side of the sealed envelope.

4 USE OF BID FORMS

- 4.1 Where special forms are issued by Transnet for the submission of Bids, Respondents are required to submit their Bids by completion of the appropriate sections on such official forms and not on office stationery bearing their own terms and conditions of contract; non-compliance with this conditions may result in the rejection of a Bid.
- 4.2 Respondents must note that the original bid forms must be completed for submission and not a reprocessed facsimile thereof. Only if insufficient space has been allocated to a particular response

may a Respondent submit additional information under separate cover using the Company's letterhead and duly cross-referenced in the RFX.

5 RAISING OF A CHARGE FOR PLANS, SPECIFICATIONS AND BID FORMS

- A non-refundable charge may be raised for Bid Documents, depending on the administrative cost of preparing and issuing the Bid Document.
- 5.2 If any of the drawings or specifications referred to in Bid Documents is the official publication of a recognised standardising body, copies of such drawings and specifications shall be acquired by Respondents at their own expense.

6 DEFAULTS BY RESPONDENTS

- 6.1 If the Respondent, after it has been notified of the acceptance of its Bid fails to:
 - a) enter into a formal contract when called upon to do so in terms of clause 15 [Contract Documents], within such period as Transnet may specify or
 - b) accept an order in terms of the Bid; or
 - when called upon to do so, furnish satisfactory security of the fulfilment of the contract in terms of clause 16 [Securities],

Transnet may, in any such case, without prejudice to any other legal remedy which it may have, proceed to accept any other Bid or, it is necessary to do so, call for Bids afresh, and may recover from the defaulting Respondent any additional expense incurred by it in calling for new offers or in accepting a higher offer.

- 6.2 If any Respondent, who has submitted a Bid and/or concluded a contract with Transnet (hereinafter referred to as the Supplier), or in the capacity of agent or subcontractor who has been associated with such Bid or contract.
 - a) has withdrawn such end after the advertised date and hour for the receipt of Bids; or
 - b) has, after having been notified of the acceptance of its Bid, failed or refused to sign a contract when called upon to do so in terms of any condition forming part of the Bid Documents; or
 - c) has carried out any contract, resulting from such Bid in an unsatisfactory manner or has breached any condition of such contract; or
 - d) has offered, promised or given a bribe in relation to the obtaining or the execution of such contract; or
 - has acted in a fraudulent or improper manner or in bad faith towards Transnet or any government department or towards any public body, company or person; or
 - f) has made any incorrect statement in the affidavit or certificate referred to in clause 12 [Formal Notification Regarding Name of Successful Respondent] and is unable to prove to the satisfaction of Transpel that
 - (i) It made the statement in good faith honestly believing it to be correct; and

- (ii) before making such statement, it took all reasonable steps to satisfy itself of its correctness; or
- g) caused Transnet damage, or to incur costs in order to meet the Supplier's requirements which could not be recovered from the Supplier;

then a Bid from any such Respondent shall be disqualified and the person, enterprise or company [including any directors] shall, subject to clause 6.3 below, be disqualified from bidding for any Transnet business through its "blacklisting" process.

- 6.3 Any person or enterprise or company against whom a decision has been given under the provisions of clauses 6.2b), 6.2d) or 6.2e) above, may make representations to the Chief Operating Officer of Transnet Group, whose decision shall be final.
- Any disqualification [Blacktisting] imposed upon any person or enterprise or company, may also apply to any other enterprise under the same or different names of disqualified persons or enterprise or company [or associates thereof] and shall for avoidance of doubt also be applied to any agent or employed of the person or enterprise or company concurred.

7 CURRENCY

Prices must be quoted in the currency of the Republic of Sorth Africa [ZAR] in respect of local Goods. Prices in any other currency may be rejected by Transnet save where such price is quoted by a foreign Respondent.

8 EXCHANGE AND REMITTANCE

The Respondent should note that where the whole or a portion of the contract or order value is to be remitted overseas, Transnet SOC ktd shall, if requested to do so by the Supplier, effect payment overseas directly to the foreign principal or analysisectorer of such percentage of the contract or order value as may be stipulated by the Respondent in its Bid-Documents. In instances where an overall Rand agreement cannot be concluded Transnet's preference is to enter into Rand based agreements and would therefore request the Respondent to give favourable consideration to:

- 8.1: Obtaining toward exchange cover on the foreign currency portion of the Agreement at a cost that is acceptable to Transnet SOC Ltd to protect itself against any currency rate fluctuation risks for the duration of any resulting contract or order. Transnet will NOT accept any fluctuations in the rate of exchange at the time when payments are made if a Rarid agreement is concluded.
- 8.2 The Respondent who desires to avail itself of the aforementioned facility must at the time of bidding furnish the information called for in the clause "Exchange and Remittance" of the Bid Documents and also furnish full details of the principals or manufacturer to whom payment is to be made.
- 8.3 The South African Reserve Bank's approval is required before any foreign currency payments can be made to or on behalf of Respondents.

Transnet will not recognise any claim for adjustment of the order and/or contract price under clause Error!

Reference source not found, above, if the increase in price arises after the date on which the Goods were to be delivered, as set out in the order and/or contract, or any subsequent agreement between the parties.

9 ACCEPTANCE OF BID

- 9.1 Transnet does not bind itself to accept the lowest or any 8kd.
- 9.2 Transnet reserves the right to accept any Bid in whole or in part.
- 9.3 Upon the acceptance of a Bid by Transnet, the parties shall be bound by these General Bid Conditions and the Standard Terms and Conditions of Contract [Form STRC Goods] and any schedule of "Special Conditions" or otherwise which form part of the Bid Documents.
- 9.4 Where the Respondent has been informed by Transnet per facsimile message or email of the acceptance of its 8id, the acknowledgement of the receipt transmitted shall be regarded as proof of delivery to the Respondent.

10 LAW GOVERNING CONTRACT

The law of the Republic of South Africa shall govern the contract created by the acceptance of a Bid. The domicilium citandi et executandi shall be a place in the Republic of South Africa to be specified by the Respondent in its Bid at which all legal documents may be served on the Respondent who shall agree to submit to the jurisdiction of the courts of the Republic of South Africa. A foreign Respondent shall, therefore, state in its Bid the name of its authorised representative in the Republic of South Africa who is empowered to sign any contract which may be entered and in the event of its Bid being accepted and to act on its behalf in all matters relating to the contract.

11 IDENTIFICATION

If the Respondent is a company, the full names of the directors shall be stated in the Bid. If the Respondent is a close corporation, the full names of the members shall be stated in the Bid. If the Respondent is a partnership or an individual trading under a trade name, the full names of the partners or of such individual, as the case may be, shall be furnished.

12 FORMAL NOTIFICATION REGARDING NAME OF SUCCESSFUL RESPONDENT

In the case of Bids submitted to the Secretary of an Acquisition Council, unsuccessful Respondents will be formally notified of the names of successful Respondent(s) as soon as possible after the closing date for receipt of the Bid in question.

13 UNAUTHORISED COMMUNICATION ABOUT BIDS

Where Bids are submitted to the Secretary of an Acquisition Council, Respondents may at any time communicate with the Secretary on any matter relating to its Bid but, in the absence of written authority from the Secretary, no communication on a question affecting the subject of a Bid shall take place between Respondents or other potential suppliers or any member of the Acquisition Council or official of Transnet during the period between the closing date for the receipt of the Bid and the date of the notification of the successful Respondent(s). A Bid, in respect of which any such unauthorised communication has occurred, may be disqualified.

14 RESPONDENT'S SAMPLES

- 14.1 If samples are required from Respondents, such samples shall be suitably marked with the Respondent's name and address, the Bid number and the Bid item number and must be despatched in time to reach the addressee as stipulated in the Bid Documents on or before the closing date of the Bid. Failure to submit samples by the due date may result in the rejection of a Bid.
- 14.2 Transnet reserves the right to retain samples furnished by Respondents in compliance with Bid conditions.
- 14.3 Payment will not be made for a successful Respondent's samples that may be retained by Transnet for the purpose of checking the quality and workmanship of Goodsedelivered in execution of a contract.
- 14.4 If unsuccessful Respondent's samples are retained and Respondents require payment therefor, Transnet will make payment at the tendered price of the Goods. If it is not desired to retain such samples and Respondents require their return, Transnet will accept responsibility for their return to the Respondent's nearest station or siding in South Africa.
- 14.5 Transnet will not accept liability for samples furnished by Respondents on their own initiative. If Respondents desire such samples returned it will be all their own risk and cost.
- 14.6 Should it be necessary to submit a pre-production sample for approval by Transnet prior to the commencement of delivery of the Goods against any resulting contract, Respondents are to note that for the purpose of calculating penalties for late delivery [if applicable] in terms of a contractual provision, the actual contractual delivery date will be considered to be -
 - the period offered by the successful Respondent to submit the pre-production sample calculated as from the Xth [seventh] day after the date of the letter of acceptance;

PLUS

b) the period required by Transnet to approve the pre-production sample calculated as from the date of receipt thereof;

PLUS

c) the period offered to effect delivery of the Goods calculated as from the date of approval of the pre-production sample by Transnet.

