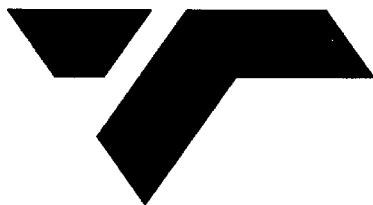


**TRANSNET**



*freight rail*

A Division of Transnet SOC Limited Registration number 1990/00900/30

**REQUEST FOR  
QUOTATION  
KBY/53454**

**PROVISION OF ELECTRICAL MAINTENANCE,  
BREAKDOWNS, NEW INSTALLATIONS, AIR CON PLANTS  
AS WELL AS ROUTINE SERVICING OF AIR CON PLANT  
AND ASSOCIATED EQUIPMENT, TO VARIOUS BUILDINGS  
IN UPINGTON ON AN AS AND WHEN REQUIRED BASIS FOR  
A PERIOD OF 24 MONTHS**

Senior Buyer  
Supply Chain Services  
TRANSNET FREIGHT RAIL  
Austen Street  
KIMBERLEY  
8301



**TRANSNET FREIGHT RAIL**, a division of

**TRANSNET SOC LTD**

Registration Number 1990/000900/30

[hereinafter referred to as **Transnet**]

**REQUEST FOR QUOTATION [RFQ] No KBY/53454**

**FOR THE PROVISION OF: ELECTRICAL MAINTENANCE, BREAKDOWNS, NEW INSTALLATIONS, AIR CON PLANTS AS WELL AS ROUTINE SERVICING OF AIR CON PLANT AND ASSOCIATED EQUIPMENT, TO VARIOUS BUILDINGS IN UPINGTON ON AN AS AND WHEN REQUIRED BASIS FOR A PERIOD OF 24 MONTHS**

**FOR DELIVERY TO: REAL ESTATE MANAGEMENT**

**ISSUE DATE: 22 JANUARY 2015**

**CLOSING DATE: 24 FEBRUARY 2015**

**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:** by hand  
**CLOSING VENUE:** Supply Chain Services Tender box, room 2, Real Estate Manger's Building, Austen Street, Beaconsfield, Kimberley, 8315

**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 valid B-BBEE Verification Certificate. All procurement transactions will be evaluated accordingly.

**2.1 B-BBEE Scorecard and Rating**

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

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

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

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

The Department of Trade and Industry recently revised the Codes of Good Practice on 11 October 2013 [Government Gazette No. 36928]. The Revised Codes will replace the Black Economic Empowerment Codes of Good Practice issued on 9 February 2007. The Revised Codes provide for a one year transitional period starting 11 October 2013. During the transitional period, companies

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Respondent's Signature

Date & Company Stamp

may elect to be measured in terms of the Revised Codes or the 2007 version of the Codes. After the first year of the implementation of the Revised Codes, B-BBEE compliance will be measured in terms of the Revised Codes without any discretion. Companies which are governed by Sector-specific Codes will be measured in terms of those Sector Codes.

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

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

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

*[Refer clause 19 below for Returnable Documents required]*

### 3 Communication

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

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

Name: J. Van Tonder Email: johan.vantonder@transnet.net

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

Telephone: 053 8383477 Email: Christopher.williams@transnet.net

### 4 Tax Clearance

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

### 5 VAT Registration

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

### 6 Legal Compliance

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

**7 Changes to Quotations**

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

**8 Pricing**

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

**9 Prices Subject to Confirmation**

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

**10 Negotiations**

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

**11 Binding Offer**

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

**12 Disclaimers**

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

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

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

**13 Transnet's supplier integrity pact**

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

Respondents are required to familiarise themselves with the contents of the Integrity Pact which is available on the Transnet Internet site [[www.transnet.net/Tenders/Pages/default.aspx](http://www.transnet.net/Tenders/Pages/default.aspx)] or on request. Furthermore, Respondents are required to certify that they have acquainted themselves with all the

documentation comprising the Transnet Integrity Pact and that they fully comply with all the terms and conditions stipulated in the Transnet Supplier Integrity Pact as follows:

<b>YES</b>	
------------	--

<b>NO</b>	
-----------	--

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

**14 EVALUATION CRITERIA**

**TRANSNET WILL UTILISE THE FOLLOWING CRITERIA [NOT NECESSARILY IN THIS ORDER] IN CHOOSING A SUPPLIER/SERVICE PROVIDER, IF SO REQUIRED:**

<b>Criterion/Criteria</b>	<b>Explanation</b>
<b>Administrative responsiveness</b>	Completeness of response and returnable documents
<b>Substantive responsiveness</b>	Prequalification criteria, if any, must be met and whether the Bid materially complies with the scope and/or specification given.
<b>Final weighted evaluation based on 90/10 preference point system as indicated in paragraph 2</b>	<ul style="list-style-type: none"> <li>Pricing and price basis [firm] - whilst not the sole factor for consideration, competitive pricing and overall level of unconditional discounts<sup>1</sup> will be critical</li> <li>B-BBEE status of company - Preference points will be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table indicated in Annexure A.</li> </ul>

**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: \_\_\_\_\_

<sup>1</sup> 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.

### 17. Essential Returnable Documents

**Essential 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 **Essential Returnable Documents**, as detailed below.

***Failure to provide all these Essential Returnable Documents at the Closing Date and time of this RFQ may result in a Respondent's disqualification. Respondents are therefore urged to ensure that all these Documents are returned with their Quotations***

All Sections, as indicated in the footer of each page, must be signed, stamped and dated by the Respondent. Respondents are required to submit the following returnable documents with their responses.

Essential Returnable Documents	To be Submitted
SECTION 1 : Notice to Bidders	Yes
- 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	Yes
- 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	Yes
- In the case of Joint Ventures, a copy of the Joint Venture Agreement or written confirmation of the intention to enter into a Joint Venture Agreement	Yes
SECTION 2 : Quotation Form	Yes
SECTION 3: Standard Terms and Conditions for the Supply of Goods and Services to Transnet	
SECTION 4: Vendor Application Form <b>and other Essential Returnable Documents ( Part of Evaluation Criteria's Administrative responsiveness )</b>	Yes
• Original cancelled cheque or bank verification of banking details	
• Certified copies of IDs of shareholder/directors/members [as applicable]	
• Certified copy of Certificate of Incorporation [CM29/CM9 name change][ if applicable ]	
• Certified copy of share certificates [CK1/CK2 if C.C.][ if applicable ]	
• Entity's letterhead	
• Certified copy of VAT Registration Certificate [RSA entities only]	
• 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 5: Project Specifications	Yes

Respondent's Signature

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Date & Company Stamp

<b>Essential Returnable Documents</b>	<b>To be Submitted</b>
PART A: Special Conditions	Yes
PART B: Particular Specifications	Yes
Quality Specifications	Yes
Written Instruction form	Yes
Technical Data Sheet ( Annexure 1 )	Yes
Quotation Authority Form ( Annexure 2 )	Yes
Service Reports ( Annexure 3 )	Yes
SECTION 6: Safety Arrangements- Act 85 of 1993 and Regulations E4E	Yes
Health and Safety File Checklist ( <b>Part of Technical Evaluation criteria</b> )	Yes
SECTION 7: Railway Lines and High Voltage Equipment E7/1	Yes
ANNEXURE A1 BBBEE Preference Points Claim form	Yes
ANNEXURE B1 BBBEE Improvement Plan	Yes
<b>Other Essential Returnable Documents which will be part of the Evaluation criteria's Administrative Responsiveness ( Certified Copies )</b>	
CIDB Registration Certificate ( 1EB )	Yes
Compensation for Occupational Injuries and Diseases Act 1993/Valid Letter of Good Standing.	Yes
Proof of Upington Business Address ( Municipality/Telkom Account )	Yes
Occupational Health and Safety Act, 1993 Electrical Installation Regulation Registration 6(4) of electrical Contractor. ( At least for any installation, excluding specialized electrical installations. )	Yes
SAQCC Gas Practitioner Reg.	Yes



**17 Company Registration**

Registration number of company / C.C. \_\_\_\_\_

Registered name of company / C.C. \_\_\_\_\_

**18 Disclosure of Prices Quoted**

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

YES  NO

**19 Returnable Documents**

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

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

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

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

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

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

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

- c) In addition to the requirements of paragraph a) and b) above, Respondents are further requested to submit with their Proposals the following **additional documents** as detailed below.

Please confirm submission of these additional documents by so indicating [Yes or No] in the table below:

Additional Documents	SUBMITTED [Yes or No]

"PREVIEW COPY ONLY"

**Section 2**  
**QUOTATION FORM**

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

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

- the Standard Terms and Conditions for the Supply of Goods or Services to Transnet [Section 3 hereof]; and
- any other standard or special conditions mentioned and/or embodied in this Request for Quotation.

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

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

\_\_\_\_\_  
Respondent's Signature

10

\_\_\_\_\_  
Date & Company Stamp

### Price Schedule

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

Item No	Description of Goods /Services	Unit of Measure	Quantity	Unit Price (ZAR)	Total Price (ZAR)
<b>1</b>	<b>AS AND WHEN REQUIRED RATES</b>				
	MATERIAL				
1.1	Handling costs of material				
<b>2</b>	<b>NORMAL WORKING HOURS:</b>				
	<b>LABOUR:</b>				
2.1	Labour rate for artisan	Hour	1		
2.2	Labour rate for labourer	Hour	1		
<b>3</b>	<b>AFTER HOURS, WEEKENDS AND PUBLIC HOLIDAYS</b>				
	<b>LABOUR</b>				
3.1	Labour rate for artisan	Hour	1		
3.2	Labour rate for labourer	Hour	1		
<b>4</b>	<b>ROUTINE MAINTENANCE RATES</b>				
4.1	Window/Wall type air conditioners	Service	1		
4.2	Split type air conditioners	Service	1		
4.3	Console type air conditioners	Service	1		
4.4	Hide away type air conditioners	Service	1		
4.5	Coolers/freezers	Service	1		
4.6	Evaporative coolers	Service	1		
<b>5</b>	<b>REFRIGIRANT GAS</b>				
5.1	R22	kg	1		
5.2	R134A	kg	1		
5.3	R404	kg	1		
5.4	R410A	kg	1		
<b>6</b>	<b>TRAVELLING</b>				
6.1	Rate	km	1		

**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. 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.

\_\_\_\_\_  
Respondent's Signature

)

\_\_\_\_\_  
Date & Company Stamp

### Section 3

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

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

#### 1 SOLE AGREEMENT

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

#### 2 CONFORMITY WITH ORDER

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

#### 3 DELIVERY AND TITLE

- 3.1 The delivery dates and addresses are those in the Order. Time shall be of the essence in respect of the Supplier's/Service Provider's obligations under the Order.
- 3.2 The Supplier/Service Provider will not be excused for delay in delivery or performance except due to circumstances outside its control and then only subject to the Supplier/Service Provider having notified Transnet in writing on becoming aware of such circumstances. Transnet may terminate an Order, in whole or in part, without incurring any liability to the Supplier/Service Provider if such a delay becomes, in Transnet's absolute opinion, significant.
- 3.3 If on delivery, the Goods/Services do not conform to the Order, Transnet may reject the Goods/Services and the Supplier/Service Provider shall promptly rectify any defects or in Transnet's opinion, supply appropriate replacement Goods/Services at the Supplier's/Service Provider's expense within the specified delivery times, without any liability due by Transnet

#### 4 PRICE AND PAYMENT

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

12

\_\_\_\_\_  
Respondent's Signature

\_\_\_\_\_  
Date & Company Stamp

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

## 5 PROPRIETARY RIGHTS LIABILITY

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

- a) procure for Transnet the right to continue using the infringing Goods; or
- b) modify or replace the Goods/Services so that they become non-infringing,

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

## 6 PROPRIETARY INFORMATION

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

## 7 PUBLICITY

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

## 8 TERMINATION OF ORDER

- 8.1 Transnet may cancel an Order in whole or in part at any time upon at least 7 [seven] days' written notice to the Supplier/Service Provider, or when there is a change in control of the Supplier/Service Provider or the Supplier/Service Provider commits any serious breach or any repeated or continued material breach of its obligations under these Terms and/or Order or shall have been guilty of conduct tending to bring itself into disrepute, on written notice to the Supplier/Service Provider when such work on the Order shall stop.
- 8.2 Transnet shall pay the Supplier/Service Provider a fair and reasonable price for justified work in progress, where such price reflects only those costs not otherwise recoverable by the Supplier/Service Provider, at the time of termination, and the Supplier/Service Provider shall give Transnet full assistance to check the extent of such work in progress. Payment of such price shall be in full and final satisfaction of any claims arising out of such termination and upon such payment the Supplier/Service Provider shall deliver to Transnet all work, including any materials, completed or in progress. The sum payable to the Supplier/Service Provider under this clause will not in any event exceed the total amount that would have been payable to the Supplier/Service Provider had the Order not been terminated.
- 8.3 In the event of termination the Supplier/Service Provider must submit all claims within 2 [two] months of termination after which time claims will only be met in what Transnet considers exceptional circumstances.
- 8.4 If the Goods or Services are not provided in accordance with an Order, the Order shall be deemed terminated and the Supplier/Service Provider shall compensate Transnet for any costs incurred in obtaining substitute Goods or any damage caused due to the failure or delay in the delivery.

## 9 ACCESS

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

## 10 WARRANTY

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

liabilities, costs, claims, damages, expenses and awards of any kinds incurred or made against Transnet in connection with any breach of this warranty.

#### **11 INSOLVENCY**

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

#### **12 ASSIGNMENT**

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

#### **13 NOTICES**

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

#### **14 LAW**

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

#### **15 GENERAL**

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



**16 COUNTERPARTS**

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

"PREVIEW COPY ONLY"

\_\_\_\_\_  
Respondent's Signature

16

\_\_\_\_\_  
Date & Company Stamp

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

SIGNED at \_\_\_\_\_ on this \_\_\_\_ day of \_\_\_\_\_ 20\_\_

.....  
SIGNATURE OF RESPONDENT'S AUTHORISED REPRESENTATIVE

NAME: \_\_\_\_\_

DESIGNATION: \_\_\_\_\_

REGISTERED NAME OF COMPANY: \_\_\_\_\_

PHYSICAL ADDRESS:  
\_\_\_\_\_  
\_\_\_\_\_

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

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

"PREVIEW COPY ONLY"

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

**Section 4**  
**VENDOR APPLICATION FORM**

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

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

**Vendor Application Form**

Company trading name \_\_\_\_\_

Company registered name \_\_\_\_\_

Company Registration Number or ID Number if a Sole Proprietor \_\_\_\_\_

Form of entity [✓]    CC    Trust    Pty Ltd    Limited    Partnership    Sole Proprietor

VAT number [if registered] \_\_\_\_\_

Company telephone number \_\_\_\_\_

Company fax number \_\_\_\_\_

Company email address \_\_\_\_\_

Company website address \_\_\_\_\_

Bank name \_\_\_\_\_ Branch & Branch code \_\_\_\_\_

Account holder \_\_\_\_\_ Bank account number \_\_\_\_\_

Postal address \_\_\_\_\_

\_\_\_\_\_  
Respondent's Signature

\_\_\_\_\_  
Date & Company Stamp

Physical Address Code

Contact person Code

Designation

Telephone

Email

Annual turnover range [last financial year]      < R5 m      R5 - 35 m      > R35 m

Does your company provide      Products      Services      Both

Area of delivery      National      Provincial      Local

Is your company a public or private entity      Public      Private

Does your company have a Tax Directive or IRP30 Certificate      Yes      No

Main product or services [e.g. Stationery/Consulting]

*Complete B-BBEE Ownership Details:*

% Black ownership      % Black women ownership      % Disabled Black ownership      % Youth ownership

Does your entity have a B-BBEE certificate      Yes      No

What is your B-BBEE status [Level 1 to 9 / Unknown]

How many personnel does the entity employ      Permanent      Part time

*If you are an existing Vendor with Transnet please complete the following:*

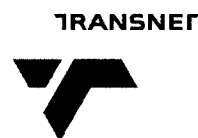
Transnet contact person

Contact number

Transnet Operating Division

*Duly authorised to sign for and on behalf of Company / Organisation:*

Name		Designation	
Signature		Date	



## SECTION 5

RFQ NUMBER KBY/

**PROVISION OF MAINTENANCE/ BREAKDOWNS AND NEW INSTALLATIONS TO ELECTRICAL INSTALLATIONS/ AIR-CONDITIONING PLANT AS WELL AS ROUTINE SERVICE OF AIR-CONDITIONING PLANT AND ASSOCIATED EQUIPMENT SERVING VARIOUS BUILDINGS, AS AND WHEN REQUIRED, UPINGTON REGION.**

**FOR A PERIOD OF 24 MONTHS**

### SPECIAL CONDITIONS PART A

#### 1. SCOPE OF WORK

This contract covers the **maintenance/breakdowns and new installations to Electrical Installations/Air – Conditioning plant as well as Routine Service of Air-Conditioning Plant and associated equipment serving the various buildings, As and When required, Upington Region**, or other work arising out of or incidental to the above, or required of the contractor for the proper completion of the works in accordance to the true meaning and intent of the contract documents.

