

**TRANSNET**



*freight rail*

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

**REQUEST FOR  
QUOTATION**

**KBY/52815**

**KBC\_13490**

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/52815**

**FOR THE PROVISION OF: FOR INFRA RED THERMO GRAPHIC SCANNING OF  
OVER HEAD TRACK EQUIPMENT FROM DE AAR TO  
BEAUFORT WEST FOR A PERIOD OF 7 DAYS.**

**FOR DELIVERY TO: THE INFRA MANAGER KIMBERLEY**

**ISSUE DATE: 06 MARCH 2014**

**CLOSING DATE: 15 APRIL 2014**

**CLOSING TIME: 10:00**

**Section 1**  
**NOTICE TO BIDDERS**

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

**METHOD:** Tender Box  
**CLOSING VENUE:** Transnet Freight Rail, Property Management Building, Office no. 2, Austen Street, Beaconsfield

**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 system is applicable to all bids:

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

The value of this bid is estimated to be below R1 000 000.00 (all applicable taxes included) and therefore the **80/20** system shall be applicable.

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

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

2

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

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

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

- a) Respondents are warned that a response will be liable for disqualification should any attempt be made by a Respondent either directly or indirectly to canvass any officer(s) or employee of Transnet in respect of this RFQ between the closing date and the date of the award of the business.
- b) A Respondent may, however, before the closing date and time, direct any written enquiries relating to the RFQ to the following Transnet employee:  
Name: Herman Conradie      Email: Herman.Conradie@transnet.net
- c) Respondents may also, at any time after the closing date of the RFQ, communicate with Maggie Pain (Admin Support) on any matter relating to its RFQ response:  
Telephone: 053 838 3341      Email: Maggie.Pain@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 short-listed Respondents.

**11 Binding Offer**

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

**12 Disclaimers**

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

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

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:

Criterion/Criteria	Explanation
<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 80/20 preference point system</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 30 [thirty] days from the closing date of this RFQ.

This RFQ is valid until \_\_\_\_\_.

#### 16 Banking Details

BANK: \_\_\_\_\_

BRANCH NAME / CODE: \_\_\_\_\_

ACCOUNT HOLDER: \_\_\_\_\_

ACCOUNT NUMBER: \_\_\_\_\_

#### 17 Company Registration

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

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

#### 18 Disclosure of Prices Quoted

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

YES  NO

<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.

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

***Failure to provide all these 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. Please confirm submission of these Returnable Documents by so indicating [Yes or No] in the table below:

Returnable Documents	Submitted [Yes or No]
SECTION 1 : Notice to Bidders	
<ul style="list-style-type: none"> <li>- Valid and original B-BBEE Verification Certificate or certified copy thereof [Large Enterprises and QSEs] Note: failure to provide a valid B-BBEE Verification Certificate at the closing date and time of the RFQ will result in an automatic score of zero for preference</li> </ul>	
<ul style="list-style-type: none"> <li>- Valid and original B-BBEE certificate/sworn affidavit or certified copy thereof from auditor, accounting officer or SANAS accredited Verification Agency [EMEs] Note: failure to provide a valid B-BBEE Verification Certificate at the closing date and time of the RFQ will result in an automatic score of zero being allocated for preference</li> </ul>	
<ul style="list-style-type: none"> <li>- 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</li> </ul>	
<ul style="list-style-type: none"> <li>- Original valid Tax Clearance Certificate [Consortia / Joint Ventures must submit a separate Tax Clearance Certificate for each party]</li> </ul>	
SECTION 2 : Quotation Form	
SECTION 3: Vendor Application Form	
<ul style="list-style-type: none"> <li>• Original cancelled cheque or bank verification of banking details</li> </ul>	
<ul style="list-style-type: none"> <li>• Certified copies of IDs of shareholder/directors/members [as applicable]</li> </ul>	
<ul style="list-style-type: none"> <li>• Certified copies of the relevant company registration documents from Companies and Intellectual Property Commission (CIPC)</li> </ul>	
<ul style="list-style-type: none"> <li>• Certified copies of the company's shareholding/director's portfolio</li> </ul>	
<ul style="list-style-type: none"> <li>• Entity's letterhead</li> </ul>	
<ul style="list-style-type: none"> <li>• Certified copy of VAT Registration Certificate [RSA entities only]</li> </ul>	
<ul style="list-style-type: none"> <li>• Certified copy of valid Company Registration Certificate [if applicable]</li> </ul>	
<ul style="list-style-type: none"> <li>•</li> </ul>	
<ul style="list-style-type: none"> <li>•</li> </ul>	

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

6

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

Returnable Documents	Submitted [Yes or No]
ANNEXURE A – B-BBEE Preference Points Claim Form	
ANNEXURE B – Project Specifications	
E4E - SAFETY ARRANGEMENTS AND PROCEDURAL COMPLIANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT (ACT 85 OF 1993) AND APPLICABLE REGULATIONS	
E7/1 – SPECIFICATION FOR WORKS ON, OVER, UNDER OR ADJACENT TO RAILWAY LINES AND NEAR HIGH VOLTAGE EQUIPMENT	

"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 [available on request]; and
- any other standard or special conditions mentioned and/or embodied in this Request for Quotation.

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

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

"PREVIEW COPY ONLY"

**SERVICE FEES AND COST**

I/We quote as follows for the service required excluding VAT: See Specifications

Item	Description	Unit	Qty	Rate	Amount
1	Scanning and compilation of exception reports	Km			
2	Accommodation	Day			
3	Travelling	Km			
4	Train cancellation by TFR	Per Cancellation			
5	Waiting time for train	Hr			
	<i>Other: Specify</i>				
				<b>Tender Amount:</b>	
				<b>14% VAT:</b>	
				<b>Total Tender Price:</b>	

**Total Tender Price in Words:**

---



---

**Delivery Lead-Time from date of purchase order:** \_\_\_\_\_ [days/weeks]

**Notes to Pricing:**

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

### Section 3

## Transnet Supplier Declaration/Application

The Financial Director or Company Secretary

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

1. Complete the "Supplier Declaration Form" (SDF) on page 2 of this letter
2. **Original** cancelled cheque **OR** letter from the bank verifying banking details (**with bank stamp**)
3. **Certified** copy of Identity document of Shareholders/Directors/Members (where applicable)
4. **Certified** copy of certificate of incorporation, CM29 / CM9 (name change)
5. **Certified** copy of share Certificates of Shareholders, CK1 / CK2 (if CC)
6. A letter with the company's letterhead confirming physical and postal addresses
7. **Original** or **certified** copy of SARS Tax Clearance certificate and Vat registration certificate
8. A signed letter from the Auditor / Accountant confirming most recent annual turnover and percentage black ownership in the company **AND/OR** BBBEE certificate and detailed scorecard from an accredited rating agency (SANAS member).

NB: **Failure to submit the above documentation will delay the vendor creation process.**  
 • Where applicable, the respective Transnet business unit processing your application may request further information from you. E.g. proof of an existence of a Service/Business contract between your business and the respective Transnet business unit etc.