Suppliers will not be held responsible for late delivery of the Goods resulting from delays on the part of Transnet to approve the pre-production sample.

15 CONTRACT DOCUMENTS

- 15.1 The contract documents will comprise these General Bid Conditions, the Standard Terms and Conditions of Contract [Form ST&C ~ Goods] and any schedule of "Special Conditions" or otherwise which form part of the Bid Documents.
- 15.2 These contract documents will constitute the contract between the parties upon receipt by the Respondent of Transnet's letter of acceptance / intent, subject to all additional amendments and/or special conditions thereto as appead to by the parties

16 SECURITIES

- 16.1 The successful Respondent, when called upon to do so, shall provide security to the satisfaction of Transnet for the due fulfilment of a contract or order. Such security shall be in the form of a deed of suretyship [Deed of Suretyship] furnished by an approved bank, building society, insurance or quarantee corporation carrying on business in South Africa.
- 16.2 The security may be applied in whole or part at the discretion of Transnet to make good any loss or damage which Transnet may incur in consequence of a breach of the contract or any part thereof.
- 16.3 Such security, if required, shall be an amount which will be stipulated in the Bid Documents.
- 16.4 For the purpose of clause 16.1 above, Transnet will supply a Deed of Suretyship form to the successful Respondent for completion and no guarantee in any other form will be accepted. A copy of such form will be supplied to Respondents on request. For this purpose a Deed of Suretyship form will be provided which shall be completed and returned to Transnet on a designated official by the successful Respondent within 30 (thirty) days from the date of the letter of acceptance. No payment will be made until the form, duly completed, is delivered to Transnet. Failure to return the Deed of Suretyship within the prescribed time shall, save where orion extension has been granted, entitles Transnet without notice to the Supplier to cancel the contract with immediate effect.
- 16.5 Additional costs incurred by Transnet necessitated by reason of default on the part of the Supplier in relation to the conditions of this clause 16 will be for the account of the Supplier.

17 PRICE AND DELIVERY BASIS FOR GOOD

- Unless otherwise specified in the Bid Documents, the prices quoted for Goods must be on a delivered price basis in accordance with the terms and at the delivery point or points specified in Transnet's Bid Documents. Bids for supply on any other basis of delivery are liable to disqualification. The lead time for delivery stated by the Respondent must be inclusive of all non-working days or holidays, and of periods occupied in stocktaking or in effecting repairs to or overhauling plant, which would ordinarily occur within the delivery period given by the Respondent.
- 17.2 Respondents must furnish their Bid prices in the Price Schedule of the Bid Documents on the following basis:
 - a) local Supplies Prices for Goods to be manufactured, produced or assembled in the Republic of South Africa, or imported supplies held in South Africa, to be quoted on a Delivered RSA named destination basis.
 - b) Imported Supplies Prices for Goods to be imported from all sources to be quoted on a DDP, delivered end destination RSA basis [Delivered, Duty Paid to named destination, ICC Incoterns 2010], unless otherwise specified in the Bid Price Schedule.
- 17.3 The Respondent must indicate that the quoted prices for imported supplies include costs for, *inter alia*, the following:
 - handling and transport to port of export
 - forwarding charges
 - ocean freight

- marine insurance
- landing charges
- dock dues
- surcharges
- customs clearance including duties, agency and finance charges
- railage, where possible, otherwise road transportation from RSA port of discharge to final destination

Such rates are to be based on weights and dimensions calculated by the Respondent. In the event of such rates being exceeded by an increase in the actual weights and dimensions, Transnet shall not be liable to pay the Supplier the associated increase in costs

17.4 The attention of Respondents is drawn to the fact that should Transhet's departmental railage account numbers be used in respect of "Delivered Prices", Transhet reserves the right to cancel such contract/order with immediate effect and enforce the conditions of clause 15 [Rights on Cancellation] of Form ST&C - Goods.

18 SHIPMENT OF IMPORTED GOODS BY TRANSNET

- 18.1 Where the Bid's stipulated purchase terms indicate that shipping is to be arranged by the forwarding agent appointed by Transnet, shipping arrangements by Transnet's nominated forwarding agent shalf be made direct with a shipping company to allow the Ocean Bill of Lading to be drawn in favour of Transnet, as consignee, or its designated official at a port of entry
 - a) it will be a condition that all Goods collected by or delivered to Transnet's nominated forwarding agent against any resulting contract/order must be accompanied by the foreign manufacturer's / xuppract's commercial invoices [which must clearly reflect Transnet's contract / order number] and packing lists/specifications which are to be handed to Transnet's forwarding agent not later than 3 [three] days prior to the vessel's scheduled date of departure.

It is imperative that the above be strictly adhered to as Goods cannot be cleared by Transnet at a port of entry in South Africa without the required documentation. Any demurrage charges applicable to the Goods which may become payable due to late or non-submission of the aforementioned documentation will be for the Supplier's account.

19 EXPORT LICENCE

The award of a Bid for Goods to be imported may be subject to the issue of an export licence in the country of origin or supply. If required, the Supplier's manufacturer or forwarding agent shall be required to apply for such licence.

20 QUALITY OF MATERIAL

Unless otherwise stipulated, the Goods offered shall be NEW Le. in the unused condition, neither second-hand nor reconditioned.

21 PRICES SUBJECT TO CONFIRMATION

- 21.1 A Bid with prices which are subject to confirmation will not be considered.
- 21.2 Bids where firm prices are quoted for the duration of any resulting order and or contract will receive procedence over prices which are subject to adjustment.

22 DELETION OF ITEMS EXCLUDED FROM BID

The Respondent must delete items for which it has not tendered or for which the price has been included elsewhere in its Birl.

23 ALTERATIONS MADE BY THE RESPONDENT TO BID PRICES

All alterations made by the Respondent to its Bid price(s) prior to the submission of its Bid Documents must be done by deleting the incorrect figures and words where required and by inserting the correct figures and words against the items concerned. All such alterations must be initialled by the person who signs the Bid Documents. Failure to observe this requirement may result in the particular item(s) concerned being excluded in the matter of the award of the business.

24 VALUE-ADDED TAX

- 24.1 In respect of local sumplies, i.e. Goods to be manufactured, produced of assembled in the Republic of South Africa, or imported supplies held or already in transit to South Africa, the prices quoted by the Respondent are to be exclusive of VAT which must be shown separately at the standard rate on the Tax Invoice.
- 24.2 In respect of imported supplies, i.e. Goods to be imported from all sources where Transnet is responsible for the clearance of the supplies at the port of entry, VAT will be paid by Transnet upon arrival of the Goods in the Republic of South Africa.
 - a) The invoicing by the Supplier on behalf of its foreign principal represents a supply made by the principal.
 - b) The Supplier's Tax Invoice(s) for the local portion only [i.e. the "commission" for the services rendered locally] must show the VAT separately.

25 TERMS AND CONDITIONS OF BID

- 25.1 The Supplier shall adhere to the Standard Terms and Conditions of Contract as set out in Form ST&C Goods, a copy of which is issued with the Bid Documents, together with any schedule of "Special Conditions" or otherwise which form part of the Bid Documents.
- 25.2 Should the Respondent find any conditions unacceptable, it should indicate which conditions are unacceptable and offer allocratives by written submission on a company letterhead. 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.

26 IMPORTANT NOTICE TO RESPONDENTS REGARDING PAYMENT

26.1 Method of Payment

- The attention of the Respondent is directed to clause 8 [Invoices and Fayment] of Form ST&C
 Goods, which sets out the conditions of payment on which Bid price(s) shall be based.
- b) However, in addition to the aforegoing the Respondent is invited to submit offers based on alternative methods of payment and/or financing proposals.
- c) The Respondent is required to give full particulars of the terms that will be applicable to its alternative offer(s) and the financial merits thereof will be evaluated and taken into consideration when the Bid is adjudicated.
- d) The Respondent must, therefore, in the first instance, tender strictly in accordance with clause 26.1a) above. Failure to comply with clause 26.1a) above may preclude a Bid from further consideration.

NOTE: The successful Respondent [the Supptier] shall, where applicable, be required to furnish a guarantee covering any advance payments.

26.2 Conditional Discount

Respondents offering prices which are subject to a conditional discount applicable for payment within a specific period are to note that the conditional period will be calculated as from the date of receipt by Transnet of the Supplier's month-end statement reflecting the relevant Tax Invoice(s) for payment purposes, provided the conditions of the order or contract have been fulfilled and the Tax Invoice is correct in all respects as referred to in the contract or order. Incomplete and/or incorrect Tax Invoices shall be returned and the conditional period will be recalculated from the date of receipt of the correct documentation.