#### 2. TO BE SUPPLIED BY THE CONTRACTOR

Except where otherwise specified, the Contractor shall supply all labour, transport, plant, equipment, tools, services required for the carrying out and completion of the work included in this contract.

#### 3. ELECTRICITY AND WATER

Water and electricity will be supplied free of charge by Transnet. A continuous supply of water and electricity can however not be guaranteed. The Contractor shall at his own cost arrange for connections and extensions ( if necessary ) to existing supplies and for the removal of these connections and extensions on completion of the contract.

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Respondent's Signature

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Date and Company Stamp



**4. CONSTRUCTION SITE**

The Contractor must view the site and attend the compulsory site inspection before tendering.

**5. DURATION OF CONTRACT**

The contract values will not exceed **R1 800 000.00 (One Million and Eight Hundred Thousand Rand)** and the duration will not exceed **24months**, whichever occurs first.

The period commences from the date when approval was granted to the Contractor to proceed with the work and includes all weekends and public holidays.

Should the cumulative amount spent approach the **R1 800 000.00** limit, the issue of work will be curtailed.

Transnet reserves the right to terminate the contract at any time should the use of the contract no longer be required.

**6. MAINTENANCE PERIOD ( GUARANTEE )**

The contractor must, at his own expense, make good to the satisfaction of the Maintenance Supervisor all defective materials and workmanship which may manifest itself within a period of **three months** after completion of work.

**7. PENALTIES**

Transnet retains the right to cancel any order and have work, which is not attended to as in the specification, executed by others, without prior notice and recover the difference in cost, if any, from the contractor.

**8. LABOUR**

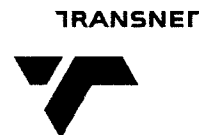
The sole responsibility for the work as specified in the particular specification shall rest entirely with the Contractor, who shall be required to undertake rectification of any defects, which become apparent within the period as defined above. The Contractor shall make good to the satisfaction of Transnet any defects which may arise during inspection.

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Respondent's Signature

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Date and Company Stamp



**9. PAYMENT**

When making a claim for payment, the Contractor shall submit an informal claim for the consideration of the Manager. Only upon agreement being reached on the amount to be included in the payment certificate, will the Contractor be required to submit a complete and correct VAT invoice. Payment will be effected on or before the end of the calendar month following the calendar month in which the work was performed.

**Please note:** A maximum of 23 interim payments ( based on work completed on a monthly basis, after the receipt of a VAT invoice ) The Contractor must indicate on his Tax Invoice Transnet's reference number, description of the work, Labour amount, material amount, kilometers travelled and the amount claimed ), and a final payment will be made.

**10. VAT**

Rates shall be quoted exclusive of Value Added Tax. Provision is made in the Summary of Prices for the lump-sum addition of Value Added Tax.

**11. SUMMARY OF PRICES**

Tenderers must complete the Summary of Prices for the work in ink.

**12. SAFETY ON WORK SITE (ACT NUMBER 85 OF 1993) ENVIRONMENT CONSERVATION ACT,(ACT No.73 OF 1989)**

For the purposes of the Occupational Health and Safety Act, (Act Number 85 of 1993) and the Environment Conservation Act, (Act No.73 of 1989) the site is transferred, for the duration of the contract, to the control of the Contractor as if it is his property. As employer, he is in every respect responsible for the compliance with the provisions of these Acts, as well as the application of General Administrative Regulation 13 to the employees of Transnet who visit the site.

**13. DAMAGE TO PROPERTY AND/OR SERVICES**

The contractor shall take adequate precaution against damage to existing assets and injury to persons during the course of the contract. The successful tenderer will be responsible for the repairs and/or the costs incurred in such repairs to any damages caused to Transnet's property by the successful tenderer's staff while carrying out the required work.

\_\_\_\_\_  
Respondent's Signature

\_\_\_\_\_  
Date and Company Stamp



**14. SUPERVISION**

The Manager will provide overall superintendence of the work and may direct the Contractor in terms of the provisions of the contract.

Transnet will notify the successful contractor, in writing, of the name of the Maintenance Supervisor/s who will supervise and take charge of the contract. The Contractor must at all times, only take instructions from the appointed Maintenance Supervisor/s and ( Manager ) and nobody else.

The Contractor must be in possession of or have access to a cellular phone and a facsimile machine.

**15. MATERIALS**

Only materials of the best quality ( SANS/SABS approved ) are to be used in the execution of the contract and the work is to be performed in a proper workmanlike manner to the full satisfaction of Transnet.

**16. CANCELLATION OF CONTRACT**

In the event of non-performance and/or non-adherence to the specifications by the Contractor, Transnet reserves the right to terminate the contract immediately.

**17. AMENDMENTS AND/OR ADDITIONS**

Transnet reserves the right to add or withdraw any part of the work specified at any time. No amendments, variations and/or additions to the contract shall, however, be of any force or effect unless reduced to writing and signed by both parties.

**18. HOUSING OF EMPLOYEES**

Accommodation of the Contractor's employees on site will not be permitted and the Contractor shall make his own arrangements.

**19. TOILET FACILITIES**

Use of existing toilet facilities will be permitted.

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Respondent's Signature

\_\_\_\_\_  
Date and Company Stamp





**20. ESCALATION OF COST**

This contract will not be subject to cost escalation.

**21. WAGE REGULATING MEASURES**

The Contractor shall acquaint himself with any relevant wage regulating measure and/or statutory enactment which may be in force or may be contemplated, and which will affect conditions of employment during the progress of the contract, and he shall give effect to the provisions of such wage regulating measure and/or statutory enactment as they come into force.

**22. SUBLETTING OF THE CONTRACT**

The successful tenderer shall not be permitted to sublet the contract. Only persons directly employed by the contractor shall carry out the work

**23. SUBSTANCE ABUSE TESTING**

The OHSAct (Act 85 of 1993) clearly states in the Safety Regulations no. 2A **"INTOXICATION" An employer or user, as the case may be, shall not permit any person who appears to be under the influence of intoxicating liquor or drugs, to enter or remain at a workplace"**. Transnet Freight Rail enforces this legislation by means of its Substance Abuse Policy, and therefore reserves the right to do substance abuse testing on anyone who enters their premises.

**24. GENERAL**

All activities between Contractors and Transnet personnel will be co-ordinated through the Manager in charge.

For more information contact Mr. J van Tonder at telephone (053) 838-3349.

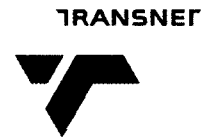
The lowest or only tender will not necessarily be accepted.

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## PARTICULAR SPECIFICATION PART B

This section covers the maintenance/breakdowns and new installations to Electrical installations/ Air – Conditioning plant as well as Routine Service of Air-Conditioning Plant and associated equipment serving various buildings, As and When required, Upington Region.

### WORK TO BE DONE

#### 1. DEFINITIONS:

- 1.1 **Emergency Work** – means unforeseen maintenance work that needs to be repaired urgently.
- 1.2 **Day to Day work** – means any work ( Planned/ Unplanned and New Installations ), which unlike emergency work, is not classified as urgent
- 1.1 **Routine work** – means work that needs to be done on a regular basis.
- 1.3 The contractor must commence **Emergency Work** within two hours of notification.
- 1.4 The Contractor must commence **Day to Day work** within twenty-four hours of notification.
- 1.2 The contractor must do **Routine work** as per service program

#### 2. EXTENT OF WORK:

The following conditions shall apply:

#### **NB: THE CONTRACTOR TO BE STATIONED IN UPINGTON**

The Contractor must be competent in all the following work disciplines:

- 2.1 Electrical light and heavy current as well as Air-Conditioning and Refrigeration.
- 2.2 And the following sub disciplines bricklaying, plastering and painting.

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**3. MAINTENANCE AND BREAKDOWNS.**

3.1 The Maintenance Supervisor will issue a written instruction to the Contractor before work can commence. Where work is of an emergency nature, the Maintenance Supervisor may give a verbal instruction that must be confirmed in writing. No work must be performed without a **reference number**.

**4. PLEASE NOTE:**

Procedure after fault finding:

- 4.1 Complete fault list and submit with quotation/authority form ( Annexure 2 ).
- 4.2 Two/Three quotations from supplier's required and submit with quotation/authority form ( Annexure 2 ).
- 4.3 Complete quotation/authority form ( Annexure 2 ) and hand it to the Project co-ordinator to acquire authority before commencing any repair work or additional work.
- 4.4 Hours worked and distances travelled indicated on the quotation/authority form by the Contractor, will be negotiable between the Maintenance Supervisor and the Contractor.
- 4.5 No labour rates will be paid for time spent travelling. Only rates per kilometre, as tendered and accepted in contract.
- 4.6 Labour rates will only be paid for actual time worked.
- 4.7 No labour or travelling rates will be paid for kilometre's travelled/Time spent/Telephone calls for quotations or collection of material, only handling fees will be paid as tendered and accepted in contract.

**3. ROUTINE SERVICE ( MAYOR SERVICES: 3 X YEAR/MACHINE )**

- 3.1 Isolate the supply to the air conditioner unit, make sure there are no open live or possible live wires. Close the isolator so that no live wires are exposed.
- 3.2 In the case of a window unit, withdraw.

\_\_\_\_\_  
Respondent's Signature

\_\_\_\_\_  
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- 3.3 Check air filter for cuts and damages.
- 3.4 Clean the air filter.
- 3.5 Clean condensor coil
- 3.6 Clean evaporator coil
- 3.7 Check fans for alignment, corrosion, chips, dents and that they are secured to the shaft.
- 3.8 Check fan motor/s to ensure they are running freely and that the bearings show no sign of wear, oil were necessary.
- 3.9 Check the compressor for unusual noise and that the mounting bushes are in a good state.
- 3.10 Check thermostats, switches, contactors and the wiring thereof to ensure that all the connections tight and clean.
- 3.11 Check the refrigerant system pressure and leaks.
- 3.12 Clean equipment using approved cleaning agents.
- 3.13 Check the operation currents and evaluate with nameplate data.
- 3.14 For split units check and tighten flair nuts were necessary.
- 3.15 Check condensate drip trays
- 3.16 Check the draining system.
- 3.17 Rust- proof where applicable
- 3.18 Reconnect to the supply and test.
- 3.19 Place all the covers and make neat.

#### **4. NUMBERING OF MACHINES**

- 4.1 All machines to be numbered with Aluminium strips in the following manner. Building Asset number/number etc. for each building separately.

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**5. SERVICE REPORT**

5.1 The Contractor shall hand to the Maintenance Supervisor after each service a detailed report ( Annexure 3 ) of all the work carried out. Air-conditioning plant and associated plant shall be serviced according to the specification and the work program

**5 GENERAL**

5.1 The Contractor must not turn off any Electrical or water supply without obtaining permission from the Depot Manager.

5.2 The Contractor must be in possession of or have access to a cellular phone and a facsimile machine.

5.3 The Contractor will be responsible for his own measurements.

5.4 Left over material, rubble and electrical equipment stripped by the contractor are to be removed from site by the Contractor as his property.

5.5 The premises shall be left perfectly clean after completion of the work, before payment will be made.

5.6 Contractor will supply all equipment and material.

5.7 The contractor shall include for the proper completion of the work as described and shall allow for all cost incurred.

5.8 Contract specifications is to be read in conjunction with the minutes. The Contractors attention is drawn to the possibility of items being required varying from those on the specification. The cost of the requirements in the minutes are to be allowed for in the tender price.

5.9 The Contractor will be responsible for obtaining the minutes of said meeting before specified closing date.

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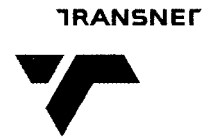


## QUALITY SPECIFICATION PART B

<b>SECTION</b>	<b>CONTENTS</b>
1.	SCOPE
2.	STANDARDS AND REFERENCES
3.	METHOD OF TENDERING
4.	APPENDICES
5.	SERVICE CONDITIONS
6.	ELECTRICITY SUPPLY SYSTEM
7.	STANDARDS OF WORK, EQUIPMENT AND MATERIALS
8.	PHOTOMETRIC PERFORMANCE
9.	LUMINAIRES FOR FLUORESCENT LAMPS
10.	LUMINAIRES FOR INCANDESCENT LAMPS
11.	PVC INSULATED LOW VOLTAGE CABLE
12.	CABLE TERMINATIONS
13.	CABLE JOINTS
14.	GLANDS FOR PVC INSULATED CABLES
15.	CABLE TRAYS
16.	WIRING
17.	WIRE WAYS (CONDUIT), ACCESSORIES AND POWER SKIRTING
18.	DISTRIBUTION BOARDS AND KIOSKS
19.	MOULDED CASE CIRCUIT BREAKERS
20.	EARTH LEAKAGE PROTECTION UNITS
21.	SWITCH-DISCONNECTORS ( ISOLATING SWITCHES )
22.	SOCKET OUTLETS
23.	LIGHT SWITCHES
24.	LIGHT SENSITIVE CONTROL UNITS
25.	CONTACTORS
26.	EARTHING AND BONDING
27.	PAINTING OF ELECTRICAL EQUIPMENT
28.	BALANCING OF LOAD
29.	HAZARDOUS AREAS
30.	INSPECTION AND TESTS
31.	AIR-CONDITIONING UNITS
32.	GUARANTEE

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Respondent's Signature

\_\_\_\_\_  
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## 1. SCOPE

- 1.1 This specification covers the requirements for the manufacture, supply, delivery to site and the complete installation of material and equipment.

## 2. STANDARDS AND REFERENCES

### 2.1 Standards

- 2.1.1 All equipment and material offered shall comply with the requirements of the relevant SANS ( SABS ) specifications, if published, otherwise with the relevant BS specifications in force at the time of tendering.
- 2.1.2 Where equipment or material offered complies with the recognized standards of the country of manufacture and not specifically with the requirements of clause 2.1.1 above, such equipment or material will be considered at the discretion of the Technical Advisor. In this case tenderers shall state fully all respects in which the equipment or material offered departs from the requirements of clause 2.1.1 above.