#### **IMPORTANT NOTES:**

- a) **If your annual turnover is less than R5 million**, then in terms of the DTI codes, you are classified as an Exempted Micro Enterprise (EME). If your company is classified as an EME, please include in your submission, a signed letter from your Auditor / Accountant confirming your company's most recent annual turnover is less than R5 million and percentage of black ownership and black female ownership in the company **AND/OR** BBBEE certificate and detailed scorecard from an accredited rating agency (e.g. permanent SANAS Member), should you feel you will be able to attain a better BBBEE score.
- b) **If your annual turnover is between R5 million and R35million**, then in terms of the DTI codes, you are classified as a Qualifying Small Enterprise (QSE) and you claim a specific BBBEE level based on any 4 of the 7 elements of the BBBEE score-card, please include your BEE certificate in your submission as confirmation of your status.  
NB: BBBEE certificate and detailed scorecard should be obtained from an accredited rating agency (e.g. permanent SANAS Member).
- c) **If your annual turnover is in excess of R35million**, then in terms of the DTI codes, you are classified as a Large Enterprise and you claim a specific BEE level based on all seven elements of the BBBEE generic score-card. Please include your BEE certificate in your submission as confirmation of your status.  
NB: BBBEE certificate and detailed scorecard should be obtained from an accredited rating agency (permanent SANAS Member).
- d) **To avoid PAYE tax being automatically deducted from any invoices received from you**, you must also contact the Transnet person who lodged this request on your behalf, so as to be correctly classified in terms of Tax legislation.
- e) Unfortunately, **No payments can be made to a vendor** until the vendor has been registered, and no vendor can be registered until the vendor application form, together with its supporting documentation, has been received and processed.
- f) **Please return the completed Supplier Declaration Form (SDF) together with the required supporting documents mentioned above to the Transnet Official who is intending to procure your company's services/products in order that he/she should complete and Internal Transnet Departmental Questionnaire before referring the matter to the appropriate Transnet Vendor Master Office.**

Regards,

## Supplier Declaration 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 E-Mail Address							
Company Website Address							
Bank Name					Bank Account Number		
Postal Address						Code	
Physical Address						Code	
Contact Person							
Designation							
Telephone							
Email							
Annual Turnover Range (Last Financial Year)		< R5 Million	R5-35 million		> R35 million		
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 Service Supplied (E.G.: Stationery/Consulting)							
<b>BEE Ownership Details</b>							
% Black Ownership		% Black women ownership		% Disabled person/s ownership			
Does your company have a BEE certificate		Yes		No			
What is your broad based BEE status (Level 1 to 9 / Unknown)							
How many personnel does the firm employ		Permanent		Part time			
Transnet Contact Person							
Contact number							
Transnet operating division							
<b>Duly Authorised To Sign For And On Behalf Of Firm / Organisation</b>							
Name					Designation		
Signature					Date		
<b>Stamp And Signature Of Commissioner Of Oath</b>							
Name					Date		
Signature					Telephone No.		

**RFQ KBY/52815 FOR THE SUPPLY OF:  
FOR INFRA RED THERMO GRAPHIC SCANNING OF OVER HEAD TRACK EQUIPMENT FROM DE AAR  
TO BEAUFORT WEST FOR A PERIOD OF 7 DAYS.  
FOR A PERIOD OF 7 DAYS**

**ANNEXURE A: B-BBEE PREFERENCE POINTS CLAIM FORM**

This preference form contains general information and serves as a claim for preference points for Broad-Based Black Economic Empowerment [**B-BBEE**] Status Level of Contribution.

---

**1. INTRODUCTION**

- 1.1 A total of 20 preference points shall be awarded for B-BBEE Status Level of Contribution.
- 1.2 Failure on the part of a Bidder to fill in and/or to sign this form and submit a B-BBEE Verification Certificate from a Verification Agency accredited by the South African Accreditation System [**SANAS**] or a Registered Auditor approved by the Independent Regulatory Board of Auditors [**IRBA**] or an Accounting Officer as contemplated in the Close Corporation Act [**CCA**] together with the bid will be interpreted to mean that preference points for B-BBEE Status Level of Contribution are not claimed.
- 1.3 Transnet reserves the right to require of a Bidder, either before a Bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by Transnet.

**2. GENERAL DEFINITIONS**

- 2.1 "**all applicable taxes**" include value-added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies;
- 2.2 "**B-BBEE**" means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- 2.3 "**B-BBEE status of contributor**" means the B-BBEE status received by a measured entity based on its overall performance using the relevant scorecard contained in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
- 2.4 "**Bid**" means a written offer in a prescribed or stipulated form in response to an invitation by Transnet for the provision of goods, works or services;
- 2.5 "**Broad-Based Black Economic Empowerment Act**" means the Broad-Based Black Economic Empowerment Act, 2003 [Act No. 53 of 2003];
- 2.6 "**comparative price**" means the price after the factors of a non-firm price and all unconditional discounts that can be utilised have been taken into consideration;
- 2.7 "**consortium or joint venture**" means an association of persons for the purpose of combining their expertise, property, capital, efforts, skills and knowledge in an activity for the execution of a contract;

- 2.8 **"contract"** means the agreement that results from the acceptance of a bid by Transnet;
- 2.9 **"EME"** means any enterprise with an annual total revenue of R5 [five] million or less as per the 2007 version of the B-BBEE Codes of Good Practice and means any enterprise with an annual total revenue of R10 [ten] million or less as per the Revised Codes of Good Practice issued on 11 October 2013 in terms of Government Gazette No. 36928;
- 2.10 **"firm price"** means the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs and excise duty and any other duty, levy, or tax, which, in terms of the law or regulation, is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract;
- 2.11 **"functionality"** means the measurement according to predetermined norms, as set out in the bid documents, of a service or commodity that is designed to be practical and useful, working or operating, taking into account, among other factors, the quality, reliability, viability and durability of a service and the technical capacity and ability of a bidder;
- 2.12 **"non-firm prices"** means all prices other than "firm" prices;
- 2.13 **"person"** includes reference to a juristic person;
- 2.14 **"QSE"** means any enterprise with an annual total revenue between R5 [five] million and R35 [thirty five] million as per the 2007 version of the B-BBEE Codes of Good Practice and means any enterprise with an annual total revenue of between R10 [ten] million and R50 [fifty] million as per the Revised Codes of Good Practice issued on 11 October 2013 in terms of Government Gazette No. 36928
- 2.15 **"rand value"** means the total estimated value of a contract in South African currency, calculated at the time of bid invitations, and includes all applicable taxes and excise duties;
- 2.16 **"subcontract"** means the primary contractor's assigning or leasing or making out work to, or employing another person to support such primary contractor in the execution of part of a project in terms of the contract;
- 2.17 **"total revenue"** bears the same meaning assigned to this expression in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Empowerment Act and promulgated in the Government Gazette on 9 February 2007;
- 2.18 **"trust"** means the arrangement through which the property of one person is made over or bequeathed to a trustee to administer such property for the benefit of another person; and
- 2.19 **"trustee"** means any person, including the founder of a trust, to whom property is bequeathed in order for such property to be administered for the benefit of another person.