27 CONTRACT QUANTITIES AND DELIVERY REQUIREMENTS

27.1 Contract Quantities

- a) It must be clearly understood that although Transnet does not bind itself to purchase a definitive quantity under any contract which may be entered into pursuant to this Bid, the successful Respondent nevertheless undertakes to supply against the contract such quantities as may be ordered against the contract, which orders are posted or delivered by hand or transmitted electronically on or before the expiry date of such contract.
- It is furthermore a condition that Transnet will not accept liability for any material/stocks specially ordered or carried by the Respondent with a view to meeting the requirements under any such contract.
- c) The estimated planned quantities likely to be ordered by Transnet per annum are furnished in relevant section of the Gid Documents. For avoidance of doubt the estimated quantities are estimates and Transnet reserves the right to order only those quantities sufficient for its operational requirements.

27.2 Delivery Period

a) Period Contracts and Fixed Quantity Requirements

It will be a condition of any resulting contract/order that the delivery period embodied therein will be governed by the previsions of clause 13 [Defective Goods], 14 [Total or Partial Failure to Perform the Scope of Supply] and 15 [Flights on Cancellation] of Form ST&C – Goods

b) Progress Reports

The Supplier may be required to submit periodical progress reports in regard to the delivery of the Goods.

c) Emergency Demands as and when required

If, due to breakdowns, derailments, storm damage or similar unforeseen circumstances, supplies of the material covered by the Bid are required at short notice for immediate delivery, the Supplies will be given first right of refusal of such business. If it is unable to meet the desired critical delivery period, Transnet reserves the right to purchase such supplies as may be required to meet the emergency outside the contract if immediate delivery can be offered from any other source. Clause 14 of form STNC—Goods / Total or Partial Failure to Perform the Scope of Supply) will not be applicable in these circumstances.

28 PACKING AND MARKING

28.1 Timber used for crating, packing and dunuage

Attention is directed to the Forest Acs, 1966 [Act 72 of 1968], or any amendments thereto, or regulations promulgated in terms thereof.

28.2 Printing on container and packaging

Printing ("marks") appearing on all containers and packaging of Goods shall be in English.

29 PLANS, DRAWINGS, CLASRANS, SPECIFICATIONS AND DOCUMENTS

29.1 Copyright

Copyright in plans, drawings, diagrams, specifications and documents compiled by the Supplier for the puspose of contract work shall be governed by the terms and conditions detailed in clause 22 of the Scoris [Intellectual Property Rights].

29.2 Drawings and specifications

In addition to what may be stated in any Bid Document in this connection, the Respondent should note that, unless notified to the contrary by Transnet or a designated official by means of an official amendment to the Bid Documents, it is required to tender for Goods strictly in accordance with the drawings and specifications supplied by Transnet, notwithstanding that it may be aware that alterations or amendments to such drawings or specifications are contemplated by Transnet.

29.3 Respondent's drawings

Drawings required to be submitted by the Respondent must be furnished before the closing time and date of the Bid. The non-receipt of such drawings by the appointed time may disqualify the Bid.

29.4 Foreign specifications

The Respondent quoting for Goods in accordance with foreign specifications, other than British and American standards, is to submit translated copies of such specifications with the Bid. In the event of any departures or variations between the foreign specification(s) quoted in the Bid Documents, full details regarding such departures or variations must be furnished by the Respondent in a covering letter attached to the Bid. If the condition is not complied with by the Respondent, the Bid may be disqualified.

30 VISITS TO FOREIGN COUNTRIES

- 30.1 Respondents must furnish details in a covering letter if it is considered necessary that employees of Transnet should carry out inspection and/or witness any tests on Goods at the premises of the preferred Respondent or its subcontractors overseas for the purpose of a product demonstration and/or final acceptance or for any other reason.
- 30.2 If the Respondent considers overseas visits to be necessary it must provide the following information in a covering letter in respect of each proposed visit:
 - a) countries and places to be visited;
 - b) number of employees and disciplines involved
 - c) number of man-days involved; and
 - d) motivation for the visit.
- 30.3 Transnet will make all arrangements with regard to booking of air journeys, hotel reservations, transport to and from airports, places of inspection or demonstration, etc. and all expenses will be for the account of Transport
- 30.4 Before a visit is undertaken, such as envisage in this clause 30, Transnet and the Respondent will agree in writing on the number of employees of Transnet that should undertake the visit and the number of man-days involved in the visit.

31 BIDS BY OR ON BEHALF OF FOREIGN RESPONDENTS

- 31.1 Bids submitted by foreign principals may be forwarded direct by the principals to the Secretary of the Acquisition Council or to a designated official of Transnet according to whichever officer is specified in the Bid Documents, or may be so forwarded on the principal's behalf by its South African representative or agent provided that written proof is submitted that such representative or agent has been duly authorised to act in that canacity by the principal. Failure to submit such authorisation by the representative or agent shall disqualify the Bid.
- 31.2 When legally authorised to prepare and submit Bids on behalf of their principals not domiciled in the Republic of South Africa, representatives or agents must compile the Bids in the names of such principals and sign them on behalf of the latter.
- 31.3 South African representatives or agents of a successful foreign Respondent must when so required enter into a formal contract in the name of their principals and must sign such contract on behalf of the latter. In every such case a legal Power of Attorney from their principals must be furnished to

Transnet by the South Africas representative or agents authorning them to enter into and sign such contract.

- a) Such Power of Attorney must comply with Government Notice No. 1160 of 27 June 1930 [and any amendments the cto] "Rules of the Supreme Court of South Africa for the authentication of documents executed outside the Republic for use within the Republic."
- b) The Power of Attorney must be signed by the principal under the same title as used in the 6id Documents.
- c) On artival within the Republic of South Africa this Power of Attorney is to be completed in terms of Section 8(2) of the Stamp Duties Act No. 77 of 1968, or any amendment thereof.
- d) If a Power of Attorney held by the South African representative or agent includes matters of a general nature besides provision for the enfering into and sisming of a contract with Transnet, a certified copy thereof should be furnished.
- e) The Power of Altorney must authorise the South African representative or agent to choose the domicilium citandi et executandi as provided for in clause 26 [Addresses for Notices] of the Standard Conditions of Contract, Form ST&C Goods.
- 31:3 If payment is to be made in South Africa, the foreign Supplier [i.e. the principal, or its South African agent or representative], must notify Transmet in writing whether, for payment by electronic funds transfer [EFT]:
 - a) funds are to be transferred to the credit of the foreign Supplier's account at a bank in South Africa, in which case the name and branch of such bank shall be furnished; or
 - b) funds are to be transferred to the credit of its South African agent or representative, in which case the name and branch of such bank shall be furnished.
- 31.5 The attention of the Respondent is directed to clause 16 above [Securities] regarding the provision of security for the furtilinear of security and orders and the manner and form in which such security is to be furnished.

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STANDARD TERMS AND CONDITIONS OF CONTRACT
FOR THE SUPPLY OF GOODS TO TRANSNET

FORM ST&C - GOODS [March 2012]

4

TABLE OF CONTENTS

1	INTRODUCTION	
2	DEFINITIONS	
3	INTERPRETATION	6
4	NATURE AND SCOPE	
5	AUTHORITY OF PARTIES	7
6	DURATION AND CANCELLATION	7
7	GENERAL OBLIGATIONS OF THE SUPPLIER	7
8	INVOICES AND PAYMENT	9
9	PRICE ADJUSTMENTS	10
10	WARRANTIES	. 1
11	THIRD PARTY INDEMNITY.	. 11
12	INSPECTION	
13	DEFECTIVE GOODS	. 12
14	TOTAL OR PARTIAL FAILURE TO PERFORM THE SCOPE OF SUPPLY	
15	RIGHTS ON CANCELLATION.	
16	BREACH AND TERMINATION.	
17	CESSION	
18	FORCE MAJEURE	5 14
19	CONFIDENTIALITY	. 15
20	INSURANCES	6
21	LIMITATION OF LIABILITY	. 17
22	INTELLECTUAL PROPERTY RIGHT'S	17
23	NON-WAIVER	. 19
24	PARTIAL INVALIDITY	. 19
25	DISPUTE RESOLUTION	. 19
26	ADDRESSES FOR NOTICES	70
27	WHOLE AND ONLY AGREEMENT	. 21
28	AMENDMENT AND CHANGE CONTROL	
29	GENERAL	21

1 INTRODUCTION

When an Agreement is entered into between Trinsnet SOC 1td [Trinsnet] and the appointed supplier of Goods to Transnet [the Supplier], these Standard Terms and Conditions of Contract, the technical specifications for the Goods, the General Birl Conditions, a Schedule of Requirements including such special conditions as may be applicable, and any terms in the associated Birl Documents, exclusively govern the supply of Goods and provision of ancillary Services by the Supplier to Transnet.