### 2.2 Reference list

The following publications (latest edition and amendment) are referred to herein:

#### 2.2.1 South African National Standards ( South African Bureau of Standards ).

- |                       |   |
|-----------------------|---|
| SANS ( SABS ) 0003-   | Code of Practice for the protection of buildings against lightning.   |
| SANS ( SABS ) 086 -   | Code of practice for installation and maintenance of electrical equipment used in explosive atmospheres.                            |
| SANS ( SABS ) 0108-   | Code of practice for the classification of hazardous locations and the selection of electrical apparatus for use in such locations. |
| SANS ( SABS ) 141 -   | Glass Reinforced Polyester (GRP) Laminated Products.  |
| SANS ( SABS ) 10142 - | Code of practice for the wiring of premises.  |

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- SANS ( SABS )156 - Moulded-case circuit-breakers.
- SANS ( SABS )162 - Screwed metal conduit and fittings for electrical wiring.
- SANS ( SABS )160 - Electric air heaters.
- SANS ( SABS )163 - Wall and appliance switches.
- SANS ( SABS )164 - Two-pole and earthing pin plugs and socket outlets.
- SANS ( SABS )165 - Lamp holders.
- SANS ( SABS )314 - Flame-proof enclosures for electrical apparatus.
- SANS (SABS)-IEC-400- Lamp holders for tubular fluorescent lamps and starter holders.
- SANS ( SABS )763- Hot-dip (galvanized) zinc coatings (other than on continuously zinc-coated sheet and wire).
- SANS ( SABS )767 - Core balance earth leakage protection units.
- SANS ( SABS )950- Non-metallic conduit and fittings for electrical wiring.
- SANS ( SABS )1041- Tubular fluorescent lamps for general service.
- SANS ( SABS )1065- Metal conduit and fittings for electrical wiring.
- SANS ( SABS )1085- Wall outlet boxes for the enclosure of electrical accessories
- SANS ( SABS )1092- Contactors.
- SANS ( SABS )1180- Electrical distribution boards.
- SANS ( SABS )1239- Plugs, socket-outlets, and couplers intended for non-domestic use.

2.3 Occupational Safety and Health Act, Act No. 85 of 1993.

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### 3. METHOD OF TENDERING

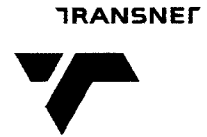
- 3.1 The Tenderer shall submit his main offer in terms of clause 3.1 up to clause 3.10.
- 3.2 A broad statement to the effect that the equipment is in accordance with the specifications is not acceptable.
- 3.3 If in the tenderer's opinion justification exists for the submission of one or more alternative offers, such offers shall, as in the case of the main offer, be complete in every respect including a statement of compliance and completed relevant appendices. Any alternative offer shall be clearly distinguishable from the main offer and stands on its own.
- 3.4 Offers which include deviations of minor nature, not departing greatly from the specification, will be considered at the Manager's discretion.
- 3.5 The onus to prove compliance of the equipment offered against any clause shall rest solely with the tenderer should he be awarded the contract.
- 3.6 Should the tenderer wish to elaborate on their reply to the clause, a reference to page and paragraph of a covering letter shall be given next to the clause concerned, in addition to the statement of compliance.
- 3.7 A tenderer's statement of compliance shall overrule any conflicting documentation submitted.
- 3.8 The successful tenderer will be responsible for all costs incurred in modifying or replacing equipment accepted by the Client on the grounds of the tenderer's statement of compliance with the specification and found by the Engineer not to comply.
- 3.9 In the event of discrepancies between the Manager's specification and any publication referred to, the specification shall take precedence.
- 3.10 Failure to comply with the requirements of this specification may preclude a tender for consideration.

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Respondent's Signature

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Date and Company Stamp



**4. ANNEXURES**

The following annexures form an integral part of these specifications.

- 4.1 **Annexure No. 1** - Technical Data Sheet. Specific technical information to be submitted with tenders. Failure to comply with the above requirements may preclude consideration of a tender.
- 4.2 **Annexure No. 2** - Quotation/Authority form. Complete to acquire authority before commencing with the repair work or additional work

**5. SERVICE CONDITIONS**

- 5.1 The lighting may be installed in areas where high humidity, high temperature, high wind, heavy rain, severe hail and lightning conditions are encountered and where corrosive conditions including the presence of sulphur dioxide, prevail. All equipment installed shall be suitable for successful operation under these conditions.

**6. ELECTRICITY SUPPLY SYSTEM**

- 6.1 The system of power supply will be three phase, 4 wire or single phase 2 wire alternating current (50Hz) with earthed neutral at a nominal voltage of 400/230 V.
- 6.2 The voltage may vary within the range of 95% to 105% of the nominal voltage and all equipment installed shall be suitable for successful operation at any voltage within this range.

**7. STANDARD OF WORK, EQUIPMENT AND MATERIALS**

- 7.1 All work shall be carried out in a neat and orderly manner to the satisfaction of the Manager and the Client. Electrical works shall conform to the requirements of the latest edition and amendments of the Code of Practice for the Wiring of Premises issued by the South African National of Standards, SANS 10142-1 ( SABS 0142 ) and any additional requirements thereto, described in this specification.
- 7.2 All equipment and materials used shall be new and of the best quality.

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Respondent's Signature

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7.3 Every reasonable precaution and provision shall be incorporated in the design of the equipment for the safety and security of the system and of those concerned with its operation and maintenance.

7.4 Where lightning protection is required it shall be in accordance with SANS ( SABS ) 03 and the requirements of the Local Authority.

## 8. PHOTOMETRIC PERFORMANCE

8.1 The Tenderer shall submit full photometric data, including iso-candela diagrams, issued by the SANS ( SABS ), if an alternative type of luminaire is offered, with his tender documents.

## 9. LUMINAIRES FOR FLUORESCENT LAMPS

### 9.1 Construction

9.1.1 Luminaires shall comply with the requirements of SANS ( SABS ) 1119.

9.1.2 **Commercial open type luminaires** shall be fully integral units each consisting of a 0,8 mm sheet steel body channel accommodating the ballast, terminal block, earthing terminal, lamp holders and internal wiring.

9.1.2.1 The body channel shall be constructed in accordance with SANS ( SABS ) 1119.

9.1.2.2 The earthing terminal shall be welded or brazed to the luminaire channel.

9.1.2.3 Suitable knockouts shall be provided in the rear of the luminaire body for wiring entry.

9.1.3 **Industrial type luminaires** shall meet the requirements of clause 9.1.2 above.

9.1.4 **Decorative type luminaires** shall meet the requirements of clause 9.1.2 above and shall be enclosed by a wrap around translucent cover of impact resistant acrylic material, securely retained in two steel end covers rigidly fixed to the body channel.

9.1.4.1 All ferrous parts of the luminaire shall be white, including ballasts in decorative type luminaires where internal reflectors are not supplied.

9.1.5 **Flame-proof type luminaires** shall comply with SANS ( SABS ) 314 for installation in hazardous areas, as defined in SANS ( SABS ) 0108.

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Respondent's Signature

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9.1.6 **Anti-corrosive type luminaires** shall have a body channel constructed of glass-fibre reinforced polyester or other suitable non-corrosive material with a translucent cover of ultra high impact acrylic.

9.1.6.1 The translucent cover shall have a smooth outer surface and be attached to the body channel by captive type stainless steel latches. At least two of the latches on either side of the cover shall be reinforced by captive type screws which can only be removed by the use of a tool.

9.1.6.2 Control gear shall be mounted on the back of a white sheet steel reflector. The reflector shall be held in position by suitable catches and secured to the body by nylon safety straps.

9.1.6.3 Luminaires offered shall have a minimum degree of protection of IP 54.

9.1.6.4 Luminaires shall be designed for use with both 26mm and 38mm diameter lamps.

## 9.2 **Control Gear**

9.2.1 Luminaires shall incorporate “switch-start” control gear

9.2.2 Glow starters shall comply fully with SANS ( SABS ) 1479 and safety specification VC 8039 and shall bear the mark of the aforementioned standards.

Ballasts shall bear the mark of SANS ( SABS ).

9.2.4 Ballast shall further be suitable for the particular luminaire to ensure that the thermal limits specified in of SANS ( SABS ) 1119 are not exceeded.

## 9.3 **Capacitors**

9.1.2 Capacitors shall comply with SANS ( SABS ) 1250. The power factor of each complete luminaire shall be corrected to at least 0.85 lagging.

## 9.4 **Lamp Holders**

9.4.1 Lamp holders shall be of the “Rotolock” type, manufactured from polycarbonate or equal approved material. The lamp holders shall comply with SANS ( SABS ) – IEC – 400 and shall provide for an air gap between the lamp holder and lamp cap.

\_\_\_\_\_  
Respondent's Signature

\_\_\_\_\_  
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## 9.5 **Lamps**

- 9.5.1 Fluorescent lamps shall be suitable for the control circuit used. Lamps shall comply with SANS ( SABS ) 1041 and bear the mark of the SANS ( SABS ).
- 9.5.2 The light colour of the fluorescent lamps shall be cool white.
- 9.5.3 Lamps of the same colour shall be provided for an entire installation unless specified to the contrary.
- 9.5.4 There shall be no visible flicker in the lamps and the lamps shall readily strike when switched on. Faulty lamps or ballasts shall be replaced at no cost to the client.

## 9.6 **Internal Wiring**

- 9.6.1 Luminaires shall be completely wired internally.
- 9.6.2 The wiring shall be totally enclosed to prevent any possible contact with live components while changing lamps.
- 9.6.3 The conductor insulation shall be rated to withstand the temperature inside the luminaire body without deterioration.
- 9.6.4 The wiring shall terminate on a suitable terminal block. There shall be no joints in the internal wiring.

## 10. **LUMINAIRES FOR INCANDESCENT LAMPS**

- 10.1 Luminaires shall be suitable for accommodating 100-watt lamps. Lamp holders shall be of the ES type and shall comply with SANS ( SABS ) 0165.
- 10.2 The insulation of internal wiring shall be heat-resistant.
- 10.3 Bulkhead luminaires shall comply with CKS 199.

Bowl type luminaires shall have porcelain or acrylic galleries with white opal, high impact acrylic screw in type bowls.

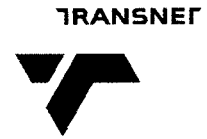
- 10.5 Well glass luminaires shall consist of a body of non-corrosive material with a top entry of 20 mm conduit, have a clear glass cover and be completely weather-proof.

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## 11. PVC INSULATED LOW VOLTAGE CABLE

### 11.1 General

- 11.1.1 Polyvinylchloride (PVC) Cables shall be manufactured in accordance with SABS 1507 and shall come only from fresh stocks.
- 11.1.2 The conductors shall be of high conductivity annealed stranded copper and the cores may be shaped or circular.
- 11.1.3 The insulation shall be general purpose PVC, 600/1000 Volt Grade.

### 11.2 Armouring

- 11.2.1 Where armouring is specified it shall consist of one layer of galvanized steel wire in the case of multi-core cables and non-magnetic metallic wire in the case of single core cables. Aluminum strips or tape armouring is not acceptable.
- 11.2.2 If ECC cable is not specified PVC insulated hard drawn copper earth continuity conductors shall be installed with all underground cables, constituting part of the low voltage distribution system. The earth conductors shall be tied to the cables at intervals not exceeding 1 meter.
- 11.2.3 Cable shall be manufactured and supplied in one length to the lengths specified, unless these lengths exceed a standard drum length in which a ruling shall be obtained from the Engineer.

## 12. CABLE TERMINATIONS

- 12.1 All cables shall be terminated and connected to the respective equipment, whether provided by the Contractor or by others.
- 12.2 All cut ends of cables are to be sealed with suitable tape, or other approved means until they are ready to be terminated.

## 13. CABLE JOINTS

- 13.1 Joints in cable runs shall not be allowed unless specified or authorized in writing by the Engineer.

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- 13.2 Where cable joints are specified they shall be made by means of approved epoxy resin pressure type jointing kits such as “Scotchcast”.
- 13.3 The cores of cables shall be jointed number to number or colour to colour.
- 13.4 The joints shall not impair the anti-electrolysis characteristics of the cable.
- 13.5 The conductor bridging the armouring shall be adequate to carry the prospective earth fault current.

**14. GLANDS FOR PVC INSULATED CABLES**

- 14.1 Glands to be used for terminating PVC/PVC/SWA/ECC/PVC cables shall be of the adjustable type.
- 14.2 The glands shall be made of brass or nickel plated bronze.
- 14.3 Glands shall be supplied complete with neoprene shrouds.
- 14.4 Flameproof glands shall comply with SANS ( SABS ) 808, Groups 1, 2a and 2b.

**15. CABLE TRAYS**

- 15.1 Cable trays shall be protected against corrosion and galvanised in accordance with SANS (SABS) 0763.
- 15.2 Cable trays shall be adequately supported so that when fully loaded the deflection does not exceed 10 mm and be wide enough to accommodate the power cables in a single layer.

**16. WIRING**

- 16.1 All wiring shall be carried out in wire ways.
- 16.2 Open wiring is not acceptable.
- 16.3 Only one circuit per conduit will be permitted.
- 16.4 Only the loop-in of wiring shall be accepted.

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- 16.5 Joints in the wiring will not be permitted.
- 16.6 Colour identification of conductors shall be used.
- 16.7 Sizes of conductors to be drawn into conduits such as feeders to distribution boards, power points etc, shall be as specified elsewhere in this specification or as indicated on the drawings. Sizes of conductors not specified must be in accordance with the “Wiring Code”.
- 16.8 All wiring shall be done in PVC insulated 300/500 Volt grade cable to SANS ( SABS ) 1507.
- 16.9 Where cable ends connect onto switches, fittings, etc the end strands shall be neatly and tightly twisted together and firmly secured. Cutting away of wire strands of any cable will not be allowed.
- 16.10 No wiring shall be drawn into conduit until the conduit installation has been completed and all conduit ends provided with bushes. All conduits to be clear of moisture and debris before wiring are commenced.
- 17. WIRE WAYS (CONDUIT), ACCESSORIES AND POWER SKIRTING.**
- 17.1 All conduit shall bear the SANS ( SABS ) mark of approval.
- 17.2 Screwed metallic conduit and fittings shall comply with SANS ( SABS ) 162.
- 17.3 All metallic conduits shall be heavy gauge, welded or solid drawn, hot dip galvanized or black enameled, screwed tube.
- 17.4 Galvanized conduit shall be hot dipped inside and outside in accordance with SANS ( SABS ) 0763.
- 17.5 Where conduit is exposed to the elements only galvanized conduit shall be used
- 17.6 Threads of metallic conduit and associated fittings exposed to moisture or the elements shall be effectively protected with anti-rust paint or be cold galvanized.
- 17.7 Conduits are to be concealed and chased into plastered brick walls or cast into concrete work as the building operations progress.

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- 17.8 Under no circumstances will chases be permitted through structural members of the building.
- 17.9 Chasing of face brick walls will not be permitted. Conduits and outlet boxes shall be built into walls.

17.10 Conduit which cannot be concealed shall be neatly installed on the surface.

17.11 The metal conduit installation shall provide a continuous earth.

17.12 Bushes on metal conduit shall be of brass only.

17.13 **Metal conduit accessories**

17.13.1 All metal conduit accessories shall be malleable cast iron or pressed steel with brass bushes in accordance with SANS ( SABS ) 0162.

17.13.2 Accessories must be hot dip galvanized to SANS ( SABS ) 0763.

17.13.3 Blank cover plates on round outlet boxes shall be fixed with flat head screws and a gasket to seal the box.

17.13.4 Blank cover plates on 100 x 100 mm outlet boxes shall be fixed with countersunk chrome screws.

17.13.5 Where outlet boxes or draw boxes are installed on finished surface the Electrical Contractor shall take care that such outlets are installed symmetrically.

17.14 **Switch boxes and socket outlet boxes**

17.14.1 All switch boxes and socket outlet boxes shall be manufactured of pressed galvanized steel of at least 1 mm thickness. All boxes shall be fitted with the necessary lugs to suit standard flush mounted switches and socket outlets manufactured in accordance with SANS ( SABS ) 0518 and SANS ( SABS ) 1085.

17.14.2 Light switch boxes shall be 100 x 50 x 50 mm with 20 mm knock outs on the sides and a single knock out on the top, bottom and back.

17.14.3 Socket outlet boxes shall be 100 x 100 x 50 mm with 20 mm knock outs each on the top, bottom, sides and back.

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17.14.4 Switch and socket outlet cover plates shall comply with SABS 1084.

17.15 **Flexible conduit**

17.15.1 Flexible steel conduit and adaptors shall comply with BS 731, Part 1 where applicable. Flexible conduit shall be of galvanized steel construction and plastic sheathed. Flexible conduit shall only be used as specified and shall then be installed in accordance with SANS 10142 ( SABS ) 0142.