### 3. ADJUDICATION USING A POINT SYSTEM

- 3.1 The Bidder obtaining the highest number of total points for the evaluation criteria as enumerated in Section 2 of the RFP will be awarded the contract, unless objective criteria justifies the award to another bidder.
- 3.2 Preference points shall be calculated after prices have been brought to a comparative basis taking into account all factors of non-firm prices and all unconditional discounts.

- 3.3 Points scored will be rounded off to 2 [two] decimal places.
- 3.4 In the event of equal points scored, the Bid will be awarded to the Bidder scoring the highest number of preference points for B-BBEE.
- 3.5 However, when functionality is part of the evaluation process and two or more Bids have scored equal points including equal preference points for B-BBEE, the successful Bid will be the one scoring the highest score for functionality.
- 3.6 Should two or more Bids be equal in all respect, the award shall be decided by the drawing of lots.

"PREVIEW COPY ONLY"

#### 4. POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTION

- 4.1 In terms of the Preferential Procurement Regulations, 2011, preference points shall be awarded to a Bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	Number of Points [Maximum 20]
1	20
2	18
3	16
4	12
5	8
6	6
7	4
8	2
Non-compliant contributor	0

- 4.2 Bidders who qualify as EMEs in terms of the 2007 version of the Codes of Good Practice must submit a certificate issued by an Accounting Officer as contemplated in the CCA or a Verification Agency accredited by SANAS or a Registered Auditor. Registered auditors do not need to meet the prerequisite for IRBA's approval for the purpose of conducting verification and issuing EME's with B-BBEE Status Level Certificates.
- 4.3 Bidders who qualify as EMEs in terms of the Revised Codes of Good Practice issued on 11 October 2013 in terms of Government Gazette No. 36928 are only required to obtain a sworn affidavit on an annual basis confirming that the entity has an Annual Total Revenue of R10 million or less and the entity's Level of Black ownership.
- 4.4 In terms of the 2007 version of the Codes of Good Practice, Bidders other than EMEs must submit their original and valid B-BBEE status level verification certificate or a certified copy thereof, substantiating their B-BBEE rating issued by a Registered Auditor approved by IRBA or a Verification Agency accredited by SANAS.
- 4.5 In terms of the Revised Codes of Good Practice issued on 11 October 2013 in terms of Government Gazette No. 36928, Bidders who qualify as QSEs are only required to obtain a sworn affidavit on an annual basis confirming that the entity has an Annual Total Revenue of R50 million or less and the entity's Level of Black ownership. Large enterprises must submit their original and valid B-BBEE status level verification certificate or a certified copy thereof, substantiating their B-BBEE rating issued by a Registered Auditor approved by IRBA or a Verification Agency accredited by SANAS.
- 4.6 A trust, consortium or joint venture will qualify for points for its B-BBEE status level as a legal entity, provided that the entity submits its B-BBEE status level certificate.
- 4.7 A trust, consortium or joint venture will qualify for points for their B-BBEE status level as an unincorporated entity, provided that the entity submits their consolidated B-BBEE scorecard as if they were a group structure and that such a consolidated B-BBEE scorecard is prepared for every separate bid.
- 4.8 Tertiary institutions and public entities will be required to submit their B-BBEE status level



certificates in terms of the specialised scorecard contained in the B-BBEE Codes of Good Practice.

- 4.9 A person will not be awarded points for B-BBEE status level if it is indicated in the Bid documents that such a Bidder intends subcontracting more than 25% [twenty-five per cent] of the value of the contract to any other enterprise that does not qualify for at least the same number of points that such a Bidder qualifies for, unless the intended subcontractor is an EME that has the capability and ability to execute the subcontract.
- 4.10 A person awarded a contract may not subcontract more than 25% [twenty-five per cent] of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level than the person concerned, unless the contract is subcontracted to an EME that has the capability and ability to execute the subcontract.
- 4.11 Bidders are to note that in terms of paragraph 2.6 of Statement 000 of the Revised Codes of Good Practice issued on 11 October 2013 in terms of Government Gazette No. 36928, any representation made by an entity about its B-BBEE compliance must be supported by suitable evidence or documentation. As such, Transnet reserves the right to request such evidence or documentation from Bidders in order to verify any B-BBEE recognition claimed.

## 5. B-BBEE STATUS AND SUBCONTRACTING

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

B-BBEE Status Level of Contributor \_\_\_\_\_ = \_\_\_\_\_ [maximum of 20 points]

Note: Points claimed in respect of this paragraph 5.1 must be in accordance with the table reflected in paragraph 4.1 above and must be substantiated by means of a B-BBEE certificate issued by a Verification Agency accredited by SANAS or a Registered Auditor approved by IRBA or a sworn affidavit in the case of an EME or QSE.

### 5.2 Subcontracting:

Will any portion of the contract be subcontracted? YES/NO [delete which is not applicable]

If YES, indicate:

- (i) What percentage of the contract will be subcontracted? .....
- (ii) The name of the subcontractor .....
- (iii) The B-BBEE status level of the subcontractor .....
- (iv) Is the subcontractor an EME? YES/NO

### 5.3 Declaration with regard to Company/Firm

- (i) Name of Company/Firm.....
- (ii) VAT registration number.....
- (iii) Company registration number.....
- (iv) Type of Company / Firm [TICK APPLICABLE BOX]

Partnership/Joint Venture/Consortium

One person business/sole propriety

Close Corporations

Company (Pty) Ltd

(v) Describe Principal Business Activities

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

(vi) Company Classification [TICK APPLICABLE BOX]

- Manufacturer
- Supplier
- Professional Service Provider
- Other Service Providers, e.g Transporter, etc

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

**BID DECLARATION**

I/we, the undersigned, who warrants that he/she is duly authorised to do so on behalf of the company/firm, certify that points claimed, based on the B-BBEE status level of contribution indicated in paragraph 4 above, qualifies the company/firm for the preference(s) shown and I / we acknowledge that:

- (i) The information furnished is true and correct.
- (ii) In the event of a contract being awarded as a result of points claimed as shown in paragraph 6 above, the contractor may be required to furnish documentary proof to the satisfaction of Transnet that the claims are correct.
- (iii) If the B-BBEE status level of contribution has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, Transnet may, in addition to any other remedy it may have:
  - (a) disqualify the person from the bidding process;
  - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
  - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
  - (d) restrict the Bidder or contractor, its shareholders and directors, and/or associated entities, or only the shareholders and directors who acted in a fraudulent manner, from obtaining business from Transnet for a period not exceeding 10 years, after the *audi alteram partem* [hear the other side] rule has been applied; and/or
  - (e) forward the matter for criminal prosecution.

"PREVIEW COPY ONLY"

**WITNESSES:**

- 1. ....
- 2. ....

SIGNATURE OF BIDDER

DATE:.....

COMPANY NAME: .....

ADDRESS:.....