2 DEFINITIONS

Where the following words or phrases are used in the Agreement, such words or phrases shall have the meaning assigned thereto in this clause, except where the coultext dearly requires otherwise:

- 2.1 AFSA means the Arbitration Foundation of South Africa;
- 2.2 Agreement means the Agreement and its associated schedules and/or annexures and/or appendices, and/or schedules, including the Schedule of Requirements, the technical specifications for the Goods and such special conditions as shall apply to the Agreement, together with the General Bid Conditions and any additional provisions in the associated bid documents tendered by the Supplier (as agreed, in writing, between the Partiers), which collectively and exclusively govern the supply of Goods and provision of ancillars Services by the Supplier to Transnet;
- 2.3 Background Intellectual Property means of Intellectual Property introduced and required by either Party to give effect to their obligations under the Agreement owned in whole or in part by or licensed to either Party or their affiliates prior to the Commencement Date or developed after the Commencement Date otherwise pursuant to the Agreement;
- 2.4 **Business Day(s)** means Mondays to Fridays between 07:30 and 16:00, excluding public holidays as proclaimed in South Africa;
- 2.5 Commencement Date means [*], notwithstanding the signature date of the Agreement;
- 2.6 Confidential Information means any information or other data, whether in written, oral, graphic or in any other form such as in documents, papers, memoranda, correspondence, notebooks, reports, drawings, diagrams, discs, articles, samples, test results, prototypes, designs, plans, formulae, patents, or inventor's certificates, which a Party discloses or provides to the other Party [intentionally or unintentionally, or as a result of one Party permitting the representative of the other Party to visit any of its premises], or which otherwise becomes known to a Party, and which is not in the public domain and includes, without limiting the generality of the term:
 - information relating to methods of operation, data and plans of the disclosing Party;
 - b) the contents of the Agreement;
 - c) private and personal details of employees or clients of the disclosing Party or any other person where an onus rests on the disclosing Party to maintain the confidentiality of such information;
 - any information disclosed by either Party and which is clearly marked as being confidential or secret;
 - information relating to the strategic objectives and planning of the disclosing Party relating to its existing and planned future business activities;

- A information existing to the past, present and future research and development of the disclosing Party;
- g) information relating to the business activities, business relationships, products, services, customers, clients and Subcontractors of the disclosing Party where an onus rests on the disclosing Party to maintain the confidentiality of such information;
- h) information contained in the software and associated material and documentation belonging to the disclosing Party;
- technical and scientific information, Know-How and trade secrets of a disclosing Party including inventions, applications and processes;
- j) Copyright works;
- k) commercial, financial and marketing information;
- data concerning architecture, demonstrations, tools and techniques, processes, machinery and equipment of the disclosing Party;
- m) plans, designs, concepts, drawings, functional and technical requirements and specifications of the disclosing Party;
- n) information concerning faults or defects in Goods, equipment, hardware or software or the incidence of such faults or defects; and
- information concerning the charges, fees and/or costs of the disclosing Party or its authorised Subcontractors or their prethods, practices or service performance levels actually achieved;
- 2.7 Copyright means the right in expressions, procedures, methods of operations or mathematical concepts, computer program codes, compilations of data or other material, literary works, musical works, artistic works sound recordings, broadcasts, program carrying signals, published editions, photographic works, or cinematographic works of the copyright owner to do or to authorise the doing of certain sets as a select in respect of the different categories of works;
- 2.8 Designs mean registered Designs and/or flesion applications and will include the monopoly right granted for the protection of an independently created industrial design including designs dictated essentially by technical or functional considerations as well as ropographies of integrated circuits and integrated circuits;
- 2.9 Foreground Intellectual Property means all Intellectual Property developed by either Party pursuant to the Agreement;
- 2.10 Goods means [•], the material / products specified in the Schedule of Requirements appended as Schedule 1 hereto:
- 2.11 ICC Incotorms 2010 means the set of commercial trade terms as published by the International Chamber of Commerce, Paris [ICC], which are otherwise referred to as purchase terms and which define precisely the responsibilities, costs and risks of the buyer [Transnet] and the seller [the Supplier]. Incoterms are only applicable to contracts involving the import or export of Goods from one country to another and for the purpose of the Agreement, if applicable, shall mean the designated Incoterm as stipulated in Schedule 1 hereto. Further details of the Incoterm [purchase]

- terms] for the Agreement, if applicable, can be viewed at the International Business Training website http://www.i-b-t.net/incoterms.html:
- 2.12 Intellectual Property means Patricks, Designs, Know-How, Copyright and Trade Marks and all rights traving equivalent or singler effect which may exist anywhere in the world and includes all future additions and improvements to the Intellectual Property;
- 2.13 Know-How means all Confidential information of vital ear nature relating to the Intellectual Property and its confidential information of vital earliest information generally relating to Transnet's field of tricinology, including technical information, processing or manufacturing techniques, Designs, specifications, formulae, systems, processes, information concerning materials and marketing and business information in general;
- 2.14 Parties mean the Parties to the Agreement together with their subsidiaries, divisions, business units, successors-in-title and assigns;
- 2.15 Party means either one of these Parties;
- 2.16 Patents mean registered Patents and Patent applications, each the latter have proceeded to grant, and includes a right granted for any inventions, products or processes in all fields of technology;
- 2.17 Permitted Purpose means any activity of process to be undertaken or supervised by a Staff member of one Party during the term of the Agreement, for which purpose authorised disclosure of the other Party's Confedential Information of Intellectual Property is a prerequisite in order to provide such activity or purcoss to be accomplished;
- 2.18 Price(s) means the agreed Price(s) for the Goods to be purchased from the Supplier by Transnet, as detailed in the Schodule of Requirements issued in accordance with the Agreement, as amended by mutual agreement between the Parties and its accordance with the terms and conditions in the Agreement time to time;
- 2.19 Purchase Order(s) means official orders issued by an operating division of Transnet to the Supplier for the supply of Goods or ancillary Services;
- 2.20 Services means Services provided to Transnet including activities such as consultation, advisory services implementation services and day-to-day assistance provided by the Supplier, pursuant to the School of Requirements in terms of the Agreement;
- 2.21 Staff means any partner, employee, agent, consultant, independent associate or contractor, Subcontractor and the staff of such Subcontractor, or other authorised representative of either Party;
- 2.22 Schedule of Requirements means Schedule 1 heroto;
- 2.23 **Subcontract** means any confract or agreement or proposed contract or agreement between the Supplier and any third party whereby that third party agrees to provide to the Supplier the Goods or related Services or any part thereof or material used in the manufacture of the Goods or any part thereof;
- 2.24 Subcontractor means the third party with whom the Supplier enters into a Subcontract;
- 2.25 Tax Invoice means the document as required by Section 20 of the Value-Added Tax Act, 89 of 1991, as may be amended from time to time;

- 2.26 Trade Marks made regulated stands and Trade Mark applications and include any sign or logo, or combination of signs and/or logos capable of distinguishing the goods or services of one undertaking from those of another undertaking; and
- 2.27 VAT means Value-Added Tax chargeable in terms of the Value-Added Tax Act, 89 of 1991, as may be amended from time the time.

3 INTERPRETATION

- Clause headings in the Agreement are included for ease of reference only and to not form part of the Agreement for the purposes of interpretation or for any other purpose. No provision shall be construed against or interpreted to the disadvantage of either Party hereto by reason of such Party having or being deemed to have structured or drafted such provision.
- 3.2 Any term, word or phrase used in the Agreement, other than those defined under the clause heading "Definitions" shall be given its plain English meaning, and those terms, words, acronyms, and phrases used in the Agreement will be interpreted in accordance with the generally accepted meanings accorded thereto
- 3.3 A reference to the singular incorporates a reference to the plural and vice versa.
- 3.4 A reference to natural persons incorporates a reference to legal persons and vice versa.
- 3.5 A reference to a particular gender incorporates a reference to the other gender.

4 NATURE AND SCOPE

- 4.1 The Agreement is an agreement under the terms and conditions of which the Supplier will arrange for the supply to transmet of the Goods which meet the requirements and specifications of Transmet, the delivery distributes is controlled by means of Purchase Orders to be issued by Transmet and executed by the Supplier in accordance with the Agreement.
- 4.2 Such Purchase Orders and deliveries to Transnet shall be agreed between the Parties from time to time, subject to the term of the Schedule of Requirements.
- 4.3 Each properly executed Purchase Order forms an inseparable part of the Agreement as if it were fully interporated also the locally of the Agreement.
- During the period of the Agreement, both Parties can make written suggestions for amendments of the Schedule of Requirements in accordance with precedures set out in clause 28 [Amendment and Change Control]. A Party will advise the other Party within 14 [fourteen] Business Days, or such other period as mutually agreed, whether the amendment is acceptable.
- 4.5 Insofar as any term, provision or condition in the Schedule of Requirements conflicts with a like term, provision or condition in the Agreement and/or a Purchase Order, the term or provision or condition in this Master Agreement shall prevail, unless such term or provision or condition in this Master Agreement has been specifically revoked or amended by mutual written agreement between the Parties.

5 AUTHORITY OF PARTIES

- 5.1 Nothing in the Agreement will constitute or be deemed to constitute a partnership between the Parties, or constitute or be deemed to constitute the Parties as agents or employees of one another for any purpose or in any form whatsoever.
- 5.2 Neither Party shall be entitled to, or have the power or authority to:
 - a) enter into an agreement in the name of the other; or
 - b) give an exercise by accentation or undertaking on the other's behalf or
 - create now liability against the other or bind the other's credit in any way or for any purpose whatsoever.