17.16 **Wire ways**

17.16.1 Wire ways shall be in accordance with the requirements as laid down in SANS ( SABS )1197, part 1 and be galvanized, wire way shall comprise a single compartment exclusively for electrical power cables, with a steel cover.

17.17 **Non-metallic conduit**

17.17.1 Non-metallic conduit and fittings shall comply with SANS ( SABS ) 0950.

17.17.2 PVC conduit shall be supported at 1 000 mm intervals maximum.

17.18 **Non-metallic Power skirting**

17.18.1 PVC Power skirting shall be light weight, all insulated, non corrosive and easily cleanable.

17.18.2 PVC Power skirting shall be manufactured from white, high impact resistant, rigid PVC in lengths not shorter than 3m.

17.18.3 PVC Power skirting shall be easily cuttable by using standard hand tools.

17.18.4 Only Power skirting with an extensive range of service outlets and accessories shall be used if not specified.

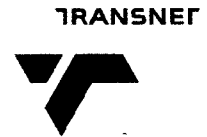
**18. DISTRIBUTION BOARDS AND KIOSKS**

18.1 **Flush mounted**

18.1.1 Where distribution boards are to be built into 115 mm thick walls, expanded metal shall be spot welded to the rear of the bonding trays. The expanded metal shall protrude at least 75 mm on each side of the tray to prevent plaster from cracking.

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18.2 **Knock-outs**

18.2.1 Knock outs shall be provided in the top and bottom ends of each distribution board tray to allow for the installation of conduits for the specified as well as future circuits. Knock outs shall to be removed or bend without the use of a tool.

18.3 **Front panels**

18.3.1 Front panels shall be machine punched slots for housing the specified and future flush mounted switch gear.

18.3.2 The front panel shall be secured to the architrave frame by means of captive fasteners similar to “DZUS” or “CAMLOC”. Alternatively the panel may be secured to the architrave frame by means of two pins at the bottom and a latch or lock at the top of the panel.

18.4 **Doors and handles**

18.4.1 Distribution board doors shall be equipped with handles and catches.

18.4.2 Handles consisting of a push button and handle combination with spring loaded catch or rotary handle and catch combination shall be installed.

18.4.3 An electrical danger sign must be fitted to each door of distribution boards and kiosks.

18.5 **Construction**

18.5.1 Surface mounted Distribution boards shall be equipped with a sheet steel reinforced tray of not less than 1,6 mm thickness, suitably braced and stiffened to carry the chassis, door and equipment. Lugs to secure the switchboard to a vertical surface shall be provided.

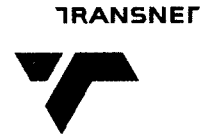
18.5.2 All joints shall be welded or securely bolted. The tray shall be square and neatly finished without protrusions. The front tray sides shall be rounded with an edge of at least 20 mm to accommodate flush doors.

18.6 **Chassis**

18.6.1 A sheet steel chassis for the mounting of equipment shall be bolted to the tray and shall comply with SANS ( SABS ) 1180. Space for wiring shall be provided between the chassis and the tray.

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18.7 **Front panel and door**

18.7.1 The front panel and door shall comply with the above. Doors shall fit flush in the tray when closed.

18.8 **Mounting of circuit breakers**

18.8.1 All moulded case circuit breakers shall be flush mounted with only the toggles protruding. Miniature circuit breakers may be installed on clip-in trays mounted on the frame. All other circuit breakers shall be bolted to the chassis. Special provision shall be made for large switches when designing the framework.

18.8.2 Where earth leakage units are required, the associated circuit breakers shall be installed adjacent to the unit

18.9 **Instrumentation**

18.9.1 All metering instruments shall be flush mounted in the front panel or door. The rear terminal of instruments mounted on doors shall be covered with an insulating material to prevent accidental contact. Current transformers for metering shall be mounted so that the rating plate is clearly visible. Fuses for instrumentation shall be mounted in an easily accessible position and shall be clearly marked.

18.10 **Cabling**

18.10.1 Cables connected to incoming or outgoing circuits shall be terminated on a gland plate.

18.10.2 All cable entries shall be from the bottom of the board unless stated otherwise. Glands shall not be less than 300mm above floor level.

18.11 **Wiring**

18.11.1 Wiring shall be arranged in horizontal and vertical rows and shall be bound with suitable plastic straps or installed in PVC wiring channels. Under no circumstances may PVC adhesive tape be used for the bunching of conductors or for color identification of conductors.

18.11.2 Wiring shall be kept away from exposed metal edges or shall be protected where they cross metal edges.

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18.11.3 A substantial earthing terminal shall be firmly fixed to the steelwork of all distribution boards and shall be connected to the earthing bar.

18.11.4 A neutral bar associated with each bank of MCCB's shall be provided below each bank of mccb's and shall be wired in the same sequence as the mccb's. Not more than one conductor per connector will be accepted.

18.11.5 The minimum conductor size between lightning arrestors and earth shall be 6 mm<sup>2</sup>.

18.12 **Labelling**

18.12.1 All circuits shall be labeled and clearly designated.

18.12.2 Labels indicating the supply point and size of the supply cable shall be provided on each distribution board.

18.12.3 Labels shall be of the fabricated type and shall be permanently secured. Embossed tape is not acceptable.

18.12.4 When labeling by means of numerals, a legend shall be inserted behind a clear plastic window on the inside of the door.

18.13 **Material for labels**

18.13.1 Engraved plastic or ivory sandwiches strips shall be used throughout. The strips shall bear black lettering on white background for normal labels and red letters on a white background for danger notices.

18.14 **Fixing of labels**

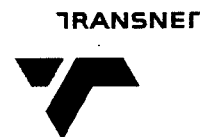
18.13.1 Labels shall not be fixed to components or trunking but to doors, panels, chassis or other permanent structures of the switchboard.

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18.15 **Busbars**

18.15.1 Kiosks shall be equipped with a set of 3 phase and neutral copper bus bars continuously rated for the full load of the incoming supply switch.

18.15.2 Inter-connectors between the bus bars and control units shall be by means of fully insulated, adequately rated conductors firmly bolted to the bus bar and secured to the appropriate terminals of the control units using crimped-on terminal lugs.

18.16 **Test**

18.16.1 The Manager shall be notified when the mechanical construction of the switchboard, i.e. frame, panels and base frame, is complete in order that it may be inspected at the factory.

19. **MOULDED CASE CIRCUIT BREAKERS**

**General**

19.1 This section cover single or multi-pole moulded case circuit breakers for use in power distribution systems, suitable for panel mounting, for ratings up to 1000A, 600 V, 50 Hz.

19.2 The circuit breakers shall comply with SANS ( SABS ) 0156.

19.3 The continuous current rating, trip rating and rupturing capacity shall be as specified.

19.4 The contacts shall be silver alloy and shall close with a high pressure wiping action.

19.5 The operating handle shall provide clear indication of "ON", "OFF" positions.

19.6 The mechanism shall be of the TRIP FREE type preventing the unit from being held in the ON position under overload conditions.

19.7 All moulded case circuit breakers in a particular installation shall as far as is practical be supplied by a single manufacturer.

19.8 The incoming terminals of single pole miniature circuit breakers shall be suitable for connecting to a common bus bar.

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- 19.9 The circuit breaker shall have a rating plate indicating the current rating, voltage and breaking capacity.
- 19.10 Extension type operating handles shall be provided for units of 600A rating and above.
- 19.11 All circuit breakers feeding fire detection and protection equipment shall have red toggles and be labelled "Do Not Switch Off".

## **20. EARTH LEAKAGE PROTECTION UNITS**

### **General**

- 20.1 Earth leakage relays shall be single or three phase units with a sensitivity of 30 mA, with associated circuit breaker or on load switch for use on 220/250 Volt single phase or 380/400 Volt three phase, 50 Hz, supplies.
- 20.2 The units shall be suitable for installation in switchboards on clip-in trays or bolted to the chassis.
- 20.3 The earth leakage relay shall comply with SANS ( SABS ) 0767 as amended, and shall bear the SANS ( SABS ) mark. Integral test facilities shall be incorporated in the unit.
- 20.4 Circuit breakers with trip coils used integrally with earth leakage units (two pole for single phase units and three pole for three phase units) shall comply with SANS ( SABS ) 0156.
- 20.5 On load switches used integrally with earth leakage units (two pole for single phase units and three pole for three phase units) shall comply with SANS ( SABS ) 152.
- 20.6 The fault current rating of the unit shall be 2,5 kA or 5 kA as required, when tested in accordance with SANS ( SABS ) 0156.

## **21. SWITCH DISCONNECTORS ( ISOLATING SWITCHES )**

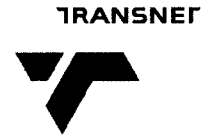
- 21.1 Isolating switches shall comply with SANS ( SABS ) 0152.
- 21.2 Isolating switches for machines shall be lockable in the open position.
- 21.3 The switches shall have a high speed closing and opening feature.

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21.4 The switches shall be suitable rated for the continuous carrying, making and breaking of the rated current specified as well as the through fault current capacity as specified.

21.5 To distinguish the switches from circuit breakers the operating handles shall have a distinctive colour and/or the switch shall be clearly and indelibly labeled "ISOLATOR".

## 22. SOCKET OUTLETS

22.1 Switch sockets of one manufacturer only ( or to match existing ), will be accepted.

### 22.2 Flush and surface mounted switched sockets

22.2.1 All switched socket outlets shall be suitable for mounting in 100 x 100 x 50mm boxes( or to match existing boxes ), shall comply with SANS ( SABS ) 0164 and shall bear the SANS( SABS ) mark.

22.2.2 Switches shall be of the tumbler operating micro-gap type rated at 16A 220/250V

22.2.3 Terminals shall be enclosed for safe wiring.

22.2.4 Safety shutters shall be provided on live and neutral openings.

22.2.5 The covers of surface mounted switched sockets shall have toggle protectors.

22.2.6 Miniature circuit breakers shall be used in lieu of a switch where specified.

22.2.7 Where 13 Amp flat pin switch socket outlets are specified, these shall comply with SANS (SABS ) 1363.

### 22.3 Watertight switched sockets

22.3.1 The housing of watertight switched sockets shall be of galvanized cast iron or die cast aluminium with watertight machined joints.

22.3.2 The switch shall have a porcelain base and a quick acting spring mechanism and shall be rated at 16 Amp 220/250 Volt.

22.3.3 The ON/OFF positions shall be clearly marked on the switch housing.

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22.3.4 The socket openings shall be rendered watertight by means of a gasket and cover plate which is screwed onto the body of the unit.

22.4 **Welding socket outlets**

24.4.1 Welding socket outlets shall comply with SANS ( SABS ) 1239.

24.4.2 Socket outlets shall be rated for 63 Amp and be of the 5-pin, 7-h configuration type.

24.4.3 Socket outlets shall be mounted 1500mm above floor level when mounted on walls.

23. **LIGHT SWITCHES**

23.1 Light switches of one manufacturer only ( or to match existing ), will be accepted per project.

23.2 **Flush and surface mounted switches**

23.2.1 All switches shall be suitable for mounting in 100 x 50 x 50mm boxes ( or to match existing boxes ), shall comply with SANS ( SABS ) 0163 and shall bear the SANS ( SABS ) mark.

23.2.2 Switches shall be of the tumbler operating micro-gap type rated at 16 Amp, 220/250 Volt.

23.2.3 Switches shall have protected terminals for safe wiring.

23.2.4 On multi-lever switches, it shall be possible to individually change any of its switches.

23.2.5 The covers of surface mounted switches shall have toggle protectors.

23.3 **Watertight switches**

23.3.1 Watertight switches shall be of the micro-gap type suitable for surface mounting and shall bear the SANS ( SABS ) mark.

23.3.2 The housing shall be of galvanized cast iron or die cast aluminium with water tight cover plate and toggle.

23.3.3 The switch shall have a porcelain base and a quick acting spring mechanism and shall be rated at 16 Amp, 220/250 Volt.

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23.3.4 The ON/OFF positions shall be clearly marked on the switch housing.

23.4 **Cover plates**

23.4.1 Cover plates shall be finished in ivory coloured baked enamel ( or to match existing ).

23.4.2 Cover plates shall overlap the outlet to cover wall imperfections.

23.4.3 Cover plates shall comply with SANS ( SABS ) 1084.

24. **LIGHT SENSITIVE CONTROL UNITS**

24.1 The complete unit shall be of the solid-state type and housed in a sealed weather-proof casing, suitable for mounting in any position.

24.2 The unit shall be supplied complete with a suitable mounting bracket.

24.3 The unit shall not operate to light fluctuations shorter than 5 minutes duration.

24.4 The unit shall incorporate main contacts rated at not less than 10 Amps.

24.5 The unit shall be mounted at a height not less than 2400mm and in a position giving coverage of the north-west hemisphere.

24.6 An override switch shall be provided.

25. **CONTACTORS**

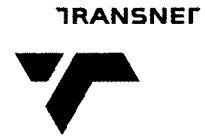
25.1 Contactors shall comply with SANS ( SABS ) 1092 and shall be suitable rated for the current and duty cycle.

26. **EARTHING AND BONDING**

26.1 The complete electrical installation shall be earthed and bonded in accordance with the requirements of SANS 10142 ( SABS 0142 ).

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## 27. PAINTING OF ELECTRICAL EQUIPMENT

### 27.1 Finish required

27.1.1 Metalwork of electrical equipment such as distribution boards, equipment enclosures, sheet steel luminaire components, purpose-made boxes, etc shall be finished with a high quality paint applied according to the best available method. Baked enamel, electro statically applied powder coating or similar proven methods shall be used.

### 27.2 Colours

27.2.1 The colour of low voltage switchboards and equipment enclosures in buildings shall be “White” colour G80 or “Orange” B64 of SANS ( SABS ) 1091.

27.2.2 The colour of low voltage distribution kiosks and miniature sub-stations shall be Orange of SANS ( SABS ) 1091.

## 28. BALANCING OF LOAD

28.1 The electrical contractor is required to balance the load as equally as possible over the multi-phase supply.

## 29. HAZARDOUS AREAS

29.1 Flame-proof equipment shall comply with SANS ( SABS ) 314 for installation in hazardous areas, as defined in SANS ( SABS ) 0108.

29.2 Equipment in hazardous areas shall be installed in accordance with SANS (SABS) 086.

## 30. INSPECTION AND TESTS

30.1 Insulation, continuity, earthing etc. tests in the accordance with SANS 10142 ( SABS ) 0142 shall be carried out to the satisfaction and in the presence of the Manager, or his authorized deputy, as and when required during the progress and on completion of the contract work.

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30.2 The Contractor shall provide on site the necessary approved instruments for the execution of the tests mentioned in the above clause. The client reserves the right to use its own instruments, should this be considered necessary.

30.3 After completion of the electrical installation, the Electrical Contractor shall complete the Certificate of Compliance for Electrical Installations and hand it to the Manager.

### 31. AIR-CONDITIONING UNITS

31.1 As stipulated in the Driven Machinery Regulation 15 all air-conditioning equipment offered shall comply with the SANS Code of Practice 10147 ( Code of Practice for refrigeration and air-conditioning installations).

31.2 Refrigerant piping for each system shall be installed by a qualified refrigeration technician observing the rules of good refrigeration practice regarding pipe sizing, support, installation, system cleaning, drying, evacuating, charging and leak testing. All joints shall be high temperature brazed and all pipe runs shall be laid taking due consideration of oil return to the compressor.

31.3 All pipe work shall be arranged to present a neat appearance and where possible to be parallel to each other and the building structure.

31.4 All refrigerant piping between indoor and outdoor units shall be covered with suitable insulation.

31.5 A workshop manual shall be provided before the installation is accepted by Transnet.

31.6 After completion of the installation, the whole of the installation will be inspected by Transnet and commissioned by the air-conditioning contractor.

31.7 The air-conditioning contractor shall make good to the satisfaction of Transnet any deficiencies which may arise during the inspection and commissioning.