# **TRANSNET**

*freight rail*

**A division of Transnet Limited**

**INFRASTRUCTURE**

**PROJECT SPECIFICATION**

---

**PROJECT SPECIFICATION FOR INFRA-RED THERMOGRAPHIC SCANNING OF  
OVERHEAD TRACK EQUIPMENT UNDER CONTROL OF DEPOT ENGINEERING  
MANAGER KIMBERLEY SOUTH**

---

"PREVIEW COPY ONLY"

## INDEX

SECTION	CONTENTS	PAGE
1.0	SCOPE	3
2.0	STANDARDS	3
3.0	DESCRIPTIION OF WORK	3
4.0	CONTRACTUAL OBLIGATIONS	3
5.0	INSTALLATION	5
6.0	WORK TO BE DONE BY TFR	5
7.0	TENDERING PROCEDURES	6
8.0	ANNEXURE1:SCHEDULE OF QUANTITIES	7
9.0	ANNEXURE2:KIMBERLEY SOUTH SECTION	8

"PREVIEW COPY ONLY"

## **1.0 SCOPE**

This specification covers the requirements for infra-red thermal scanning of railway electrification equipment, processing of data and production of results for the purpose of preventive maintenance on 25kv AC overhead track equipment, section from De Aar to Beaufort West under the control of Depot Engineer, Kimberley South.

## **2.0 STANDARDS**

The following publications are referred to herein and shall apply:

- 2.1 **E7/1** Specification for works on, over, under or adjacent to railway lines and near high voltage equipment
- 2.2 **E4E** Safety arrangements and procedural compliance with the Occupational Health and Safety Act, Act 85 of 1993 and regulations
- 2.3 **BBD5814** Specification for Infra-red Thermographic Scanning of Overhead Track Equipment

## **3.0 DESCRIPTION OF WORK**

The contractor shall perform the following:

- 3.1 Scan the overhead track equipment on the 25kV section from De Aar (0 km) to Beaufort West (km258). The estimated total distance to be scanned is 258KM
- 3.2 Perform the job only during the night. Transnet Freight Rail does not guarantee the estimated km scanned will be achieved on one night only. The depot will therefore determine the section to be scanned per night to suit their need
- 3.3 The Technical Officer will determine the working areas where the scanning of the overhead track equipment shall be done, and shall instruct the Contractor regarding the priorities and programme for performance of work with regular updates
- 3.4 Mount and dismount under supervision, the infra red camera onto or from stationary locomotive
- 3.5 The contractor shall test his/her equipment prior to starting a scanning trip
- 3.6 The contractor shall set the infra red camera to clearly view the conductors and or track switches to be scanned.
- 3.7 The contractor shall record the exception events and GPS co-ordinates continuously.
- 3.8 After every scan, the contractor shall label the recordings according to the depot name and section scanned
- 3.9 The contractor shall sign the site diary and site instruction book before every scanning trip

## **4.0 CONTRACTUAL OBLIGATIONS**

- 4.1 Over and above the conditions mentioned in the general conditions of contract, the Contractor shall also be responsible for the conditions mentioned hereunder.

- 4.2 The Contractor shall take full responsibility for and shall warrant the suitability and operational compliance of the equipment provided by him for performing the work in accordance with the contract specifications.
- 4.3 The Contractor shall be competent to perform the work required in terms of the contract and shall warrant the competence of persons appointed by him to perform the work.
- 4.4 The Contractor shall perform all the duties and functions required in terms of the contract and shall comply with all reasonable instructions and directions of the Technical Officer or his duly authorised deputy in respect of performing the contract work and compliance with Transnet Freight Rail's health and safety requirements.
- 4.5 The Contractor shall not make use of any sub-contractor to perform the works or parts thereof without prior permission from the Project Manager or Technical Officer.
- 4.6 The Contractor shall supply a site diary (triplicate copies). This book shall be used to record daily happening such as identifying the sections scanned, and any unusual events during the period of the work. Any delays to the work shall also be recorded, such as delays caused by poor weather conditions, delays caused by scanning being cancelled, etc. The appointed Project Manager or Technical Officer must be informed and such delays must be countersigned by the Transnet Freight Rail depot personnel accompanying the scan.
- 4.7 The Contractor shall supply a site instruction book (triplicate copies). This book shall be used to record any instructions to the Contractor regarding problems encountered on site – for example the quality of work or the placement of equipment. This book shall be filled in by the Project Manager, Technical Officer or deputy Technical Officer and must be countersigned by the Contractor.
- 4.8 Both books mentioned above shall be the property of Transnet Freight Rail and shall be handed over to the Project Manager or Technical Officer on the very last day of submitting payment for work done.
- 4.9 Should a planned equipment scan be cancelled at short notice (less than 12 hours) through no fault of the Contractor, the Contractor may claim compensation for his staff at the agreed rate in the schedule of quantities and prices.
- 4.10 The Contractor is responsible for transport of his staff and equipment between centres/infra areas.
- 4.11 All post-processed reports shall be submitted to the Technical Officer within two weeks after a successful scan within a depot's boundaries. This may exclude sections that have to be rescanned for whatever reason, and which were done later or will still be done. Failure to comply with this clause will result in a 0.15% penalty per day calculated on the normal payment for sections represented in the delayed report.
- 4.12 Payment for reports shall be made after the information is verified. Transnet Freight Rail will, prior to payment but within ten calendar days from receiving the reports, perform verification of the physical defect locations and of data format purity. Should quality shortcomings be identified, the Contractor will be expected to redo the post processing where after the Transnet Freight Rail will repeat the verification process. If there is no improvement, the non-performance clause, which forms part of the general conditions of contract shall govern/ enforced.

## **5.0 INSTALLATION**

- 5.1 The Contractor shall design clamps and fasteners that will fit to all Transnet Freight Rail's locomotive consist. The design shall be such as to facilitate the equipment to be quickly and securely attached near "LIVE" equipment while stationary in a yard or station area, and in compliance with Transnet Freight Rail's safety requirements. If there is switching required Transnet Freight Rail will arrange
- 5.2 No drilling or other method shall be used which cause damage to the locomotive.
- 5.3 The Contractor shall, under supervision, be responsible for mounting, connecting his/her equipment in such a way that the wires are not preventing the staff free movement and dismantling of the equipment from the locomotive.