6 DURATION AND CANCELLATION

- 6.1 Notwithstanding the date of signature hereof, the Commencement Date if the Agreement is [•] and the duration shall be for a [*] [[*]] year period, explains on [*], unless:
 - a) the Agreement is terminated by either Party in accordance with the provisions incorporated therein or in any schedules or annexures appeared hereto, or otherwise in accordance with law or equity; or
 - b) the Agreement is extended at Transpet's option for a further period to be agreed by the Parties.
- 6.2 Notwithstanding clause of *(breat) and termination)*, either Party may cancel the Agreement without cause by giving 30 [thirty, days prior written notice thereof to the other Party, provided that in such instance, the Agreement will nevertheless be applicable in respect of all Purchase Orders which have been placed prior to the date of such cancellation.

7 GENERAL OBLIGATIONS OF THE SUPPLIER

- 7.1 The Supplier shall:
 - a) respond proppelly to all complaints and enquiries from Fransnet;
 - inform transact conceded by of any dispute or complaint arising in relation to the storage or delivery of the Goods;
 - conduct its business in a professional manner which will reflect positively upon the Supplier and the Supplier's products;
 - keep full records elevery indicating all transactions concluded by the Supplier relating to the delivery of the Genris and keep such records for at least 5 [five] years from the date of each such transaction;
 - obtain, and at all times maintain in full force and effect, any and all licences, permits and
 the like required under applicable lows for the provision of the Goods and ancillary Services
 and the conduct of the business and activities of the Supplier;
 - f) observe and ensure compliance with all requirements and obligations as set out in the labour and related legislation of South Africa, including the Occupational Health and Safety Act, 85 of 1993, as may be amended from time to time;

- commity with all operation control environmental legislation and regulations, demonstrate sound environmental performance and have an environmental management policy which ensures that its products, including the Goods or ancillary Services are procured, produced, packaged, delivered and are canable of being used and altimately disposed of in a way that is environmentally appropriate; and
- h) ensure the validity of all renewable certifications, including but not limited to its Tax Clearance Certificate and B-BBEE Accreditation Certificate, throughout the entire term of the Agreement. Should the Supplier fail to present Transnet with such renewals as they become due, Transnet shall be entitled, in addition to any other rights and remedies that it away have in terms of the Agreement, to terminate the Agreement forthwith without any liability and without prejudice to any claims which Transnet may have for damages against the Suppliers.
- 7.2 The Supplier acknowledges and agrees that it shall at all tipe
 - a) render the supply of the Goods and ancillary Salvices and perform all its duties with honesty and integrity:
 - communicate openly and honestly with Transnet regarding the supply and performance of the Goods and demonstrate a commitment to effecting the supply and performing ancillary Services timeously, efficiently and orders to the required standards;
 - c) endeavour to provide the highest possible standards of service and workmanship, with a reasonable degree of care and diligence;
 - d) use its best entergours and make every diligent effort to meet agreed deadlines;
 - e) treat its own Staff, as well as all Transnet's Staff, with fairness and courtesy and respect for their human rights;
 - f) practice and promote its own internal policies aimed at prohibiting and preventing unfair discrimination.
 - g) treat all enquiries from Transnet in connection with the supply of the Goods and/or ancillary Services with courtesy and respond to all enquiries promptly and efficiently.

 Where the Supplier is unable to comply with the provisions of this clause, the Supplier will advise Transnet of the delay and the reasons therefor and will keep Transnet informed of progress made regarding the enquiry;
 - h) when requested by Transnet, provide clear and accurate information regarding the Supplier's own policies and procedures, excluding Know-How and other Confidential Information, except where a non-disclosure undertaking has been entered into between the Parties;
 - not allow a conflict of interest to develop between its own interests (or the interests of any
 of its other customers) and the interests of Transnet;
 - j) not accept or offer, nor allow, induce or promote the acceptance or offering of any gratuity, enticement, incentive or gift that could reasonably be regarded as bribery or an attempt to otherwise exert undue influence over the recipient;

- not mislead Transnet or its officers, employees and stakeholders, whether by act or omission;
- In the otherwise, all it an unofficial manner or do anything which could reasonably be expected to damage or farmest Transport's reputation or business image; and
- m) immediately report to Transnet any unethical, fraudulent or otherwise unlawful conduct of which it becomes aware in corpection with Transnet air the supply of Goods or ancillary Services to Transnet.
- 7.3 In compliance with the National Railway Safety Regulator Act, 16 of 2002, as may be amended from time to time, the Supplier shall ensure that the Goods and ancillary Services, to be supplied to Transnet under the terms and conditions of the Agreement, comply fully with the Specifications as get forth in Schedule 1 hereto, and shall thereby adherd [as applicable] to railway safety requirements and/or requiations. Permission for the chapacitation of the Supplier, as applicable, shall be subject to a review of the capability of the proposed Subcontractor to comply with the specified railway safety requirements and/or regulations. The Supplier and/or its Subcontractor shall grant Transnet access, during the term of the Agreement, to review any safety-related activities, including the coordination of such activities across all parts of its organisation.

8 INVOICES AND PAYMENT

- 8.1 (Increment shall pay the Day Airr the amounts Alipulated in each Purchase Order, subject to the terms and conditions of the Authorism.)
- 8.2 Transnet shall pay such amounts to the Supplier upon receipt of a valid and undisputed Tax Invoice together with the supporting documentation, as specified in the Schedule of Requirements appended hereto, once the undisputed Tax Invoices or such portions of the Tax Invoices which are undisputed become due and payable to the Supplier for the delivery of the Goods ordered, in terms of clause 8.4 below.
- 8.3 All Prices set out in the Agreement and the Schedule of Requirements hereto are exclusive of VAT.
- 8.4 Unless otherwise provided for in the Schedule of Requirements appended to the Agreement, Tax Invoices shall be submitted tegether with a month-end statement. Payment against such month-end statement shall be made by Transnet within 30 [thirty] days after date of receipt by Transnet of the Supplier's statement together with the relevant undisputed Tax Invoice(s) and supporting documentation.
- Where the payment of any Tax Invoice, or any part of a Tax Invoice which is not in dispute, is not made in accordance with this clause 8, the Supplier shall be entitled to charge interest on the outstanding amount, at The Standard Bank of South Africa's prime rate of interest in force, for the period from the due date of payment until the outstanding amount is paid.
- 8.6 The Supplier shall remain the ewider of all plant, material, machinery, equipment and the like [collectively, the Supplier's Goods] provided to Transnet until Transnet has paid in full for the Supplier's Goods, it being specifically agreed that Transnet shall acquire no rights [including liens and rights of use] of whatsoever nature in such Supplier's Goods until date of final payment by

Transpel. Subject to the Proceeding, all tick and herefit to the Copplier's Goods shall pass from the Supplier to Transpet on delivery of the Supplier's Goods by the Supplier to Transpet.

9 PRICE ADJUSTMENTS

- 9.1 Princs for Goods supplied in forms of the Agreement chall be subject to review as indicated in the Schedule of Requirements appeared hereto.
- 9.2 No less than 2 [two] months prior to any proposed Price adjustment, the Parties shall commence negotiations for Prices for the next period or as otherwise indicated in Schedule 1 hereto. The Parties shall have regard for market-related eneing of equivolent goods, continuous improvement initiatives, costs [including labour, raw materials and transport/delivery], order size and frequency and changes to the specification of the Goods.
- 9.3 Pursuant to clause 9.2 above, the Supplier shall keep full and accurate records of all costs associated with the supply of the Goods to Transnet, in a form to be approved in writing by transnet. The Supplier shall produce such records to Transnet for inspection at all reasonable times on request and such records may, at Transnet's option, be audited by Transnet or its designated representatives.
- 9.4 Should Transnet and the Supplier fail to reach an agreement on Price for the successive period, either Party shall be entitled to submit this matter to dispute resolution in accordance with clause 25 of the Master Agreement [Dispute Resolution].
- 9.5 If during the period of the Agreement Transnet can purchase similar Goods of a like quality from another supplier at a total delivered cost to a Transnet facility that is lower than the total delivered cost of the Goods purchase is hereunder from the Supplier, Transnet may notify the Supplier of such total delivered cost the Supplier shall have an epporturity to adjust the Price of the Goods purchased beteinded on such a basis as to result in the same total delivered cost to Transnet, within 30 [Mitty] adjust a basis as to result in the Supplier fails to do so or cannot legally do secondary total (i) purchase the Coords from such other supplier in which case the obligations, including, but not limited to, any purchase and sale requirements and, or commitments. It any, of Transnet and the Supplier hereunder shall be reduced accordingly; (ii) terminate the Agreement without any penalty, liability or further obligation; or (iii) continue purchases under the Agreement.
- equivalent to, or substantially similar to the Goods herein, at a total delivered cost to a third party lower than the total delivered cost to a Transnet facility, then the Supplier has an opportunity to adjust its Price for the Goods purchased bereinder within 30 [thirty] calendar days so that the Price is the same or lower than the total delivered cost of such third party. If the Supplier fails to do so or cannot legally do so, Transnet may (i) purchase the Goods from any other such supplier, in which case the obligations, including, but not limited to, any purchase and sale requirements and/or commitments, if any, of Transnet and the Supplier hereunder shall be reduced accordingly; or (ii) terminate the Assertion without any penalty, liability or further obligation. Within 30 [thirty] calendar owns of the Commitments Date of the Agreement or at any time Transnet so requests, the Supplier shall certify in writing to Transnet that it is in compliance with this clause

and shall provide all information that transnet reasonably requests in order to verify such compliance.