31.8 After the whole of the installation has been tested and commissioned by the air-conditioning contractor and passed as satisfactory, the installation will be accepted by Transnet.

31.9 Notwithstanding any requirements to the contrary which may be embodied in the contract documents, the air-conditioning contractor will be required to guarantee the complete installation for a period of 12 (twelve) months after date of acceptance of the installation and shall make good any defects, due to inferior failures or stoppages of any of the plant be so frequent as to

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become objectionable, or should the equipment prove otherwise unsatisfactory during the above-mentioned period of twelve months, the air-conditioning contractor shall, at his expense if called on by Transnet, replace the whole plant or such part thereof as may be deemed necessary, with equipment to be specified by Transnet.

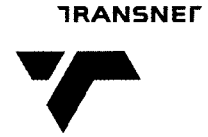
**32. GUARANTEE**

- 32.1 The Contractor shall undertake to repair all faults or defects to bad workmanship and/or faulty materials, and to replace all defective equipment or materials during the guarantee period.
- 32.2 Any defects that may become apparent during the guarantee period shall be rectified to the satisfaction of, and free of cost to the Client.

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**RFQ NUMBER: KBY/**

**WRITTEN INSTRUCTION FORM PART B**

**FOR THE MAINTENANCE/BREAKDOWNS AND NEW INSTALLATIONS TO ELECTRICAL INSTALLATIONS/AIR – CONDITIONING PLANT AS WELL AS ROUTINE SERVICE OF AIR-CONDITIONING PLANT AND ASSOCIATED EQUIPMENT SERVING THE VARIOUS BUILDINGS, AS AND WHEN REQUIRED, UPINGTON REGION.**

**FAULTS/ETC.**

REFERENCE	PLACE	DESCRIPTION	ASSET NO.

**PLEASE NOTE:** Should the cumulative amount spent approach the **R1 800 000.00** limit, the issue of work will be curtailed.

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**MAINTENANCE SUPERVISOR  
(REAL ESTATE MANAGEMENT)**

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Respondent's Signature

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**TECHNICAL DATA SHEET PART B**  
(To be completed by tenderers and submitted as part of their tender)

**ANNEXURE 1**

	<b>Manufacturer</b>	<b>-</b>	<b>Type</b>
<b>1. Distribution Boards</b>			
1.1 Indoor	.....		
1.2 Outdoor	.....		
<b>2. Moulded Case Circuit Breakers</b>	.....		
<b>3. Earth Leakage Units</b>	.....		
<b>4. Contactors</b>	.....		
<b>5. Light Switches</b>	.....		
<b>6. Socket Outlets</b>	.....		
<b>7. Wire Ways</b>			
7.1 Metallic	.....		
7.2 Non Metallic	.....		
<b>8. Cable Glands</b>	.....		
<b>9. PVC Cable</b>	.....		
<b>10. Cable Joints</b>	.....		
<b>11. Switch-disconnectors</b>			
11.1 Isolator for fixed appliances	.....		
11.2 Lockable Isolators	.....		

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12. **Light sensitive control units** .....

13. **Air-conditioning units** .....

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TENDERER SIGNATURE

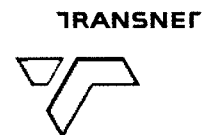
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Respondent's Signature

\_\_\_\_\_  
Date and Company Stamp





ANNEXURE 2: QUOTATION/AUTHORITY FORM: PART B : RFQ No. KBY/				
FROM:		TO:		
DISCRIPTION	QTY	UNIT	UNIT PRICE	RATE
Material				R
				R
				R
				R
				R
				R
				R
				R
				R
				R
				R
				R
				R
				R
				R
				R
				R
				R
				R
				R
				R
				R
Material costs				R
			Plus handling costs %	R
Sub-Total (A)				R
<b>TOTAL CARRIED FORWARD</b>				

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<b>TOTAL BROUGHT FORWARD</b>				
<b>Maintenance/breakdowns/fault finding</b>	<b>QTY</b>	<b>UNIT</b>	<b>UNIT PRICE</b>	<b>RATE</b>
<b>Normal hours</b>				
Labour/Hour/Artisan		Hour		R
Labour/Hour/Labarour		Hour		R
Rate/Km		Km		R
<b>Sub-Total (B)</b>				<b>R</b>
<b>Repairs</b>	<b>QTY</b>	<b>UNIT</b>	<b>UNIT PRICE</b>	<b>RATE</b>
<b>Normal hours</b>				
Labour/Hour/Artisan		Hour		R
Labour/Hour/Labarour		Hour		R
Rate/Km		Km		R
<b>Sub-Total (C)</b>				<b>R</b>
<b>Sub-Totals (A+B+C)</b>				<b>R</b>
<b>Add 14% VAT</b>				<b>R</b>
<b>TOTAL:-</b>				<b>R</b>

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<b>TOTAL BROUGHT FORWARD</b>				
<b>Maintenance/breakdowns/fault finding</b>	<b>QTY</b>	<b>UNIT</b>	<b>UNIT PRICE</b>	<b>RATE</b>
<b>After hours, weekends, Public holidays</b>				
Labour/Hour/Artisan		Hour		R
Labour/Hour/Labarour		Hour		R
Rate/Km		Km		R
<b>Sub-Total (B)</b>				<b>R</b>
<b>Repairs</b>	<b>QTY</b>	<b>UNIT</b>	<b>UNIT PRICE</b>	<b>RATE</b>
<b>After hours, weekends, Public holidays</b>				
Labour/Hour/Artisan		Hour		R
Labour/Hour/Labarour		Hour		R
Rate/Km		Km		R
<b>Sub-Total (C)</b>				<b>R</b>
<b>Sub-Totals (A+B+C)</b>				<b>R</b>
<b>Add 14% VAT</b>				<b>R</b>
<b>TOTAL:-</b>				<b>R</b>

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\_\_\_\_\_  
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Station/Suburb: \_\_\_\_\_

Depot: \_\_\_\_\_

Building Asset No: \_\_\_\_\_

**SERVICE REPORT  
 ANNEXURE 3**

**Description of maintenance RFQ No. KBY/**

**( To be completed for each Air – Conditioner serviced before any payment will be made )**

- Isolate the supply to the air conditioner unit, make sure there are no open live or possible live wires. Close the isolator so that no live wires are exposed.
- In the case of a window unit, withdraw.
- Check air filter for cuts and damages.
- Clean the air filter.
- Clean condensor coil
- Clean evaporator coil
- Check fans for alignment, corrosion, chips, dents and that they are secured to the shaft.
- Check fan motor/s to ensure they are running freely and that the bearings show no sign of wear, oil were necessary.
- Check thermostats, switches, contactors and the wiring thereof to ensure that all the connections tight and clean.
- Clean equipment using approved cleaning agents.
- For split units check and tighten flair nuts were necessary.
- Check condensate drip trays
- Check the draining system.
- Rust- proof where applicable
- Reconnect to the supply and test.
- Check the refrigerant system pressure and leaks.
- Check the operation currents and evaluate with nameplate data.
- Check the compressor for unusual noise and that the mounting bushes are in a good state.
- Place all the covers and make neat.

\_\_\_\_\_  
 \_\_\_\_\_

Comments

\_\_\_\_\_  
 Air – Conditioner Type and Fabricate

\_\_\_\_\_  
 Client name in Blockletters

\_\_\_\_\_  
 Model No.

\_\_\_\_\_  
 Client Signature

\_\_\_\_\_  
 Capacity in BTU'S

\_\_\_\_\_  
 Client Telephone number

\_\_\_\_\_  
 Machine Number

\_\_\_\_\_  
 Date

\_\_\_\_\_  
 Artisan name in Blockletters

\_\_\_\_\_  
 Artisan Signature

\_\_\_\_\_  
 Respondent's Signature

\_\_\_\_\_  
 Date and Company Stamp



## SECTION 6

### RFQ NUMBER KBY/

**PROVISION OF MAINTENANCE/ BREAKDOWNS AND NEW INSTALLATIONS TO ELECTRICAL INSTALLATIONS / AIR-CONDITIONING PLANT AS WELL AS ROUTINE SERVICE OF AIR-CONDITIONING PLANT AND ASSOCIATED EQUIPMENT SERVING VARIOUS BUILDINGS, AS AND WHEN REQUIRED, UPINGTON REGION.**

**FOR A PERIOD OF 24 Months**

### **Safety Arrangements – Act 85 of 1993 and Regulations E4E**

#### **SAFETY ARRANGEMENTS AND PROCEDURAL COMPLIANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT (ACT 85 OF 1993) AND APPLICABLE REGULATIONS**

##### **1. General**

- 1.1 The Contractor and Transnet Limited (hereinafter referred to as “Transnet”) are individual employers, each in its own right, with their respective duties and obligations set out in the Occupational Health and Safety Act, Act 85 of 1993 (the Act) and applicable Regulations.
- 1.2 The Contractor accepts, in terms of the General Conditions of Contract and in terms of the Act, his obligations as an employer in respect of all persons in his employ, other persons on the premises or the Site or place of work or on the work to be executed by him, and under his control. He shall, before commencement with the execution of the contract work, comply with the provisions set out in the Act, and shall implement and maintain a Health and Safety Plan as described in the Construction Regulations, 2003 and as approved by Transnet, on the Site and place of work for the duration of the Contract.
- 1.3 The Contractor accepts his obligation to complying fully with the Act and applicable Regulations notwithstanding the omission of some of the provisions of the Act and the Regulations from this document.
- 1.4 Transnet accepts, in terms of the Act, its obligations as an employer of its own employees working on or associated with the site or place of work, and the Contractor and Technical Officer or his deputy shall at all times, co-operate in respect of the health and safety management of the site, and shall agree on the practical arrangements and procedures to be implemented and

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maintained during execution of the Works.

- 1.5 In the event of any discrepancies between any legislation and this specification, the applicable legislation will take precedence.

## 2. Definitions

- 2.1 In this Specification any word or expression to which a meaning has been assigned in the Construction Regulations, shall have the meaning so assigned to it, unless the context otherwise indicates: -

- 2.2 The work included in this Contract shall for the purposes of compliance with the Act be deemed to be "**Construction Work**", which, in terms of the Construction Regulations, 2003 means any work in connection with: -

- (a) the erection, maintenance, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure;
- (b) the installation, erection, dismantling or maintenance of fixed plant where such work includes the risk of a person falling;
- (c) the construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure; or
- (d) the moving of earth, clearing of land, the making of an excavation, piling, or any similar type of work;

- 2.3 "**competent person**" in relation to construction work, means any person having the knowledge, training and experience specific to the work or task being performed: Provided that where appropriate qualifications and training are registered as per the South African Qualifications Authority Act, 1995 these qualifications and training shall be deemed to be the required qualifications and training;

- 2.4 "**contractor**" means principal contractor and "subcontractor" means contractor as defined by the Construction Regulations, 2003.

- 2.5 "**fall protection plan**" means a documented plan, of all risks relating to working from an elevated position, considering the nature of work undertaken, and setting out the procedures and methods applied to eliminate the risk;

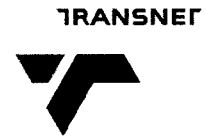
- 2.6 "**health and safety file**" means a file, or other record in permanent form, containing the information required to be kept on site in accordance with the Act and applicable Regulations;

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- 2.7 **“Health and Safety Plan ”** means a documented plan which addresses the hazards identified and include safe work procedures to mitigate, reduce or control the hazards identified;
- 2.8 **“Risk Assessment”** means a programme to determine any risk associated with any hazard at a construction site, in order to identify the steps needed to be taken to remove, reduce or control such hazard;
- 2.9 **“the Act”** means the Occupational Health and Safety Act No. 85 of 1993.

### 3. Procedural Compliance

- 3.1 The Contractor who intends to carry out any construction work shall, before carrying out such work, notify the Provincial Director in writing if the construction work:-
- includes the demolition of a structure exceeding a height of 3 meters; or
- includes the use of explosives to perform construction work; or
- (c) includes the dismantling of fixed plant at a height greater than 3m, and shall also notify the Provincial Director in writing when the construction work exceeds 30 days or will involve more than 300 person days of construction work and if the construction work:-
- (d) includes excavation work deeper than 1m; or
- (e) Includes working at a height greater than 3 meters above ground or a landing.

The notification to the Provincial Director shall be on a form similar to Annexure A of the Construction Regulations, 2003, also shown in Annexure 1 of this Specification. The Contractor shall ensure that a copy of the completed notification form is kept on site for inspection by an inspector, Technical Officer or employee.

The Contractor shall, in accordance with the Act and applicable Regulations, make all the necessary appointments of competent persons in writing on a form similar to Annexure 2 of this Specification and deliver copies thereof to the Technical Officer. Copies should also be retained on the health and safety file.

Subcontractors shall also make the above written appointments and the Contractor shall deliver copies thereof to the Technical Officer.

In the case of a self-employed Contractor or any subcontractor who has the appropriate competencies and supervises the work himself, the appointment of a construction supervisor in terms of regulation 6.1 of the Construction Regulations, 2003 will not be necessary. The

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Contractor shall in such a case execute and sign a declaration, as in Annexure 3, by which he personally undertakes the duties and obligations of the "Chief Executive Officer" in terms of section 16(1) of the Act.

The Contractor shall, before commencing any work, obtain from the Technical Officer an access certificate as in Annexure 4 executed and signed by him, permitting and limiting access to the designated site or place of work by the Contractor and any subcontractors under his control.

Procedural compliance with Act and Regulations, as above, shall also apply to any subcontractors as employers in their own right. The Contractor shall furnish the Technical Officer with full particulars of such subcontractors and shall ensure that they comply with the Act and Regulations and Protekon's safety requirements and procedures.

#### 4. **Special Permits**

Where special permits are required before work may be carried out such as for hot work, isolation permits, work permits and occupations, the Contractor shall apply to the Technical Officer or the relevant authority for such permits to be issued. The Contractor shall strictly comply with the conditions and requirements pertaining to the issue of such permits.

#### 5. **Health and Safety Programme**

5.1 The Tenderer shall, with his tender, submit a Health and Safety Programme setting out the practical arrangements and procedures to be implemented by him to ensure compliance by him with the Act and Regulations and particularly in respect of: -

- (i) The provision, as far as is reasonably practical, of a working environment that is safe and without risk to the health of his employees and subcontractors in terms of section 8 of the Act;
- (ii) the execution of the contract work in such a manner as to ensure in terms of section 9 of the Act that persons other than those in the Contractor's employment, who may be directly affected by the contract work are not thereby exposed to hazards to their health and safety;
- (iii) ensuring, as far as is reasonably practical, in terms of section 37 of the Act that no employee or subcontractor of the Contractor does or omits to do any act which would be an offence for the Contractor to do or omit to do.

5.2 The Contractor's Health and Safety Programme shall be based on a risk assessment in respect of the hazards to health and safety of his employees and other persons under his control that are associated with or directly affected by the Contractor's activities in performing the contract work and shall establish precautionary measures as are reasonable and practical in protecting the safety

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and health of such employees and persons.

5.3 The Contractor shall cause a risk assessment contemplated in clause 5.2 above to be performed by a competent person, appointed in writing, before commencement of any Construction Work and reviewed during construction. The Risk Assessments shall form part of the Health and Safety programme to be applied on the site and shall include at least the following:

- (a) The identification of the risks and hazards that persons may be exposed to;
- (b) the analysis and evaluation of the hazards identified;
- (c) a documented Health and Safety Plan, including safe work procedures to mitigate, reduce or control the risks identified;
- (d) a monitoring and review plan.

5.4 The Health and Safety Plan shall include full particulars in respect of: -

- (a) The safety management structure to be instituted on site or place of work and the names of the Contractor's health and safety representatives and members of safety committees where applicable;
- (b) the safe working methods and procedures to be implemented to ensure the work is performed in compliance with the Act and Regulations;
- (c) the safety equipment, devices and clothing to be made available by the Contractor to his employees;
- (d) the site access control measures pertaining to health and safety to be implemented;
- (e) the arrangements in respect of communication of health and safety related matters and incidents between the Contractor, his employees, subcontractors and the Technical Officer with particular reference to the reporting of incidents in compliance with Section 24 and General Administrative Regulation 8 of the Act and with the pertinent clause of the General Conditions of Contract forming part of the Contract and
- (f) the introduction of control measures for ensuring that the Safety Plan is maintained and monitored for the duration of the Contract.