## **5.0 WORK TO BE DONE BY TRANSNET FREIGHT RAIL**

- 6.1 Transnet Freight Rail shall, subject to its access control, security and safety arrangements; provide to the Contractor such access as is required to perform the works.
- 6.2 Transnet Freight Rail will provide transport for the Contractor's staff between the point of rendezvous as agreed and the point of arrival or departure of the train within a maximum range of 20km.
- 6.3 Transnet Freight Rail's Electrical Officer shall be available to co-ordinate the Contractor's performance of the work and to supervise the Contractor performing work in close proximity to "LIVE" overhead electrical equipment, such as mounting or detaching the equipment onto- or from a locomotive.
- 6.4 The Technical Officer or his deputy shall determine on which train and/or locomotive the infrared scanning equipment shall be mounted in order to optimise, as far as possible, the scanning time. He/she shall advise the Contractor seven (7) calendar days in advance of the section, time and rendezvous for accompanying the Contractor to the locomotive.
- 6.5 The Technical Officer or his/her deputy shall do verification audits on each report, before making payments and dispatching reports to respective depots.
- 6.6 The Technical Officer or his deputy accompanying the Contractor shall monitor and record all scanning operations and certify payment therefore in accordance with the contract.
- 6.7 The Technical Officer or his deputy shall ensure that parties involved in making payments sign the site diary and instruction book accordingly.
- 6.8 Transnet authorization Category-C is required of any person who works on electrification equipment near (within 3-m of) "live" equipment. A Category-C authority certificate is issued on the successful completion of a training module and written test to persons who are working near "LIVE" equipment. The training module is presented over four days. The arrangements of these training must be arranged prior to commencing date. This Training is for the account of the contractor and must be directly arranged with the Esselen Park Training Centre at telephone 011 929 1571 or per facsimile 011 929 1229.

## 7.0 TENDERING PROCEDURE

- 7.1 All prospective tenderers shall with their tenders submit proposals of how they will operate to achieve the specified results and also submit specimens of reports to be produced
- 7.2 Tenders shall submit equipment type test certificate as specified with the Tender. These shall be in English.
- 7.3 Tenderers shall complete the attached Schedule of Quantities and Prices. Items not reflected in this Schedule, but covered in the Project Specification or agreed at the inspection meeting shall be added to the Schedule of Work and Price by the Tenderer and quoted for accordingly
- 7.4 Tenderers shall indicate clause-by-clause compliance with the specification. This shall take the form of a separate document listing all the specifications clause numbers indicating the individual statement of compliance or no compliance. This document can be used by Tenderers to elaborate on their clause
- 7.5 Tenders shall motivate a statement of non-compliance
- 7.6 Where equipment offered does not comply with standards or publications referred to in the specification, Tenderers shall state which standards apply and submit a copy in English
- 7.7 An addendum reflecting changes to the Project Specification and Schedule of Quantities and Prices may be forwarded to Tenderers after the site meeting and Tenderers should quote accordingly
- 7.8 The quantities in Schedule of Prices and quantities are estimated and may be more or less than stated.
- 7.9 The contract price shall be ascertained as the sum of all scanning costs, report costs, travelling, accommodation and other associated costs





**9.0 Annexure 2: Kimberley South Sections**

<b>Section from</b>	<b>Section To</b>	<b>Scan</b>	<b>Approx. km</b>	<b>Elect Type</b>	<b>Method of scanning</b>
De Aar	Beaufort West	Once	258	25kV AC	Heavy haul

"PREVIEW COPY ONLY"



A division of Transnet limited

## INFRASTRUCTURE

## SPECIFICATION

# REQUIREMENTS FOR INFRARED THERMO GRAPHIC SCANNING OF OVERHEAD TRACK EQUIPMENT.

### Statement of authorisation:

There is no SANS specification available for similar material / equipment and as far as can be ascertained no other specification / standard suitably covers Transnet Freight Rail requirements. The specification has been compiled in a manner which shall favour / encourage local manufacture of material / equipment to a maximum degree.

This specification covers the requirements for infrared thermal scanning of 3kV, 25kV and 50kV of railway electrification equipment, the processing of the data and presentation of results for the purpose of preventative maintenance.

Author: Junior Manager – Infrastructure Engineering D.G. Naidoo

Authorised: pp Principal Engineer – Infrastructure Engineering C.F. Du Toit

Two handwritten signatures in black ink, one above the other, with dotted lines underneath each signature.

Date: 2009-03-10

Circulation restricted to: Infrastructure Maintenance  
Infrastructure Engineering  
Relevant third parties

This page is for control purposes only and shall not be issued with the specification.



A division of Transnet limited

**INFRASTRUCTURE**

**SPECIFICATION**

**REQUIREMENTS FOR INFRARED THERMO GRAPHIC  
SCANNING OF OVERHEAD TRACK EQUIPMENT.**

This specification covers the requirements for infrared thermal scanning of 3kV, 25kV and 50kV of railway electrification equipment, the processing of the data and presentation of results for the purpose of preventative maintenance.

© This document as a whole is protected by copyright. The information herein is the sole property of Transnet Ltd. It may not be used, disclosed or reproduced in part or in whole in any manner whatsoever, except with the written permission of and in a manner permitted by the proprietors.

**INDEX**

1.0 SCOPE..... 3  
2.0 GENERAL ..... 3  
3.0 SERVICE CONDITIONS..... 3  
4.0 TECHNICAL REQUIREMENTS..... 3  
5.0 REPORTS..... 4  
6.0 TENDER PROCEDURE..... 5  
7.0 ANNEXURES..... 6  
ANNEXURE 1 - INFORMATION REQUIRED IN DATABASE FORMAT..... 7  
ANNEXURE 2 - FORMAT OF HARD COPY REPORT-1..... 8  
ANNEXURE 3 - FORMAT OF HARD COPY REPORT-2..... 9  
ANNEXURE 4 - STANDARD DESCRIPTIONS OF COMPONENTS..... 10

"PREVIEW COPY ONLY"

## 1.0 SCOPE.

This specification covers the technical requirements for infrared thermo graphic scanning of railway electrification equipment, processing of data and the presentation of results for the purpose of preventive maintenance on 3kV DC, 25kV AC and 50kV AC overhead track equipment of Transnet Freight Rail.

## 2.0 GENERAL

Transnet Freight Rail requires condition assessment information over its 13 000km of overhead electrification equipment to eliminate the risk to service reliability. The data must be in compatible format for Transnet Freight Rail's Infrastructure Maintenance Management system, and be usable to maintenance repair teams.

## 3.0 SERVICE CONDITIONS.

The infrared scanning shall be done under the following conditions:

- 3.1 Altitude : 0 - 1800m above sea level.
- 3.2 Ambient temperature : -5 °C to +45 °C.
- 3.3 Relative humidity : 10% to 90%.
- 3.4 Lightning conditions : 11 flashes per square km per annum.

## 4.0 TECHNICAL REQUIREMENTS.

- 4.1 The contractor shall use infrared imaging to detect temperature deviations, relative to a reference temperature, of electrification infrastructure equipment.
- 4.2 The reference temperature against which overheating components are compared shall be that of the running conductor or component to which the overheating component is electrically connected.
- 4.3 A "hotspot" shall be reported whenever the temperature of the component is  $\geq 5^{\circ}\text{C}$  above that of the associated reference component. This threshold may be changed at the discretion of the project manager.
- 4.4 For the purpose of scanning the overhead track equipment, the thermal imaging equipment may be mounted on the trailing locomotive of a locomotive consist which will generally be hauling a heavy haul train load, but may be a specified locomotive consist. Alternatively for scanning the track bonding, the equipment may be mounted on the leading locomotive in which case the contractor must allow for such cabling that might be required. Suitable means for mounting such equipment without causing damage to said locomotive shall be provided by the successful contractor.
- 4.5 The thermal recording equipment shall be capable of reliable operation under the electrically noisy environment and mechanical vibration normally associated with railway traction locomotives.
- 4.6 The recording equipment shall have its own power source. Petrol driven generators will not be allowed. A battery bank is recommended.