10 WARRANTIES

The Supplier wordants that:

- 10.1 pursuant to clause 7.3 [General Obligations of the Supplier], the Goods will be manufactured in accordance with the specifications appended hereto at Schedule 1, or the manufacturer's specifications, as agreed specification by both Parties:
- 10.2 The execution and performance of the Agreement by the Supplier does not infringe any rights of a third party or breach any obligation of the Supplier to any third party; and
- 10.3 it has taken all reasonable precautions to ensure that, in the event of a dispister, the impact of such dispister on the writing of the Supplier to comply with its obligations under the Agreement will be reduced to the greatest extent possible, and that the Supplier shall ensure that it has appropriate, tested and documented recovery arrangements in place.

11 THIRD PARTY INDEMNITY

The Supplier hereby indemnifies and shall hold Transfer harmless against any direct damages suffered by or claims arising against Transfer in respect of claims / 0.2 above.

12 INSPECTION

- 12.1 Transnet reserves the right to arrange for the inspection of all Goods forming the subject of any Purchase Order, at any stage before final acceptance and by any means it may think fit, and when such inspection is to be carried out, the relevant Purchase Order(s) shall be endorsed accordingly.
- 12.2 When inspection at the Supplier's works or warehouse is specified, Transnet's authorised inspector shall have free asycts the premises of the Supplier at all times during working hours on a Business Day; shall have liberty to inspect work which is the subject of the Purchase Order at any stage of manufacture, and may reject any Goods which are found to be incomplete, defective or in any way not to conformity with the terms and specifications of the Agreement; and the Supplier shall afford all revisionable facilities for such access and inspection.
- 12.3 The Supplier shall provide inspection gauges, measuring and test equipment to ensure that the requirements of the Agreement are satisfied. All gauges, templates, tools and other equipment required to check the accuracy of the work shall be calibrated at regular and reasonable intervals by a laboratory which has been approved in writing by Transnet. This certificate shall not be more to a £2 [twelve] months old.
- 12.4 The Supplier shall prepare and supply, without charge to Transnet, all test pieces, samples and specimens; shall provide all labour and apparatus for carrying out tests and analyses in accordance with the terms of the Agreement or Purchase Order, and render all reasonable assistance in making such tests and analyses.
- 12.5 All special rules governing gauging, testing, analysis and other inspection procedures shall be adhered to strictly in accordance with the terms of the Agreement or Purchase Order and the conditions of any specifications and drawings quoted therein.
- 12.6 Perpendion will be arranged by the Staff of Transnot, as indicated in the Purchase Order(s).

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- 12.7 When Goods are ready for inspection, the Supplier shall apply promptly to the appropriate and only for instructions accoming such inspection. All applications for inspection shall quote Transnet's Agricultural Order number. 7 [square] Basiness it as notice of readiness from the Supplier shall be given to the authorised inspector appointed by Transnet to carry out such inspection.
- 12.8 Transnet shall have the right to recover from the Supplier the cost of inspection of any Goods that have been rejected by its authorised inspector in terms of this clause 12.

13 DEFECTIVE GOODS

- 13.1 Molwithstanding are certificate and or receipt that may have been issued by or on behalf of Diagonal either in South Africa or eveneous, unods will be accepted at the place of delivery or at the port of shipment, as specified in the Agreement, only as regards outward condition of packages and Transnet rotates the right to reject the Goodh subplied, on or after arrival at the place to which they are presigned, or after they have been placed in use in South Africa, should they be found defective.
- 13.2 If Goods are rejected owing to latent defects becoming apparent during machining operations or other preparation necessary on the part of Transpet before they can be put into use, the Supplier shall bear all expenses incurred by Transpet in sarrying out such necessary operations.
- 13.3 If such Goods are rejected, the Supplier will pay the following costs:
 - a) for Goods purchased in South Africa on an ex works basis, the cost of transport from the Supplier's works in South Africa to the named declination where the Goods have been rejected by Transport Stus handling charges and storage, if leviable; or
 - b) for Goods manufactured overseas, the Supplier shall pay all replacement costs including the overseas infant transport costs from the South African port to the place where the Goods have been rejected by transport, including handling charges, storage, landing charges, customs duty and surebdings, if leviable.
- 13.4 If Transnet requires rejected Goods to be replaced, the Supplier shall, when called upon to do so, arrange prompt replacement of the Goods within the prescribed manufacturing lead times for such Goods, as indicated in Schedule 1.
- 13.5 If Goods are found to be defective but the defects are, in the opinion of Transnet, not of so serious a nature as to warrant total rejection of the Goods, the Supplier shall, when called upon to do so, remedy or make good such defects at its own cost, or Transnet may remedy or make good such defects at the request of the Supplier and recover from the Supplier all costs or expenses reasonably increased by it is along so.
- 13.6 Should the Supplier fail when called upon to remedy or make good such defects within a reasonable time or to request Transnet to do so, Transnet may proceed to remedy or make good such defects and thematies recoval from the Supplier all such costs and expenses as aforementioned.

13.7 Any amount recoverable from the Supplier in terms of this clause may, without prejudice to any other legal remedies available to Transnet, be deducted in whole or in part from any monies in the hands of Transnet which are due for payment to the Supplier.

14 TOTAL OR PARTIAL FAILURE TO DESCORE THE SCOPE OF SUPPLY

- 14.1 In the case of Goods to be specially manufactured for it, if Transnet at any time ascertains that:
 - a) no manufacturing of the Goods specified in a Purchase Order has commenced and there is little or no prospect, in Transpet's opinion, that manufacturing will commence within a reasonable time; or
 - b) delivery of any of the Goods is being or is likely to be delayed beyond the promised delivery date(s), and there is little or no prospect of the Purchase Order(s) being carried out with a course of the adherence to the promised delivery rate(s) or time(s),

then Transpet may, irrespective of the cause of the delay, by notice to the Supplier, cancel ar from a future date specified in such notice the whole or any part of the Agreement or Purchase Order in respect of which the Goods to be supplied have not been completed by that date, without incurring any habitate by that on of such confoliation extent as provided in this clause.

- 14.2 The Supplier shall thereupon, as soon as possible after such date, deliver to Transnet the Goods [if any] already completed, and payment for the part performance shall be made on a *pro-rate* basis, provided the uncompleted part is not an integral or essential part of the completed Goods. Where an integral or essential part of the work has not been completed, the amount to be paid to the Supplier will be calculated on the basis of Transnet's enrichment. The Supplier shall, wherever practicable, supply Transnet with the necessary drawings and/or specifications to enable it to complete the work.
- 14.3 Whenever, in any once his overed by clause 14.1 above, the Supplier fails or neglects to execute the work or to deliver any pertion of the Goods as required by the terms of the Agreement or Purchase Order, or it boy Goods are rejected on any of the grounds mentioned in clause 13 [Defective Goods], transmet may cancel the Agreement or Purchase Order in so far as it relates to the unexecuted work or the Endelivered or rejected portion of the Goods, and in such event, the supplies of the Kima may 1941 on shall remain subject in all respects to these conditions.

15 RIGHTS ON CANCELLATION

- If the Agreement of Purchase Order is cancelled in whole of in part in terms of clause 14 [Total on Partial Failure to Perform the Scepe of Supply], Transpet may execute or complete the Agreement with any other entity and do so on such terms as it may deem proper, or may procure other comparable Goods in substitution for those neglected to be manufactured or supplied or rejected as aforesaid, and may recover from the Supplier the difference between the cost of such Goods and the Price [if the Littler was lower] as well as any costs and expenses [including any additional transport costs] which Transport may have had to incur in consequence of the Supplier's default.
- 15.2 Any amount, which may be recoverable from the Supplier in terms of clause 15.1 above, without prejudice to any other legal remedies available to Transnet, may be deducted in whole or in part from any monies in the Iran is of Transnet and due for payment to the Supplier.