5.4 The Health and Safety programme shall be subject to the Technical Officer's approval and he may, in consultation with the Contractor, order that additional and/or supplementary practical arrangements and procedures be implemented and maintained by the Contractor or that different working methods or safety equipment be used or safety clothes be issued which, in the Technical Officer's opinion, are necessary to ensure full compliance by the Contractor with his obligations

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as an employer in terms of the Act and Regulations. The Technical Officer or his deputy shall be allowed to attend meetings of the Contractor's safety committee as an observer.

- 5.5 The Contractor shall take reasonable steps to ensure that each subcontractor's Health and Safety Plan is implemented and maintained on the construction site: Provided that the steps taken shall include periodic audits at intervals mutually agreed to between them, but at least once every month.
- 5.6 The Contractor shall stop any subcontractor from executing any construction work, which is not in accordance with the Contractor's, and/or subcontractor's Health and Safety Plan for the site or which poses a threat to the health and safety of persons.
- 5.7 The Contractor shall ensure that a copy of the Health and Safety Plan is available on site for inspection by an inspector, Technical Officer, agent, subcontractor, employee, registered employee organization, health and safety representative or any member of the health and safety committee.
- 5.8 The Contractor shall consult with the health and safety committee or, if no health and safety committee exists, with a representative group of employees, on the development, monitoring and review of the Risk Assessment.
- 5.9 The Contractor shall ensure that all employees under his control are informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the Risk Assessment.
- 5.10 The Contractor shall ensure that all subcontractors are informed regarding any hazard as stipulated in the Risk Assessment before any work commences, and thereafter at such times as may be determined in the Risk Assessment.
- 5.11 The Contractor shall ensure that all visitors to a construction site undergoes health and safety induction pertaining to the hazards prevalent on the site and shall be provided with the necessary personal protective equipment.

## 6. **Fall Protection Plan**

- 6.1 In the event of the risk and hazard identification, as required in terms of clause 5.3 of this Specification, revealing risks relating to working from an elevated position the contractor shall cause the designation of a competent person, responsible for the preparation of a fall protection plan;

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6.2 The Contractor shall implement, maintain and monitor the fall protection plan for the duration of Contract. The Contractor shall also take such steps to ensure the continued adherence to the fall protection plan.

6.3 The fall protection plan shall include:-

- (a) A Risk Assessment of all work carried out from an elevated position;
- (b) the procedures and methods to address all the identified risks per location;
- (c) the evaluation of the employees physical and psychological fitness necessary to work at elevated positions;
- (d) the training of employees working from elevated positions; and
- (e) the procedure addressing the inspection, testing and maintenance of all fall protection equipment.

## 7. Hazards and Potential Hazardous Situations

The Contractor and the Technical Officer shall immediately notify one another of any hazardous or potentially hazardous situations which may arise during performance of the Contract by the Contractor or any subcontractor and, in particular, of such hazards as may be caused by the design, execution and/or location and any other aspect pertaining to the contract work.

## 8. Health and Safety File

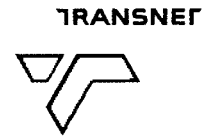
- 8.1 The Contractor shall ensure that a health and safety file is opened and kept on site and shall include all documentation required as per the Act and applicable regulations, and made available to an inspector, the Technical Officer, or subcontractor upon request.
- 8.2 The Contractor shall ensure that a copy of the both his Health and Safety Plan as well as any subcontractor's Health and Safety Plan is available on request to an employee, inspector, contractor or the Technical Officer.
- 8.3 The Contractor shall hand over a consolidated health and safety file to the Technical Officer upon completion of the Construction Work and shall in addition to documentation mentioned in the Act and applicable Regulations include a record of all drawings, designs, materials used and other similar information concerning the completed structure.

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### CONTRACTORS "HEALTH & SAFETY FILE" CHECKLIST

For the  
 maintenance/breakdowns and new installations to Electr inst./  
 Air-Con's and Routine service of Air-Con's, As and When  
 required, UPT area

Contractor's Name: \_\_\_\_\_ Contract Number:                     KBY/                    

#### CONTENTS OF THE HEALTH & SAFETY FILE

Every file shall at least contain "but not limited to" the following documentation/copies on site.	YES	NO
Notice of construction work to Dept. of Labour (where applicable) .		
Letter of good standing – Compensation.		
Section 37(2) agreements. (Written defined responsibilities by mandataries)		
Safety plan "which shall contain": -		
Appointments letters i.e. copies.		
- Applicable Written Safe Work Procedures (WSWP's) and Job Observations (J O's).		
- Fall protection plan (where applicable).		
Your Health and Safety structure on site .		
- i.e. Organigram "also depicting sub-contractors on site (In the event of large contracts).		
Appointments letters i.e. copies.		
- Safety Reps (E4E). (Health and Safety structure for large contracts) .		
- Sub-contractors.		
Emergency equipment and procedures e.g. First Aid box, Fire Extinguishers, tele nos. etc.		
Competency certificates "i.e. copies" .		
- "Competent persons" as required by the Regulations (Construction Regs.).		
- Machine operators (Large & Small plant) .		
Lifting Equipment operators .		
Health and Safety induction records.		
Copies of medical surveillance records.		
- Fitness certificates "e.g. working at heights .		
Inspect Plant and Equipment (Includes all electrical equipment) and checklist.		
Test certificates (e.g. Gases, Vapours etc. in confined spaces) .		
Minutes of safety meetings held on site.		
Daily Safety talks by Contractor, etc, including attendance register (Green Areas etc.)		
Copies of hazardous waste removal and disposal certificates.		
Copies of audit reports. (Contractor's & Spoornet)		
Copies of site inspections. (Contractor's) (Initial and daily)		
Incident investigation records.		

\_\_\_\_\_  
 Respondent's Signature

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Permits / occupation certificates		
Notices served by Dept. of Labour.		

If the response to any of the above questions was negative, what actions were taken to rectify it?

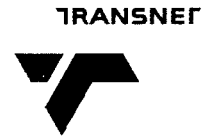

\_\_\_\_\_  
Technical Officer of Contract

\_\_\_\_\_  
Site Supervisor

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## SECTION 7

RFQ NUMBER KBY/

**PROVISION OF MAINTENANCE/ BREAKDOWNS AND NEW INSTALLATIONS TO ELECTRICAL INSTALLATIONS/ AIR-CONDITIONING PLANT AS WELL AS ROUTINE SERVICE OF AIR-CONDITIONING PLANT AND ASSOCIATED EQUIPMENT SERVING VARIOUS BUILDINGS, AS AND WHEN REQUIRED, UPINGTON REGION.**

**FOR A PERIOD OF 24 Months**

**Railway Lines and High Voltage Equipment E7/1**

**E7/1 (July 1998)**

**SPECIFICATION FOR WORKS ON, OVER, UNDER OR ADJACENT TO RAILWAY LINES AND NEAR HIGH VOLTAGE EQUIPMENT**

(This Specification shall be used in Transnet Contracts)

\_\_\_\_\_  
Respondent's Signature

\_\_\_\_\_  
Date and Company Stamp



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3.	Contractor's representatives
4.	Occupations and work permits
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8.	Stacking of material
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## 1 **DEFINITIONS**

The following definitions shall apply :

**Authorised Person.** A person whether an employee of Transnet or not, who has been specially authorised to undertake specific duties in terms of Transnet's publication SAFETY INSTRUCTIONS: HIGH-VOLTAGE ELECTRICAL EQUIPMENT, and who holds a certificate or letter of authority to that effect.

**Barrier.** Any device designed to restrict access to "live" high-voltage electrical equipment.

**Bond.** A short conductor installed to provide electrical continuity.

**Contractor.** Any person or organisation appointed by Transnet to carry out work on its behalf.

**Dead.** Isolated and earthed.

**Electrical Officer (Contracts).** The person appointed in writing by the responsible Electrical Engineer in Transnet as the person who shall be consulted by the Contractor in all electrical matters to ensure that adequate safety precautions are taken by the Contractor.

**Executive Officer.** The person appointed by Transnet from time to time as the Executive Officer to act according to the rights and powers held by and obligations placed upon him in terms of the Contract.

**High-Voltage.** A voltage normally exceeding 1 000 volts.

**Live.** A conductor is said to be "live" when it is at a potential different from that of the earth or any other conductor of the system of which it forms a part.

**Near.** To be in such a position that a person's body or the tools he is using or any equipment he is handling may come within 3 metres of live exposed high-voltage electrical equipment.

**Occupation.** An authorisation granted by Transnet for work to be carried out under specified conditions on, over under or adjacent to railway lines.

**Occupation Between Trains.** An occupation during an interval between successive trains.

**Project Manager.** The person or juristic person appointed by Transnet from time to time as the Project Manager, to administer the Contract according to the powers and rights held by and obligations placed upon him in terms of the Contract.

**Responsible Representative.** The responsible person in charge, appointed by a contractor, who has undergone specific training (and holds a certificate) to supervise staff under his control to work on, over, under or adjacent to railway lines and in the vicinity of high-voltage electrical equipment.

**Technical Officer.** The person or juristic person appointed by Transnet from time to time as the Technical Officer, to administer the Contractor's performance and execution of the Works according to the powers and rights held by and obligations placed upon the Technical Officer in terms of the Contract.

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Total Occupation. An occupation for a period when trains are not to traverse the section of line covered by the occupation.

Work on. Work undertaken on or so close to the equipment that the specified working clearances to the live equipment cannot be maintained.

Work Permit. A combined written application and authority to proceed with work on or near dead electrical equipment.

## **PART A - GENERAL SPECIFICATION**

### **2. AUTHORITY OF OFFICERS OF TRANSNET**

- 2.1 The Contractor shall co-operate with the officers of Transnet and shall comply with all instructions issued and restrictions imposed with respect to the Works which bear on the existence and operation of Transnet's railway lines and high-voltage equipment.
- 2.2 Without limiting the generality of the provisions of 2.1, any duly authorised representative of Transnet, having identified himself, may stop the work if, in his opinion, the safe passage of trains or the safety of Transnet assets or any person is affected. **CONSIDERATIONS OF SAFETY SHALL TAKE PRECEDENCE OVER ALL OTHER CONSIDERATIONS.**

### **3. CONTRACTOR'S REPRESENTATIVES**

- 3.1 The Contractor shall nominate Responsible Representatives of whom at least one shall be available at any hour for call-out in cases of emergency. The Contractor shall provide the Technical Officer with the names, addresses and telephone numbers of the representatives.
- 3.2 The Contractor guarantees that he has satisfied himself that the Responsible Representative is fully conversant with this specification and that he shall comply with all his obligations in respect thereof.

### **4. OCCUPATIONS AND WORK PERMITS**

- 4.1 Work to be done during total occupation or during an occupation between trains or under a work permit shall be done in a manner decided by the Technical Officer and at times to suit Transnet requirements.
- 4.2 The Contractor shall organise the Works in a manner, which will minimise the number and duration of occupations and work permits required.
- 4.3 Transnet will not be liable for any financial or other loss suffered by the Contractor arising from his failure to complete any work scheduled during the period of an occupation or work permit.
- 4.4 The Contractor shall submit to the Technical Officer, in writing, requests for occupations or work permits together with details of the work to be undertaken, at least 14 days before they are required. Transnet does not undertake to grant an occupation or work permit for any particular date, time or duration.

\_\_\_\_\_  
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- 4.5 Transnet reserves the right to cancel any occupation or work permit at any time before or during the period of occupation or work permit. If, due to cancellation or change in date or time, the Contractor is not permitted to start work under conditions of total occupation or work permit at the time arranged, all costs caused by the cancellation shall be born by the Contractor except as provided for in clauses 4.6 to 4.8.
- 4.6 When the Contractor is notified less than 2 hours before the scheduled starting time that the occupation or work permit is cancelled, he may claim reimbursement of his direct financial losses caused by the loss of working time up to the time his labour and plant are employed on other work, but not exceeding the period of the cancelled occupation or work permit.
- 4.7 When the Contractor is notified less than 2 hours before the schedule starting time, or during an occupation or work permit, that the duration of the occupation or work permit is reduced, he may claim reimbursement of his direct financial losses caused by the loss of working time due to the reduced duration of the occupation or work permit.
- 4.8 Reimbursement the Contractor for any loss of working time in terms of 4.6 and 4.7, shall be subject to his claims being submitted within 14 days of the event with full details of labour and plant involved, and provided that the Technical Officer certifies that no other work on which the labour and plant could be employed was immediately available.
- 4.9 Before starting any work for which an occupation has been arranged, the Contractor shall obtain from the Technical Officer written confirmation of the date, time and duration of the occupation.
- 4.10 Before starting any work for which a work permit has been arranged, the Responsible Representative shall read and sign portion C of form No. T.1276 signifying that he is aware of the limits within which work may be undertaken. After the work for which the permit was granted has been completed, or when the work permit is due to be terminated, or if the permit is cancelled after the start, the same person who signed portion C shall sign portion D of the T.1276 form, thereby acknowledging that he is aware that the electrical equipment is to be made "live". The Contractor shall advise all his workmen accordingly.
5. **SPEED RESTRICTIONS AND PROTECTION**
- 5.1 When speed restrictions are imposed by Transnet because of the Contractor's activities, the Contractor shall organise and carry out his work so as to permit the removal of the restrictions as soon as possible.
- 5.2 When the Technical Officer considers protection to be necessary the Contractor shall, unless otherwise agreed, provide all protection including flagmen, other personnel and all equipment for the protection of Transnet's and the Contractor's personnel and assets, the public and including trains. Transnet will provide training free of charge of the Contractor's flagmen and other personnel performing protection duties. The Contractor shall consult with the Technical Officer, whenever he considers that protection will be necessary, taking into account the minimum permissible clearances set out in appendixes 1 to 4.
- 5.3 The Contractor shall appoint a Responsible Representative to receive and transmit any instruction, which may be given by Transnet personnel providing protection.

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6. **ROADS ON TRANSNET PROPERTY**

The provision of clause 25 of the E.5, General Conditions of Contract, or clause 23 of the E.5 (MW), General Conditions of Contract for Maintenance Works, shall apply to the use of existing roads on Transnet's property.

7. **CLEARANCES**

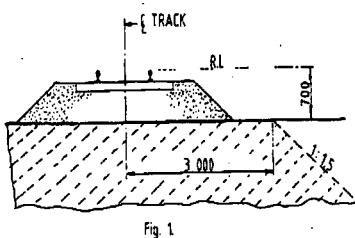
7.1 No temporary works shall encroach on the appropriate minimum clearances set out in Annexure 1 BE97-01 Sheets 1,2, 3 and 5 of 5.

8. **STACKING OF MATERIAL**

8.1 The Contractor shall not stack any material closer than 3 m from the centre line of any railway line without prior approval of the Technical Officer.

9. **EXCAVATION, SHORING, DEWATERING AND DRAINAGE**

9.1 Unless otherwise approved by the Technical Officer any excavation adjacent to a railway line shall not encroach on the hatched area shown in Figure 1.



9.2 The Contractor shall provide at his own cost any shoring, dewatering or drainage of any excavation unless otherwise stipulated elsewhere in the Contract.

9.3 Where required by the Technical Officer, drawings of shoring for any excavation under or adjacent to a railway line shall be submitted and permission to proceed obtained, before the excavation is commenced.

9.4 The Contractor shall prevent ingress of water to the excavation but where water does enter, he shall dispose of it as directed by the Technical Officer.

9.5 The Contractor shall not block, obstruct or damage any existing drains either above or below ground level unless he has made adequate prior arrangements to deal with drainage.