- 4.7 Scanning will be generally undertaken at night during cooler months of the year and the program shall be arranged by the Project Manager.
- 4.8 The contractor shall use image analysis software to record the following during the scanning process:
- 4.8.1 Capture a six second image file sequence and save it to disc with file reference as specified in section 5.3 hereof.
- 4.8.2 Capture an image bitmap depicting the defect centred on the bitmap.
- 4.8.3 Save a database record to disc as specified in section 5.3 hereof.

## 5.0 REPORTS.

### 5.1 GENERAL

This section describes the format in which defects detected through infrared thermo graphic scanning are to be reported; the system whereby the location of defects are to be identified and the format of reports.

### 5.2 TRANSNET FREIGHT RAIL INFORMATION REQUIREMENTS

- 5.2.1 Transnet Freight Rail references its railway infrastructure in relation to kilometric beacons that are installed in the railway servitude. Due to past railway deviations there are "long-" and "short kilometres". For this reason a defect location can be presented as e.g. 23km, 1060 meter. It will not be possible to provide a mechanical measuring wheel with odometric read-out to the locomotive consist to derive this figure.
- 5.2.2 In addition to km-references, masts are numbered sequentially with reference to the kilometric beacon positions, e.g. "23/14" will be the mast number for the 14<sup>th</sup> mast between km-23 and km-24 beacons.

### 5.3 FORMAT OF REPORTS

- 5.3.1 The information is required in two media formats namely hard copy and compact disc.
- 5.3.2 An electronic report on compact disc shall on completion of each depot's scanning, be handed to the Contracts Supervisor. The Contractor shall acquire acknowledgement of receipt in the site diary to that effect. The report shall include:
- (a) the electronic image files.
  - (b) a post-processed database report on completion of a depot's area that provides a purified version on compact disc and hard copy printout on in which the probable component that is the source of the "hot-spot" is identified.
- 5.3.3. The standard component descriptions in Annexure 4 must be used in the "component" field. The contractor's Thermographer must indicate the probable overheating component. The contractor is not expected to guess at the likely root cause of the overheating component.

5.3.4. Hard copy printouts shall be provided on A4-size, with the information as specified in Annexure 2 hereto.

5.3.5. Electronic data:

5.3.5.1 For each defect detected a database record is required in the prescribed Microsoft excel file format, as specified in the Annexure 1 hereto.

5.3.5.2 For each defect detected a bitmap image on compact disc is required.

5.3.5.3 For each defect detected a 6 second image sequence file on CD shall be provided, starting 4 seconds before- and ending 2 seconds after the defect.

5.3.5.4 Images must be readable with Microsoft product software.

5.3.5.5 Image files, coded into the file name, must be saved with :

- depot Name, and
- record number unique to the campaign

#### 5.4 MEASUREMENT REQUIREMENTS

5.4.1 The system must identify at the location where the following phenomena occurs, the information required in Annexures 1 and 2:

5.4.1.1 overheating components as a result of electrical continuity defects.

5.4.1.2 visible arcing emitted by the copper of the wire during the electrical arcing caused by the current collector parting from the contact wire, but excluding those at section insulators.

#### 5.5 DATA VERIFICATION

5.5.1 Transnet will require a verification of the data before acceptance, the details of which will be described in the project specification.

#### 6.0 Tender Procedure.

6.1 Tenders shall be submitted in accordance with Transnet's tendering method stated in the Project Specification.



**7.0 Annexures.**

The following appendices form an integral part of this specification.

- 7.1 Annexure 1: INFORMATION REQUIRED IN DATABASE FORMAT.
- 7.2 Annexure 2: FORMAT FOR HARD COPY REPORT-1.
- 7.3 Annexure 3: FORMAT FOR HARD COPY REPORTS-2.
- 7.6 Annexure 4: STANDARD DESCRIPTIONS OF COMPONENTS.

END

CHIEF ENGINEER  
INFRASTRUCTURE ENGINEERING

"PREVIEW COPY ONLY"

**ANNEXURE 1 - INFORMATION REQUIRED IN DATABASE FORMAT**

Microsoft Excel file format for viewing with Microsoft Office software, and for importing into IAMM viewer:

<b>Parameter</b>	<b>Format, e.g.</b>
Date	2004-03-12
Record no.	0001
GPS Latitude	29.84803401
GPS Longitude	-27.33911629
GPS Altitude	1707.22
Section ID	E1H13VC
Line code	C02 - L028
Section description Node 1	Newcastle
Section description Node 2	Ladysmith
Mast location (before fault)	45/2
Mast location (after fault)	45/3
Magnetic tape timer	01:24:34
Kilometer	45
Meter	0.0102
Line (up/down/yard)	Up
Linked bitmap	LDS_0034 .JPEG
Linked video clip	LDS_0034 .MPEG
Defective component	Catenarysplice
Relative temperature	16°C

**ANNEXURE 2 - FORMAT OF HARD COPY REPORT-1**

**Infra-red Scan  
Overhead Track Equipment**

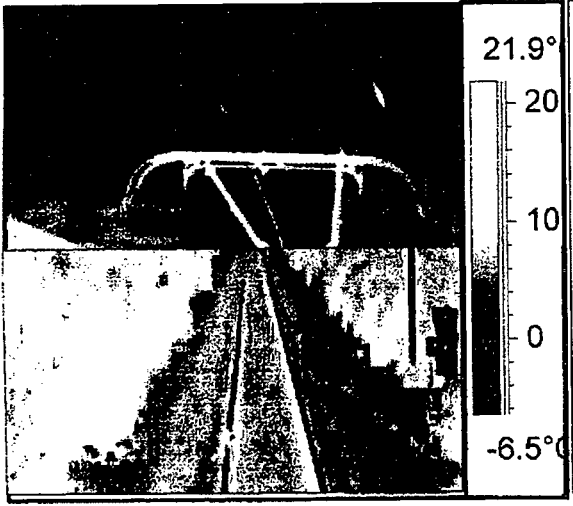
Date	Record Number	GPS Co-ordinates			Section description				Line (up/down/yard)	Mast loc before	Mast loc after
		Latitude	Longitude	Altitude	Section ID	Line code	Node 1	Node 2			

Relative Temperature	Magnetic tape Time counter	Km	Meter.	Linked bitmap	Linked video clip	Component

END

## ANNEXURE 3 - FORMAT OF HARD COPY REPORT-2

Images of the overhead wires and track bonding must be combined in a graphic picture, and the location text superimposed on the graphic. The file must be in the JPG format. An example of the graphic format is provided as guideline:

	<b>Parameter</b>	<b>Format, e.g.</b>
	Date	2005-08-13
	Record no.	0034
	GPS Latitude	29.84803401
	GPS Longitude	-27.33911629
	GPS Altitude	1707.22
	Section ID	E1H13VC
	Line code	C02 - L028
	Section description	Newcastle
	Node 1	
	Section description	Ladysmith
	Node 2	
	Mast location (before fault)	45/2
	Mast location (after fault)	45/3
Magnetic tape timer	01:24:34	
Kilometer	45	
Meter	0.0102	
Line (up/down/yard)	Up	
Linked bitmap.	LDS_0034.JPEG	
Linked video clip.	LDS_0034_.MPEG	
Defective component	Splice_Feeder	
Relative temperature	16°C	

END

**ANNEXURE 4 - STANDARD DESCRIPTIONS OF COMPONENTS**

The standard defect descriptions are to be used for compatibility with the IAMM system and have a standard word length with underscore characters for word breaks. No other description may be used. Pick-list compiling is recommended. The information is available to the successful tenderer in electronic format from Transnet Freight Rail.