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16 BREACH AND TERMINATION

- 16.1 If either Party [the Defaulting Party] commits a material breach of the Agreement and falls to remedy such breach within 10 [ten] Duriness Days of written notice thereof, the other Party [hereinafter the Aggricved Party], shall be entitled, in addition to any other rights and remedies that it may have in terms of the Agreement, to terminate the Agreement forthwith without any leading and victoral projected to any claims which the Aggricved Party may have for damages against the Defaulting halty.
- 16.2 Either Party may terminate the Agreement forthwith by notice in writing to the other Party when the other Party is unable to pay its debts as they fall due or commits any act or omission which would be an act of insolvency in terms of the Insolvency Act, 24 of 1936 [as amended from time to time], or if any action, application or proceeding is made with regard to it for:
 - a) a voluntary arrangement or composition or reconstruction of its debts;
 - b) its winding-up or dissolution;
 - c) the appointment of a Equidator, trustee, receiver, Ameinistrative receiver or similar officer; or
 - d) any similar action, application or proceeding in any jurisdiction to which it is subject.
- 16.3 Transnet may terminate the Agreement at any time within 2 (two) months of becoming aware of a change of control of the Supplier by notice in writing to the Supplier. For the purposes of this clause, control means the right to direct the affairs of a company whether by ownership of shares, membership of the board of directors, agreement or otherwise.
- 16.4 The provisions of clauses © [Definitions], 10 [Warranties], 15 [Rights on Cancellation], 19 [Intellectual Property Rights], 25 [Dispute Resolution] and 10.1 for Smith and shall survive termination or expiry of the Agreement.

17 CESSION

- 17.1 Upon written police to the Supplier, Transnet shall be entitled:
 - to appoint Transnet's financier of the Goods as first payer under the Agreement, without transferring the ultimate responsibility for payment which will remain with Transnet; and
 - to code, assign and transfer its right, title and interest in the Goods to such financier as mad of the funding or insideration for the Goods.
- The Supplier is not entitled to code, delegate, assign, Subcontract or in any other manner dispose of any of its rights or obligations in terms of the Agreement without the prior written consent of Transnet, which consent shall not be withheld or delayed unreasonably.

18 FORCE MAJEURE

18.1 Neither Party shall have any claim against the other Party arising from any failure or delay in the performance of any obligation of either Party under the Agreement caused by an act of *force majoure* such as arts of Cod, fire, flood, war, strike, lockout, industrial dispute, government action, lower or regulations, riots, terrorism or civil disturbance, defaults, delays or discontinuance on the part of independent contractors, or other circumstances or factors beyond the reasonable control of either Party, and to the extent that the performance of obligations of either Party

- hereunder is delayed by virtue of the elongoing, any period stipulated for any such performance shall be reasonably extended
- 18.2 Each Party will take an incommode steps by inhafence lawful moons that are available to resume full performance as soon as practicable and will seek agreement to modification of the relevant provisions of the Agreement in order to accommodate the new circumstances caused by the act of force majeure. If a Party fails to agree with such modifications proposed by the other Party within 90 [ninety] days of the act of force majeure first occurring, either Party may thereafter terminate the Agreement with immediate notice.

19 CONFIDENTIALITY

- 19.1 The Parties hereby unrientake the following with regard to Confidential Information:
 - a) not to divulge or disclose to any person whemsoever id any form or manner whatseever, either directly or indirectly, any Confidential Information of the other without the prior written consent of such other Party, other than when called upon to do so in accordance with a statute, or by a court baving jurisdiction, or by any other duly authorised and congressored actions or effect, in which except the Party concerned shall do what is reasonably possible to information of the institution of a defensive action to protect the Confidential Information concerned;
 - b) not to use, exploit, permit the use of, directly or nativectly, or in any other manner whatsoever apply the Confidential Information disclosed to it as a result of the Agreement, for any purpose whatsoever other than for the purpose for which it is disclosed or otherwise than in strict compliance with the provisions in the Agreement;
 - c) not to make any soles, sketches, drawings, photographs or copies of any kind of any part of the discosor Confidential Information without the prior written consent of such other Party, except when reasonably necessary for the purpose of the Agreement, in which case such copies shall be regarded as Confidential Information;
 - d) Not to de compile, desastemble or reverse engineer any composition, compilation, concept application, item, component de-compilation, including software or hardware disclosed and shall not analyse any sample provided by Transnet, or otherwise determine the composition or structure or cause to permit these tasks to be carried out except in the performance of its obligations pursuant to the Agreement;
 - not to exercise less care to safeguard Transpot Confidential Information than the Party exercises in safeguarding its own competitive, sensitive or Confidential Information;
 - Confidential Information disclosed by either Party to the other or by either Party to any other party used by such party in the performance of the Agreement, shall be dealt with as "restricted" or shall be dealt with according to any other appropriate level of confidentiality relevant to the nature of the information concerned, agreed between the Parties concerned and stipulated in writing for such information in such cases;
 - g) the Parties shall not make or permit to be made by any other person subject to their control and public statements or issue press releases or disclose Confidential Information

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- with regard to any implier related to the Agreement, unless written authorisation to do so has first been obtained from the Party first disclosing such information:
- h) each Party shall be entitled to disclose such aspects of Confidential Information as may be relevant to one or more technically qualified employees or consultants of the Party who are required in the course of their duties to require the Confidential Information for the Permitted Purpose provided that the employee or consultant concerned has a legitimate interest therein, and then only to the extent necessary for the Permitted Purpose, and is informed by the Party of the confidential nature of the Confidential information and the obligations of the confidentiality to which such disclosure is subject and the Party shall ensure such a necessary or consultants benow such obligations;
- each Party shall mutify the other Party of the name of each person or entity to whom any Confidential Information has been disclosed as soon as practicable after such disclosure;
- j) each Party shall ensure that any person or eatily so which it discloses Confidential Information shall biscrye and perform all of the revenants the Party has accepted in the Agreement as if such person or entity has signed the Agreement. The Party disclosing the Confidential Information shall be responsible for any breach of the provisions of the Agreement by such person or entity; and
- each Party may by written notice to the wher Party specify which of the Party's employees,
 officers or agents are movimed to sign a ten disclosure undertaking.
- 19.2 The duties and obligations with regard to Confidential Information in this clause 19 shall not apply where:
 - a) a Party can richies their their such information is already in the public domain or becomes available to the public through no breach of the Agreement by that Party, or its Staff; or
 - b) was rightfully in a Party's possession prior to receipt from the other Party, as proven by the first-mentioned Party's written records, without an infringement of an obligation or duty of
 - c) can be arroyed to have been rightfully received by a Party from a third party without a breach of a duty or obligation of confidentiality; or
 - is independently developed by a Party as proven by its written records.
- 19.3 This clause 19 shak survive termination for any reason of the Agreement and shall remain in force and effect from the Commencement Date of the Agreement and 5 [five] years after the termination of the Agreement. Upon termination of the Agreement, all documentation furnished to the Supplier by Transnet pursuant to the Agreement shall be returned to Transnet including.

 Afficial liestories, "The provide identity equipment including dies, blacks, labels, advertising matter, printing matter, and the rice.

20 INSURANCES

20.1 Without limiting the liability of the Supplier under the Agreement, the Supplier shall take out insurance in respect of all risks for which it is prudent for the Supplier to insure against including any liability it may have as a result of its activities under the Agreement for theft, destruction, less of or damage to Goods, death or injury to any person and damage to property. The level of

- insurance will be kept under review by Transnet, on an annual basis, to ensure its adequacy, provided that any variation to the level of such insurance shall be entirely at the discretion of the Supplier.
- 20.3 The Supplier shall are the insurance with reputable insurers and will produce to Transnet evidence of the existence of the policies on regulat.
- 20.3 Notwithstanding clause 20.1 above, should Transnet require specific insurance cover(s) in respect of the Goods purchased, such further requirements shall be set out in the Schedule of Requirements, appended for eta as Schedule 1.

21 LIMITATION OF LIABILITY

- 21.1 The Supplier's liability under this clause 21 shall be in addition to ally warranty or condition of any kind, express or impliences few or otherwise, relating to the Goods or ancillary Services, including the quality of the Goods or ancillary Services or any materials delivered pursuant to the Agreement.
- 21.2 Neither Party excludes or limits liability to the other Party for
 - death or personal injury caused by its angleplace, jurclaiding its employees', agents' or Subcontractors' negligence]; or
 - b) fraud.
- 21.3 Neither Party accepts liability for damages and claims of a special, indirect or consequential nature arising as a recall of the resonance or non-performance of the Agreement, provided that such less, damages or claims are not the direct result of the wilful acts or emissions and/or negligence or of any event which could hassonably have been foreseen and avoided on the part of the other Party. The phrase, "special indirect or consequential" is deemed to include economic loss, loss of opportunity, loss of death an exempt, and loss or damage in connection with claims against the principal by third packets.
- 21.4 Nothing in this charse 21 shall be taken as limiting the liability of the Parties in respect of clauses 19 [Confidentiality] and 22 [Intellectual Property Rights].