10. **FALSEWORK FOR STRUCTURES**

10.1 Drawings of falsework for the construction of any structure over, under or adjacent to any railway line shall be submitted to the Technical Officer and his permission to proceed obtained before the falsework is

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erected. Each drawing shall be given a title and a distinguishing number and shall be signed by a registered professional engineer certifying that he has checked the design of the falsework and that the drawings are correct and in accordance with the design.

- 10.2 After the falsework has been erected and before any load is applied, the Contractor shall submit to the Technical Officer a certificate signed by a registered professional engineer certifying that he has checked the falsework and that it has been erected in accordance with the drawings. Titles and numbers of the drawings shall be stated in the certificate. Notwithstanding permission given by the Technical Officer to proceed, the Contractor shall be entirely responsible for the safety and adequacy of the falsework.

11. **PILING**

- 11.1 The Technical Officer will specify the conditions under which piles may be installed on Transnet property.

12. **UNDERGROUND SERVICES**

- 12.1 No pegs or stakes shall be driven or any excavation made before the Contractor has established that there are no underground services, which may be damaged thereby.
- 12.2 Any damage shall be reported immediately to the Technical Officer, or to the official in charge at the nearest station, or to the traffic controller in the case of centralised traffic control.

13. **BLASTING**

- 13.1 The provisions of clause 23 of the E.5, General Conditions of Contract or clause 21 of the E.5 (MW), General Conditions of Contract for Maintenance Work, shall apply to all blasting operations undertaken in terms of the Contract.
- 13.2 The Contractor shall provide proof that he has complied with the provisions of clauses 10.17.1 to 10.17.4 of the Explosives Regulations (Act 26 of 1956 as amended).
- 13.3 Blasting within 500m of a railway line will only be permitted during intervals between trains. A person appointed by the Technical Officer, assisted by flagmen with the necessary protective equipment, will be in communication with the controlling railway station.  
Only this person will be authorised to give the Contractor permission to blast, and the Contractor shall obey his instructions implicitly regarding the time during which blasting may take place.
- 13.4 The flagmen described in 13.3, where provided by Transnet, are for the protection of trains and Transnet property only, and their presence does not relieve the Contractor in any manner of his responsibilities in terms of Explosives Act or Regulations, or any obligation in terms of this Contract.
- 13.5 The person described in 13.3 will record in a book provided and retained by Transnet the dates and times -
- (i) when each request is made by him to the controlling station for permission to blast;
  - (ii) when blasting may take place;
  - (iii) when blasting actually takes place; and
  - (iv) when he advises the controlling station that the line is safe for the passage of trains.

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13.6 Before each blast the Contractor shall record in the same book, the details of the blast to be carried out. The person appointed by the Technical Officer and the person who will do the blasting shall both sign the book whenever an entry described in 13.5 is made.

13.7 The terms of clause 27 hereof shall be strictly adhered to.

14. **RAIL TROLLEYS**

14.1 The use of rail trolleys or trestle trolleys on a railway line for working on high voltage equipment will be permitted only if approved by the Technical Officer and under the conditions stipulated by him.

14.2 All costs in connection with such trolley working requested by the Contractor shall, unless otherwise agreed, be borne by the Contractor, excluding the costs of any train protection services normally provided free of charge by Transnet.

15. **SIGNAL TRACK CIRCUITS**

15.1 Where signal track circuits are installed, the Contractor shall ensure that no material capable of conducting an electrical current makes contact between rails of a railway line/lines.

15.2 No signal connections on track-circuited tracks shall be severed without the Technical Officer's knowledge and consent.

16. **PENALTY FOR DELAYS TO TRAINS**

16.1 If any trains are delayed by the Contractor and the Technical Officer is satisfied that the delay was avoidable, a penalty will be imposed on the Contractor of R5 000 per hour or part thereof for the period of delay, irrespective of the number of trains delayed.

**PART B - ADDITIONAL SPECIFICATION FOR WORK NEAR HIGH-VOLTAGE ELECTRICAL EQUIPMENT**

17. **GENERAL**

17.1 This specification is based on the contents of Transnet's publication SAFETY INSTRUCTIONS, HIGH-VOLTAGE ELECTRICAL EQUIPMENT, as amended, a copy of which will be made available on loan to the Contractor for the duration of the contract. These instructions apply to all work near live high-voltage equipment maintained and/or operated by Transnet, and the onus rests on the Contractor to ensure that he obtains a copy.

17.2 The Contractor's attention is drawn in particular to the contents of Part 1, Sections 1 and 2 of the Safety Instructions : High-Voltage Electrical Equipment.

17.3 The Safety Instructions : High-Voltage Electrical Equipment cover the minimum safety precautions which must be taken to ensure safe working on or near high-voltage electrical equipment, and must be

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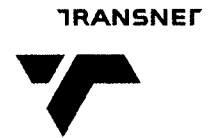
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- observed at all times. Should additional safety measures be considered necessary because of peculiar local conditions, these may be ordered by and at the discretion of the Electrical Officer (Contracts).
- 17.4 This specification must be read in conjunction with and not in lieu of the Safety Instructions : High-Voltage Electrical Equipment.
- 17.5 The Contractor shall obtain the approval of the Electrical Officer (Contracts) before any work is done which causes or could cause any portion of a person's body or the tools he is using or any equipment he is handling, to come within 3 metres of any live high-voltage equipment.
- 17.6 The Contractor shall regard all high-voltage equipment as live unless a work permit is in force.
- 17.7 Safety precautions taken or barriers erected shall comply with the requirements of the Electrical Officer (Contracts), and shall be approved by him before the work to be protected is undertaken by the Contractor. The Contractor shall, unless otherwise agreed, bear the cost of the provision of the barriers and other safety precautions required, including the attendance of Transnet staff where this is necessary.
- 17.8 No barrier shall be removed unless authorised by the Electrical Officer (Contracts).
18. **WORK ON BUILDINGS OR FIXED STRUCTURES**
- Before any work is carried out or measurements are taken on any part of a building, fixed structure or earthworks of any kind above ground level situated within 3 metres of live high-voltage equipment, the Electrical Officer (Contracts) shall be consulted to ascertain the conditions under which the work may be carried out.
- 18.2 No barrier erected to comply with the requirements of the Electrical Officer (Contracts) shall be used as temporary staging or shuttering for any part of the Works.
- 18.3 The shuttering for bridge piers, abutments, retaining walls or parapets adjacent to or over any track may be permitted to serve as a barrier, provided that it extends at least 2,5 metres above any working level in the case of piers, abutments and retaining walls and 1,5 metres above any working level in the case of parapets.
19. **WORK DONE ON OR OUTSIDE OF ROLLING STOCK, INCLUDING LOADING OR UNLOADING**
- 19.1 No person shall stand, climb or work whilst on any platform, surface or foothold higher than the normal unrestricted places of access, namely -
- (i) the floor level of trucks;
  - (ii) external walkways on diesel, steam and electric locomotives, steam heat vans, etc. and
  - (iii) walkways between coaches and locomotives.
- When in these positions, no person may raise his hands or any equipment or material he is handling above his head.

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- 19.2 In cases where the Contractor operates his own rail mounted equipment, he shall arrange for the walkways on this plant to be inspected by the Electrical Officer (Contracts) and approved, before commencement of work.
- 19.3 The handling of long lengths of material such as metal pipes, reinforcing bars, etc should be avoided, but if essential they shall be handled as nearly as possible in a horizontal position below head height.
- 19.4 The Responsible Representative shall warn all persons under his control of the danger of being near live high-voltage equipment, and shall ensure that the warning is fully understood.
- 19.5 Where the conditions in 19.1 to 19.3 cannot be observed the Electrical Officer (Contracts), shall be notified. He will arrange for suitable Safety measures to be taken. The Electrical Officer (Contracts), may in his discretion and in appropriate circumstances, arrange for a suitable employee of the Contractor to be specially trained by Transnet and at its costs, as an Authorised Person to work closer than 3 metres from live overhead conductors and under such conditions as may be imposed by the Senior responsible Electrical Engineer in Transnet.

20. **USE OF EQUIPMENT**

20.1 Measuring Tapes and Devices

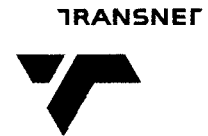
- 20.1.1 Measuring tapes may be used near live high-voltage equipment provided that no part of any tape or a person's body comes within 3 metres of the live equipment.
- 20.1.2 In windy conditions the distance shall be increased to ensure that if the tape should fall it will not be blown nearer than 3 metres from the live high-voltage equipment.
- 20.1.3 Special measuring devices longer than 2 metres such as survey staves and rods may be used if these are of non-conducting material and approved by the responsible Electrical Engineer in Transnet, but these devices must not be used within 3 metres of live high-voltage equipment in rainy or wet conditions.
- 20.1.4 The assistance of the Electrical Officer (Contracts) shall be requested when measurements within the limits defined in 20.1.1 to 20.1.3 are required.
- 20.1.5 The restrictions described in 20.1.1 to 20.1.3 do not apply on a bridge deck between permanent parapets nor in other situations where a barrier effectively prevents contact with the live high-voltage equipment.

20.2 Portable Ladders

- 20.2.1 Any type of portable ladder longer than 2 metres may only be used near live high-voltage equipment under the direct supervision of the Responsible Representative. He shall ensure that the ladder is always used in such a manner that the distance from the base of the ladder to any live high-voltage equipment is greater than the fully extended length of the ladder plus 3 metres. Where these conditions cannot be observed, the Electrical Officer (Contracts) shall be advised, and he will arrange for suitable safety measures to be taken.

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21. **CARRYING AND HANDLING MATERIAL AND EQUIPMENT**

- 21.1 Pipes, scaffolding, iron sheets, reinforcing bars and other material, which exceeds 2 metres in length, shall be carried completely below head height near live high-voltage equipment. For maximum safety two or more persons so as to maintain it as nearly as possible in a horizontal position should carry such material. The utmost care must be taking to ensure that no part of the material comes within 3 metres of any live high-voltage equipment.
- 21.2 Long lengths of wire or cable shall never be run out in conditions where a part of a wire or cable can come within 3 metres of any live high-voltage equipment unless the Electrical Officer (Contracts) has been advised and has approved appropriate safety precautions.
- 21.3 The presence of overhead power lines shall always be taken account of especially when communications lines or cables or aerial cables, stay wires, etc. are being erected above ground level.

22. **PRECAUTIONS TO BE TAKEN WHEN ERECTING OR REMOVING POLES, ANTENNAE, TREES ETC.**

- 22.1 A pole may be handled for the purpose of erection or removal near high-voltage equipment under the following conditions:
- (i) If the distance between the point at which the pole is to be erected or removed and the nearest live high-voltage equipment is more than the length of the pole plus 3 metres, the work shall be supervised by the Responsible Representative.
  - (ii) If the distance described in (i) is less than the length of the pole plus 3 metres, the Electrical Officer (Contracts) shall be consulted to arrange for an Authorised Person to supervise the work and to ensure that the pole is earthed where possible. The pole shall be kept in contact with the point of erection, and adequate precautions shall be taken to prevent contact with live high-voltage equipment.
- 22.2 The cost of supervision by an Authorised Person and the provision of earthing shall, unless otherwise agreed, be borne by the Contractor.
- 22.3 The provisions of clauses 22.1 and 22.2 shall also apply to the erection or removal of columns, antennae, trees, posts, etc.

23. **USE OF WATER**

- 23.1 No water shall be used in the form of a jet if it can make contact with any live high-voltage equipment or with any person working on such equipment.

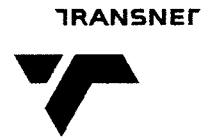
24. **USE OF CONSTRUCTION PLANT**

- 24.1 "Construction plant" entails all types of plant including cranes, piling frames, boring machines, excavators, draglines, dewatering equipment and road vehicles with or without lifting equipment.

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- 24.2 When work is being undertaken in such a position that it is possible for construction plant or its load to come within 3 metres of live high-voltage equipment, the Electrical Officer (Contracts) shall be consulted. He will arrange for an Authorised Person to supervise the work and to ensure that the plant is adequately earthed. The Electrical Officer (Contracts) will decide whether further safety measures are necessary.
- 24.3 The cost of any supervision by an Authorised Person and the provision of earthing shall, unless otherwise agreed, be borne by the Contractor.
- 24.4 When loads are handled by cranes, non-metallic rope hand lines shall be used, affixed to such loads so as to prevent their swinging and coming within 3 metres of live high-voltage equipment.
- 24.5 Clauses 24.1 to 24.4 shall apply mutatis mutandis to the use of maintenance machines of any nature.
25. **WORK PERFORMED UNDER DEAD CONDITIONS UNDER COVER OF A WORK PERMIT**
- 25.1 If the Responsible Representative finds that the work cannot be done in safety with the high-voltage electrical equipment live, he shall consult the Electrical Officer (Contracts) who will decide on the action to be taken.
- 25.2 If a work permit is issued the Responsible Representative shall -
- (i) before commencement of work ensure that the limits within which work may be carried out have been explained to him by the Authorised Person who issued the permit to him, and that he fully understands these limits.
  - (ii) sign portion C of the permit before commencement of work;
  - (iii) explain to all persons under his control the limits within which work may be carried out, and ensure that they fully understand these limits;
  - (iv) care for the safety of all persons under his control whilst work is in progress; and
  - (v) withdraw all personnel under his control from the equipment on completion of the work before he signs portion D of the work permit.
26. **TRACTION RETURN CIRCUITS IN RAILS**
- 26.1 DANGEROUS CONDITIONS CAN BE CREATED BY REMOVING OR SEVERING ANY BOND.
- 26.2 Broken rails with an air gap between the ends, and joints, at which fishplates are removed under "broken bond" conditions, are potentially lethal. The rails on either side of an air gap between rail ends on electrified lines shall not be touched simultaneously until rendered safe by Transnet personnel.
- 26.3 The Contractor shall not break any permanent bonds between rails or between rails and any structure. He shall give the Technical Officer at least 7 days written notice when removal of such bonds is necessary.
- 26.4 No work on the track which involves interference with the traction return rail circuit either by cutting or removing the rails, or by removal of bonds shall be done unless the Electrical Officer (Contracts) is consulted. He will take such precautions as may be necessary to ensure continuity of the return circuit before permitting the work to be commenced.

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27. **BLASTING**

- 27.1 The Contractor shall obtain the permission of the Electrical Officer (Contracts) before blasting, and shall give at least 14 days notice of his intention to blast.
- 27.2 No blasting shall be done in the vicinity of electrified lines unless a member of Transnet's electrical personnel is present.
- 27.3 The terms of clause 13 hereof shall be strictly adhered to.