- 1 Bond\_Mast\_Rail\_Mast\_side
- 2 Bond\_Mast\_Rail\_Rail\_side
- 3 Bond\_Rail\_continuity
- 4 Booster\_wire\_clamp
- 5 Clamp\_FCC\_catenary\_side
- 6 Clamp\_Catenary\_Suspension
- 7 Clamp\_Contact
- 8 Clamp\_Earth\_wire
- 9 Clamp\_FCC\_contact\_side
- 10 Clamp\_FCC\_feeder\_side
- 11 Clamp\_Feeder\_Suspension
- 12 Distribution\_switch\_contacts
- 13 Distribution\_line\_clamp
- 14 Distribution\_line\_insulator
- 15 Dropper
- 16 Insulator\_Cross\_Span
- 17 Insulator\_Feeder
- 18 Insulator\_Strain
- 19 Insulator\_Strutt
- 20 Insulator\_Suspension
- 21 Insulator\_Top
- 22 Jumper\_FCC
- 23 Jumper\_Contact\_Contact
- 24 Jumper\_Track\_switch
- 25 Multiple\_components
- 26 Phase\_break
- 27 Pantograph\_bounce
- 28 Section\_insulator
- 29 Splice\_Contact
- 30 Splice\_Feeder
- 31 Track\_switch\_contacts
- 32 Uncertain\_Inconclusive

END

**TRANSNET LIMITED**

(Registration no. 1990/00900//06)

**SAFETY HEALTH AND ENVIRONMENTAL (SHE) SPECIFICATIONS  
FOR CONTRACTORS****AND****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 SHE 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 TFR Contract Representative/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 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: -

## E.4E Transnet (Feb 2011)

- (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 **“Safety, Health and Environmental (SHE) 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;
- 2.7 **“Safety, Health and Environmental (SHE) 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:-
- (a) includes the demolition of a structure exceeding a height of 3 metres; or
  - (b) 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:-

## E.4E Transnet (Feb 2011)

- (a) includes excavation work deeper than 1m; or
  - (b) includes working at a height greater than 3 metres above ground or a landing.
- 3.2 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, TFR Contract Representative/Technical Officer or employee.
- 3.3 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 (e.g Construction Site Supervisor, Construction Safety Officer etc) and deliver copies thereof to the TFR Contract Representative/Technical Officer. Copies should also be retained on the health and safety file.
- 3.4 Subcontractors shall also make the above written appointments and the Contractor shall deliver copies thereof to the TFR Contract Representative/Technical Officer.
- 3.5 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 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.
- 3.6 The Contractor shall, before commencing any work, obtain from the TFR Contract Representative/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.
- 3.7 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 TFR Contract Representative/Technical Officer with full particulars of such subcontractors and shall ensure that they comply with the Act and Regulations and Transnet's safety requirements and procedures.

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

Where special permits are required before work may be carried out such as for hotwork, isolation permits, work permits and occupations, the Contractor shall apply to the TFR Contract Representative/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



## E.4E Transnet (Feb 2011)

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 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 SHE Plan, including safe work procedures to mitigate, reduce or control the risks identified;
- (d) a monitoring and review plan.

5.4 The SHE 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 TFR Contract Representative/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

## E.4E Transnet (Feb 2011)

- (f) the introduction of control measures for ensuring that the SHE Plan is maintained and monitored for the duration of the Contract.
- 5.4 The Health and Safety programme shall be subject to the TFR Contract Representative/TFR Contract Representative/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 TFR Contract Representative/Technical Officer's opinion, are necessary to ensure full compliance by the Contractor with his obligations as an employer in terms of the Act and Regulations. The TFR Contract Representative/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 SHE 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 SHE 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 SHE Plan is available on site for inspection by an inspector, TFR Contract Representative/Technical Officer, agent, subcontractor, employee, registered employee organisation, 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 SHE 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;

E.4E Transnet (Feb 2011)

- 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 TFR Contract Representative/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. Safety, Health and Environmental (SHE) File

- 8.1 The Contractor shall ensure that a SHE 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 TFR Contract Representative/Technical Officer, or subcontractor upon request.
- 8.2 The Contractor shall ensure that a copy of the both his SHE Plan as well as any subcontractor's SHE Plan is available on request to an employee, inspector, contractor or the TFR Contract Representative/Technical Officer.
- 8.3 The Contractor shall hand over a consolidated health and safety file to the TFR Contract Representative/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.

## 9. Medical Surveillance

- 9.1 The contractor shall ensure that all the appropriate medical surveillance documents are available as required by the Act and be kept in the safety file.

## 10. Substance Abuse

- 10.1 All contractors must comply with the TFR Substance Abuse Policy and Regulation 2A of the General Safety Regulations, .

**11. Incidents/Occurrences**

- 11.1 All incidents referred to in Regulation 9 of General Administration Regulations of the Act involving the contractor and his subcontractor on Transnet Ltd premises, shall be reported as prescribed. TFR hereby obtains an interest in the issue of any investigation, formal inquiry conducted in terms of Section 31 and 32 of the Act into any incident involving the contractor, his subcontractor, any person or machinery under his control on TFR premises.
- 11.2 TFR Contract Representative must be informed of the above incidents/occurrences before the end of shift when the incident/occurrence occurred.

**12 Monthly Safety Reports**

- 12.1 All Contracts of more than 1 month shall provide a monthly safety report as required by TFR

"PREVIEW COPY ONLY"

ENVIRONMENTAL CONTRACT CLAUSES
--------------------------------

## INSTRUCTIONS

Except as set forth below, the content of this document when included within a contract shall not be changed, modified or altered in any way.