22 INTELLECTIME PROPERTY PURMIS

- 22.1 Title to Confidential Information
 - Transnet will retain all right, title and interest in and to its Confidential Information and Background Intellectual Property and the Supplier acknowledges that it has no claim of any nature in and to the Confidential information and Background Intellectual Property that is proprietary to Transnet. For the avoidance of doubt, all the Supplier's Background Intellectual Property shall remain vested in the Supplier.
 - b) Transnet shall grant to the Supplier an irrevocable, royalty free, non-exclusive licence to use Transnet's Parkground Intellectual Property only for the Permitted Purpose. This licence shall not parmit the Supplier to sub-license to other parties.
 - c) The Supplier shall grant to Transnet an irrevocable, royalty free, non-exclusive licence to use the Supplier's Background Intellectual Property for the Cornitted Purpose. This licence shall not possed from seat to other parties.

d) The Supplier shall great Transies access to the Superior Background Intellectual Property on terms which that be from fail registrate between the Parties for the purpose o commercially exploiting the Foreground Intellectual Property, to the extent that such access is required.

22.2 Title to Intellectual Property

- a) Affiright, disclanding trest in and to Foreground Intellectual Property prepared, conceived on disvelocity by the Supplier Pis insearchers, ages to and employees shall vest in Transmet and the Supplier acknowledges that it has no claim of any nature in and to the Foreground Intellectual Property. The Supplier shall not at any time during or after the termination or cancellation of the foreground Intellectual Property, or cause to be done any act or anything contesting or in any way impairing or tending to impair any part of that right, title and interest to any of the Foreground Intellectual Property and shall not counsel or assist any person to do so.
- Property anywhere in the model as it shall decide in its own absolute discretion and the Supplier shall reasonably assist Transnet in attaining and maintaining protection of the Foreground Intellectual Property.
- c) Where the Foreground Intellectual Property was created by the Supplier or its researchers, agents and employeen and where Transnet elects not to exercise its option to seek protection or decided to dispositione the financial support of the prosecution or maintenance of any such protection, Transnet shall notify the Supplier who shall have the right of first refusal to file or continue prosecution or maintain any such applications and to maintain any protect as a squing on the Foreground Intellectual Property.
- d) No consider than stall be paid by Transnet to the Supplier for the assignment of any Foreground Totellectual Property from the Supplier to Transnet, over and above the sums payable in terms of the Agreement. The Supplier undertakes to sign all documents and do all things as may be necessary to effect, record and perfect the assignment of the Poreground Intellectual Property to Transnet.
- e) Subject to anything contrary contained in the Agreement and/or the prior written consent of Transnet [which consent shall not be unreasonably be withheld], the Supplier shall under no circum, tentes be entitled as of right, or to claim the right, to use Transnet's Background Intellectual Property.

22.3 Title to Improvements

Any improvements, developments, adoptations and/or modifications to the Foreground Intellectual Property, and any and all treas inventions or discoveries, based on or resulting from the use of Transnet's Background Intellectual Property and/or Confidential Information shall be exclusively owned by Transnet. The Supplier shall disclose promptly to Transnet all such improvements, developments, adaptations and/or modifications, inventions or discoveries. The Supplier hereby undertakes to sign all discoveries and do all things as may be necessary to effect, record and perfect the assignment of such improvements, developments, adaptations and/or modifications, inventions or discoveries to Transnet and the Supplier shall reasonably assist Transnet in

attaining, maintaining or operationally expressing and/or protection of the improved Foreground Intellectual Property.

22.4 Unauthorised Use of Confidential Information

The Supplier shall not authorise any party to act on or use in any way any Confidential Information belonging to Transnet whether or not such party is aware of such Confidential Information, and shall promptly notify Transnet of the information if it becomes aware of any party so acting, and shall provide Transnet the information with such assistance as Transnet reasonably requires, at Test not's cost and expense, to prevent such third party from so acting.

22.5 Unauthorised Use of Intellectual Property

- a) The Supplier agrees to notify Transnet in writing of any conflicting uses of, and applications of registrations of Patents, Designs and Frade Marks or any act of infringement, unfair competition or fracency of inverving the intellectual fragerty of Transnet of which the Supplier acquires knowledge and Transnet shall have the light, as its own option, to proceed against any party infringing its Intellectual Property.
- b) It shall be within the sole and absolute discretion of Transnet to determine what steps shall be called again. The infringer and the Supplier shall coloperate fully with Transnet, at Transnet's rest, in whitever measure and iding legal action to bring any infringement of illegal use to an end.
- c) The Supplier shall cooperate to provide Transpet promptly with all relevant ascertainable facts.
- d) If proceedings are commenced by Transnet alone, Transnet shall be responsible for all expenses but shall be entitled to all damages or other award arising out of such proceedings. If proceedings are commenced by both Parties, both Parties will be responsible for the expenses and both Parties shall be entitled to damages or other award arising out of proceedings.

23 NON-WAIVER

- 23.1 Failure or neglect by citter Party, at any time, to enforce any of the provisions of the Agreement, shall not in any manner be construed to be a waiver of any of that Party's rights in that regard and in terms of the Agreement.
- 23.2 Such failure or neglect shall not in any manner affect the continued, unaltered validity of the Agreement, or prejudice the right of that Party to institute subsequent action.

24 PARTIAL INVALIDITY

If any provision of the Agreement shall be held to be invalid, illegal or unenforceable, or shall be required to be modified, the validity, legality and enforceability of the remaining provisions shall not be affected thereby.

25 DISPUTE RESOLUTION

25.1 Should any dispute of whatsnever nature arise between the Parties concerning the Agreement, the Parties shall try to resolve the dispute by negotiation within 10 [ten] Business Days of such dispute wilsing.

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- 25.2 If the dispute has not been resolved by such negotiation, either of the Parties may refer the country to AFSA and so if the other Party accordingly, which proceedings shall be held in JohannesSugg.
- 25.3 Such dispute shall be finally resolved in accordance with the rules of AFSA by an arbitrator or arbitrators appended by AFSA.
- 25.4 This clause constitutes an inevertable consent by the Parties to any proceedings in terms here if, and neither of the Parties shall be entitled to withdraw from the provisions of this clause or claim at any such proceedings that it is not bound by this clause 25.
- 25.5 This clause 25 is severable from the rest of the Agreement and shall remain in effect even if the Agreement is terminated for any reason.
- 25.6 This clause 25 shall not proclude either Party from seeking urgent relief in a court of appropriate jurisdiction, where grounds for urgency exist.

26 ADDRESSES FOR NOTICES

26.1 The Parties to the Agreement select the physical addresses and facsimile numbers, as detailed hereafter, as their respective addresses for giving or sending any notice provided for or required in terms of the Agreement, provided that either Party shall be entitled to substitute such other address or faccimile number as may be, by written notice to the other:

Tigh	snet	•
(i)	For legal notices:	[*]
		Fax No. [*]
		Proprion: Love Department
(ii)	For commercial notices:	[•]
		Fax No. [•]
		Attention: [•]
The :	Supplier	
(i)	Peoplegal in dives:	[ij:]
X.		Fax No. [*]
		Altertion: [*]
(ii)	For commercial notices:	[*]
		Fax No. [♥]
		Attention: [*]
	(i) (ii) 7he:	(ii) For commercial notices:The Samplier(i) Realogal natices:

26.2 Any notice shall be addressed to a Party at its physical address, or delivered by hand, or sent by facsimile.

- 26.3 Any notice shall be deemed to have been given:
 - a) if hand delivered, on the day of delivery; or
 - b) if sent by facsimile, on the date and time of sending of such facsimile, as evidenced by a facsimile confirmation printout, provided that such notice shall be confirmed by prepaid

redistored post on the date of dispatch of such facsimile, or, should no postal facilities be available on that date, on the next Business Day.

27 WHOLE AND ONLY AGREEMENT

- 27.1 The Parties hereby confirm that the Agreement constitutes the whole and only agreement between them with regard to the subject matter of the Agreement.
- 27.2 The Parties hereby confirm that the Agreement replaces all other agreements which exist or may have existed in any form whatsoever between them, with regard to the subject matter deaft with in the Agreement, any annexures appended hereto and the Schedule of Regularments.

28 AMENDMENT AND CHANGE CONTROL

Any amendment or change of any nature made to the Agreement and the Schedule of Requirements thereof shall only be valid if it is a writing, signed by both Parties and added to the Agreement as an addendum hereto.

29 GENERAL

29.1 Governing Law

The Agreement is exclusively governed by and construed in accordance with the laws of the Republic of South Africa and is subject to the jurisdiction of the courts of the Republic of South Africa.

29.2 Thringe of Law

In the Agreement, unless the gibbs to otherwise requires, references to a statutory provision include references to that statutory provision as from time to time amended, extended or reenacted and any regulations made under it, provided that in the event that the amendment, extension or it of action in any other provision or introduction of any new statutory provision has a material impact on the obligations of either Party, the Parties will negotiate in good faith to agree such amendments to the Agreement as may be appropriate in the circumstances. If, within a reasonable period of time, the Supplier and Transnet cannot reach agreement on the nature of the changes required or on modification of Prices, delivery schedules, warranties, or other terms and conditions, either Party may seek to have the matter determined in accordance with clause 25 [Dispute Resolution] above.

29.3 Counterparts

The Agreement may be signed in any number of counterparts, all of which taken together shall constitute one and the same instrument. Either Party may enter into the Agreement by signing any such counterpart.

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