28. **HIGH-VOLTAGE ELECTRICAL EQUIPMENT NOT MAINTAINED AND/OR OPERATED BY TRANSNET**

Where the work is undertaken on or near high-voltage electrical equipment which is not maintained and/or operated by Transnet, the Occupational Health and Safety Act No. 85 of 1993, and Regulations and Instructions, or the Mines Health and Safety Act (Act 29 of 1996), shall apply. Such equipment includes: -

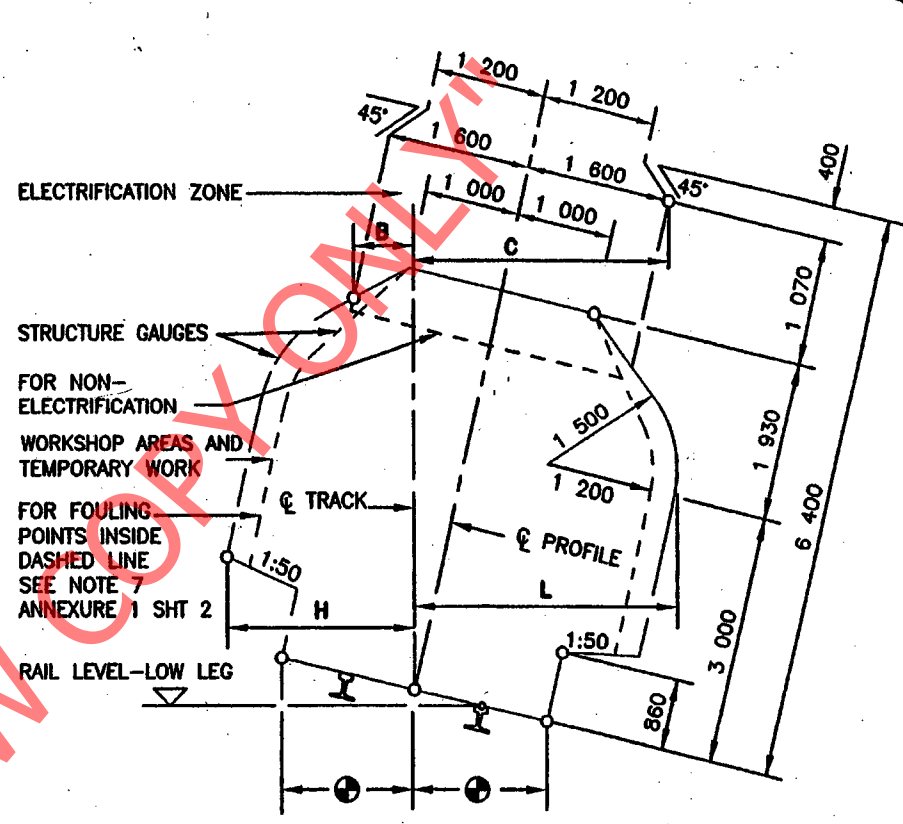
- (i) Eskom and municipal equipment;
- (ii) the Contractor's own power supplies; and
- (iii) electrical equipment being installed but not yet taken over from the Contractor.

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RADIUS (m)	WITH CANT		NO CANT	WITH CANT	
	H (mm)	L (mm)	H & L	B (mm)	C (mm)
90	2 730	3 090	2 780	1 130	2 100
100	2 700	3 030	2 750	1 140	2 050
120	2 650	2 970	2 700	1 160	2 010
140	2 620	2 920	2 660	1 175	1 990
170	2 590	2 870	2 630	1 190	1 970
200	2 570	2 820	2 600	1 205	1 950
250	2 550	2 790	2 580	1 230	1 920
300	2 540	2 760	2 560	1 250	1 900
350	2 530	2 730	2 540	1 270	1 890
400	2 520	2 710	2 530	1 290	1 875
500	2 510	2 680	2 520	1 320	1 850
600	2 500	2 660	2 510	1 340	1 830
800	2 490	2 620	2 500	1 365	1 790
1 000	2 480	2 600	2 490	1 380	1 780
1 200	2 480	2 580	2 490	1 200	1 730
1 500	2 480	2 550	2 480	1 415	1 700
2 000	2 480	2 500	2 480	1 440	1 660
3 000	2 470	2 470	2 470	1 500	1 600
>5 000	2 460	2 460	2 460	1 600	1 600



**REMARKS:**

1. H AND B IS THE REQUIRED HORIZONTAL CLEARANCE ON THE OUTSIDE OF THE CURVE BASED ON MINIMUM CANT.
2. L AND C IS THE REQUIRED HORIZONTAL CLEARANCE ON THE INSIDE OF THE CURVE BASED ON MAXIMUM CANT.
3. INTERMEDIATE VALUES MAY BE INTERPOLATED BY THE ENGINEER IN CHARGE.
4. FOR WORKSHOP AREAS AND TEMPORARY WORK, CLEARANCES H AND L MAY BE REDUCED BY 300mm.
5. SEE ANNEXURE 1 SHEET 3 FOR PLATFORM CLEARANCES.
6. ALSO REFER TO REMARKS 4 TO 8 OF ANNEXURE 1 SHEET 2.

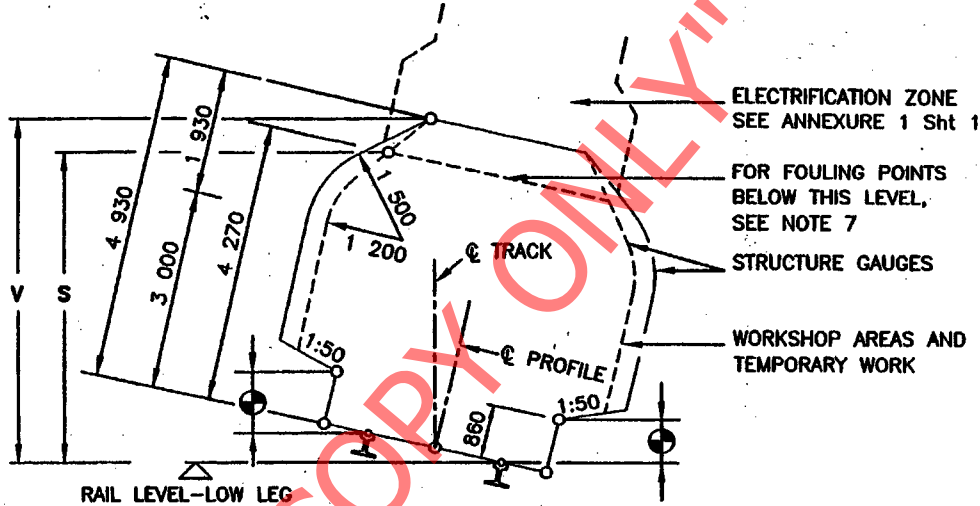
BE 97-01 Sht 1 of 5  
DATE : JUNE 2000  
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ANNEXURE 1  
 SHEET 2 of 5  
 AMENDMENT

VERTICAL CLEARANCES :  
 1 065mm TRACK GAUGE

LOCATION	RADIUS (mm)	NOT ELECTRIFIED S (mm)	ELECTRIFIED (PRESENT OR FUTURE)	
			3kV & 25kV V (mm)	50kV V (mm)
ALL AREAS OTHER THAN THOSE INDICATED BY * BELOW	100	4 470	5 050	5 400
	300	4 410	5 020	5 370
	600	4 370	5 000	5 350
	1 000	4 350	4 990	5 340
	1 500	4 310	4 960	5 310
	2 000	4 290	4 940	5 290
	>3 000	4 270	4 930	5 280
* OVER OR NEAR POINTS AND CROSSING IF REQUIRED BY ELECTRICAL IRRESPECTIVE OF RADIUS			5 650	6 000



REMARKS:

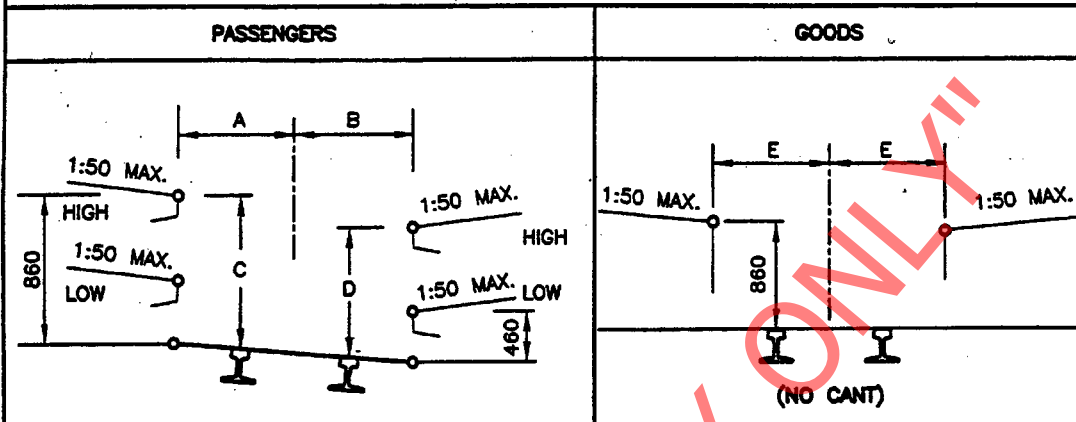
1. V IS THE REQUIRED VERTICAL CLEARANCE EXCEPT WHERE REDUCED CLEARANCE S APPLIES.
2. S IS THE MINIMUM VERTICAL CLEARANCE FOR STRUCTURES AND TEMPORARY WORK OVER NON-ELECTRIFIED LINES.
3. INTERMEDIATE VALUES MAY BE INTERPOLATED BY THE ENGINEER IN CHARGE.
4. FOR APPLICATION AT CURVES
  - 4.1 APPLY INCREASED CLEARANCES FOR CURVES TO POINTS 3m BEYOND THE ENDS OF THE CIRCULAR CURVE.
  - 4.2 REDUCE CLEARANCES AT A UNIFORM RATE OVER THE REMAINDER OF THE TRANSITION CURVE.
  - 4.3 FOR NON-TRANSITIONED CURVES REDUCE AT A UNIFORM RATE OVER A LENGTH OF 15m ALONG STRAIGHTS.
5. NEW STRUCTURES: SEE BRIDGE CODE.
6. TUNNELS: SEE DRAWING BE 82-35.
7. FOULING POINTS: SEE CLAUSE 8.1.
8. CLEARANCES ARE BASED ON 15m BOGIE CENTRES AND 21,2m VEHICLE BODY LENGTH.
9. Ⓞ SEE ANNEXURE 1 SHEET 3 FOR PLATFORM CLEARANCES.

BE 97-01 Sht 2 of 5 DATE : JUNE 2000

ANNEXURE 1  
 SHEET 3 of 5  
 AMENDMENT

CLEARANCES : PLATFORMS

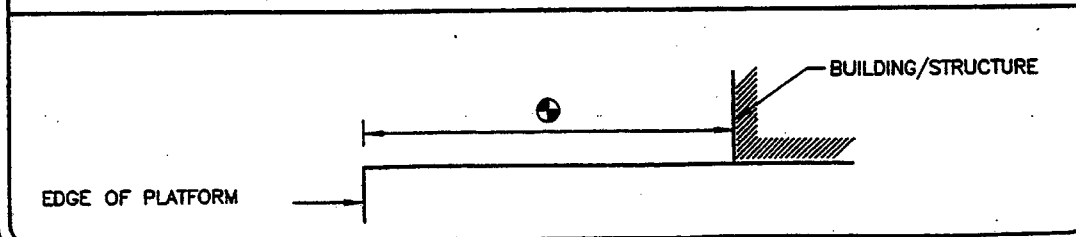
PLATFORMS : TRACK GAUGE 1 065mm



RADIUS (m)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
90	1 690	1 820	890	810	1 840
100	1 650	1 790	890	810	1 810
120	1 610	1 740	890	810	1 760
140	1 580	1 700	890	810	1 720
170	1 550	1 660	890	810	1 690
200	1 530	1 630	890	820	1 670
250	1 520	1 600	890	820	1 640
300	1 520	1 580	890	830	1 620
350	1 520	1 560	880	830	1 600
400	1 520	1 550	880	840	1 590
500	1 520	1 540	880	850	1 580
600	1 520	1 530	870	850	1 570
800	1 520	1 520	860	860	1 560
1 200	1 520	1 520	860	860	1 550
2 000	1 520	1 520	860	860	1 540
3 000	1 520	1 520	860	860	1 530
STRAIGHT	1 520	1 520	860	860	1 520

- REMARKS:
- NO CANT TO BE APPLIED EXCEPT WHEN THE GOODS PLATFORM IS ON A RUNNING LINE.
  - INTERMEDIATE VALUES MAY BE INTERPOLATED BY THE ENGINEER IN CHARGE.
  - ⊕ Bm TO MAIN STATION-BUILDINGS AND 3m TO ALL OTHER STRUCTURES.
  - TOLERANCES : SEE CLAUSE 8.0.10.

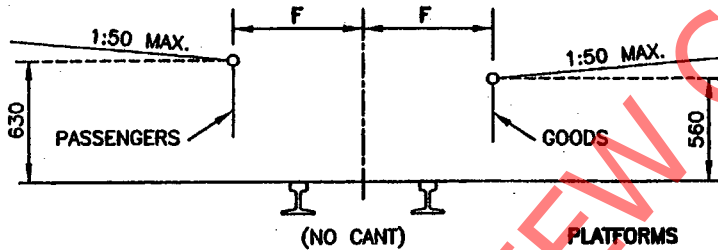
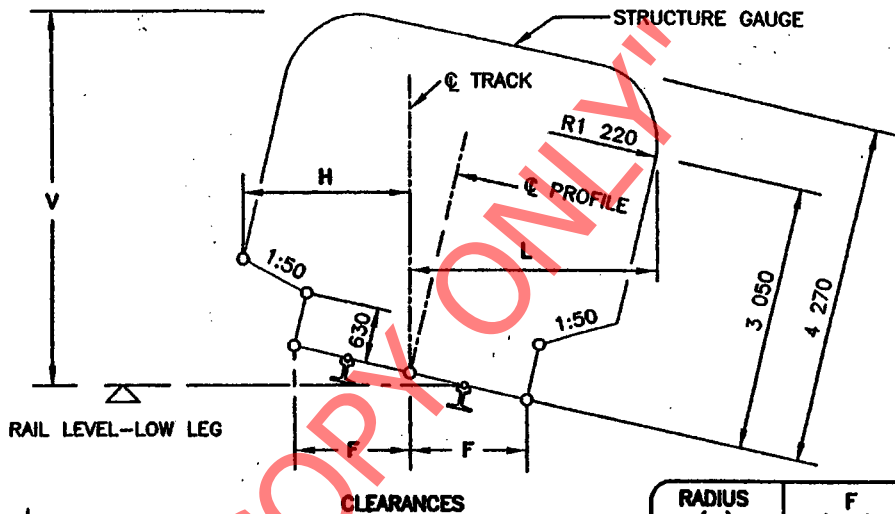
STRUCTURES ON PLATFORMS : 1 065mm AND 610mm TRACK GAUGE



ANNEXURE 1  
 SHEET 5 of 5  
 AMENDMENT

CLEARANCES : 610mm TRACK GAUGE

RADIUS (m)	WITH CANT		NO CANT	V (mm)
	H (mm)	L (mm)	H & L (mm)	
50	2 370	2 490	2 400	4 320
70	2 310	2 420	2 330	4 310
100	2 260	2 370	2 280	4 310
140	2 220	2 340	2 250	4 310
200	2 200	2 300	2 220	4 300
300	2 190	2 270	2 200	4 300
500	2 180	2 230	2 190	4 290
700	2 170	2 200	2 180	4 270
1 000	2 170	2 170	2 170	4 270
>2 000	2 160	2 160	2 160	4 270



RADIUS (m)	F (mm)
50	1 550
60	1 510
80	1 460
100	1 430
120	1 410
140	1 390
170	1 380
200	1 370
250	1 360
300	1 350
600	1 330
1 000	1 320
>2 000	1 320
STRAIGHT	1 310

REMARKS:

- H IS THE MINIMUM HORIZONTAL CLEARANCE ON THE OUTSIDE OF THE CURVE BASED ON MINIMUM CANT.
- L IS THE MINIMUM HORIZONTAL CLEARANCE ON THE INSIDE OF THE CURVE BASED ON MAXIMUM CANT.
- V IS THE MINIMUM VERTICAL CLEARANCE.
- FOR APPLICATION AT CURVES:
  - 4.1 APPLY INCREASED CLEARANCES FOR CURVES TO POINTS 2m BEYOND THE ENDS OF THE CIRCULAR CURVE.
  - 4.2 REDUCE CLEARANCES AT A UNIFORM RATE OVER THE REMAINDER OF THE TRANSITION CURVE.
  - 4.3 FOR NON-TRANSITIONED CURVES REDUCE AT A UNIFORM RATE OVER A LENGTH OF 18m ALONG STRAIGHTS.
- INTERMEDIATE VALUES MAY BE INTERPOLATED BY THE ENGINEER IN CHARGE.
- ALSO REFER TO REMARKS 5, 6 AND 7 OF ANNEXURE 1 SHEET 2.
- CLEARANCES ARE BASED ON 9 700mm BOGIE CENTRES AND 13 700mm VEHICLE BODY LENGTH.
- SEE ANNEXURE 1 SHEET 3 FOR STRUCTURES ON PLATFORMS.