## CONDITIONS OF CONTRACT

1. The Contractor shall identify, document and comply with all pertinent Environmental laws and associated Regulations, approvals, licenses and permits which are applicable to the Services and activities undertaken
2. Before commencement with any of the services to be rendered to TFR, the Contractor shall make available all personnel who will be working on the specified contract to be given environmental induction training. All Contractors' Personnel arriving on the Site shall attend such induction.
3. The Contractor shall adhere to all instructions issued by Project Manager or his /her delegated person in promotion of environmental management and legal compliance.
4. The Contractor shall determine the correct positioning of topsoil stockpiling to avoid massive disturbance and prepare the topsoil for reuse during landscaping.
5. Concrete shall not be mixed directly on the ground or any other permeable surface. Should concrete batching activities occur, these should be located in the designated area on site with low environmental sensitivity levels.
6. All excess concrete shall be removed from site on completion of plastering or concrete pouring and disposed of in an environmentally acceptable manner.
7. The Contractor shall ensure that his or her employees are aware of the procedures to be followed when dealing with spills and leaks, which shall include notifying the relevant authorities and TFR as required in terms of NEMA, 1998 and NWA, 1998. The Contractor shall ensure that all necessary material and equipment required for use during clean – up/rehabilitation of spills and leaks are available on site at all times. Treatment, remediation and/or rehabilitation of contaminated areas shall be undertaken to the

## E.4E Transnet (Feb 2011)

reasonable satisfaction of the TFR Environmental Control Officer or relevant Environmental Specialist.

8. Contractor shall be solely responsible for the control of dust generated from his or her activities. Excavation, handling and transport of erodable material shall be avoided under aggressive wind conditions or when a visible dust plume is present. If dust damping measures are deemed inadequate, working must cease until the wind speed drops to an acceptable level.
9. Construction activities generating output levels of 85 db (A) or more shall be confined to the hours 08h00 to 17h00 Mondays to Fridays (close to residential areas).
10. No on-site burying or dumping of waste material shall occur. Waste must be collected by a licensed waste transporting contractor and disposed of at a licensed disposal site. Disposal certificate must be made available to TFR on request.
11. Waste bins must be provided in sufficient number and capacity to store solid waste produced on a daily basis. These bins must be kept closed and emptied regularly.
12. A designated re-fuelling area (s) must be provided. The re-fuelling area must be protected from hydrocarbon spillage to the reasonable satisfaction of the TFR Environmental Control Officer or Relevant Environmental Specialist. As a minimum requirement, re-fuelling and workshop areas shall have a bunded floor surface and stormwater collection mechanism. Refuelling shall always be accompanied by the use of drip trays.
13. The Contractor must notify the Project Manager immediately of any pollution incident. An incident record system shall be maintained on site for inspection by TFR and relevant authorities.
14. All vehicles and equipments shall be kept in good working condition. All leaking equipments shall be repaired immediately or removed from site. All vehicles and equipment shall be maintained not emit excessive noise.
15. In case of major hydrocarbon spill or leakage as a result of equipment failure, Project Manager must be made aware of such event and the affected area must be fenced off and be cleaned immediately to the reasonable satisfaction of the TFR Environmental Control Officer to prevent contamination of soil and both surface and groundwater.
16. The Contractor shall ensure that no spillage occurs when toilets are being cleaned or emptied and that the contents are removed from site by a licensed service provider.
17. The use of borrow pits for the construction of access roads must comply with the provisions of Minerals and Petroleum Resources Development Act of 2004 as amended and should not be located inside the border of any protected area (e.g. Nature Reserve).

## E.4E Transnet (Feb 2011)

18. All disturbed areas must be rehabilitated to the reasonable satisfaction of TFR Environmental Control Officer or Relevant Environmental Specialist.
19. Transportation, handling and storage of all substances classified as hazardous must comply with the provisions of the Hazardous Substances Act, 15 of 1973, relevant Regulations and SANS Codes.
20. Archaeological remains, artificial features and structures older than 60 years are protected by the Natural Heritage Resources Act, 25 of 1999. Should any archaeological artefact be exposed during construction or any contract work, such work must be stopped immediately. The TFR Environmental Control Officer must be called in for inspection and to recommend the way-forward. Under no circumstances may any artefacts be destroyed or removed from site.
21. The extraction of water for construction purposes must at all times comply with licensing requirements of Department of Water Affairs, where applicable. Extraction of water from a stream or a river requires approval.
22. Blasting work that may be required on site shall be carried out entirely within the provisions of the Explosives Act, 26 of 1956 and other relevant engineering and safety standards.
23. Office and camp sites shall be established, as far as is practicable, outside the flood plain, above the 1:50 flood level mark within the boundaries of the construction area.
24. No camp or office site shall be located closer than 100 metres from a stream, river, spring, dam or pan.
25. The area chosen for these purposes shall be the minimum reasonably required and which will involve the least disturbance to vegetation.
26. Camps and site offices shall be fenced (where necessary) in consultation with the landowner.
27. The Project Manager or TFR Contract Representative may, at his or her discretion stop any work, activity or process not in accordance with Environmental laws and associated Regulations, approvals, licenses and permits
23. The contractor shall preserve wild life in terms of the NEMA.

ANNEXURE 1

OCCUPATIONAL HEALTH AND SAFETY ACT 85, 1993

Regulation 3(1) of the Construction Regulations

NOTIFICATION OF CONSTRUCTION WORK

- 
- 
- 1(a) Name and postal address of principal contractor:  
\_\_\_\_\_
  - (b) Name and tel. no of principal contractor's contact person:  
\_\_\_\_\_
  2. Principal contractor's compensation registration number: \_\_\_\_\_
  - 3.(a) Name and postal address of client:  
\_\_\_\_\_
  - (b) Name and tel no of client's contact person or agent:  
\_\_\_\_\_
  - 4.(a) Name and postal address of designer(s) for the project:  
\_\_\_\_\_
  - (b) Name and tel. no of designer(s) contact person:  
\_\_\_\_\_
  5. Name and telephone number of principal contractor's construction supervisor on site appointed in terms of regulation 6(1).  
\_\_\_\_\_
  6. Name/s of principal contractor's construction sub-ordinate supervisors on site appointed in terms of regulation 6(2).  
\_\_\_\_\_  
\_\_\_\_\_
  7. Exact physical address of the construction site or site office:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  8. Nature of the construction work:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  9. Expected commencement date: \_\_\_\_\_
  10. Expected completion date: \_\_\_\_\_



11. Estimated maximum number of persons on the construction site: \_\_\_\_\_

12. Planned number of contractors on the construction site accountable to the principle contractor:

\_\_\_\_\_

13. Name(s) of contractors already chosen.

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

\_\_\_\_\_

**Principal Contractor**

**Date**

\_\_\_\_\_

**Client**

**Date**

\* THIS DOCUMENT IS TO BE FORWARDED TO THE OFFICE OF THE DEPARTMENT OF LABOUR PRIOR TO COMMENCEMENT OF WORK ON SITE.

\* ALL PRINCIPAL CONTRACTORS THAT QUALIFY TO NOTIFY MUST DO SO EVEN IF ANOTHER PRINCIPAL CONTRACTOR ON THE SAME SITE HAD DONE SO PRIOR TO THE COMMENCEMENT OF WORK.

"PREVENTED COPY ONLY"

**ANNEXURE 2**

**(COMPANY LETTER HEAD)**

**OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT 85 OF 1993) :**

**SECTION/REGULATION:** \_\_\_\_\_

**REQUIRED COMPETENCY:** \_\_\_\_\_

In terms of \_\_\_\_\_ I, \_\_\_\_\_

representing the Employer) do hereby appoint \_\_\_\_\_

As the Competent Person on the premises at \_\_\_\_\_

(physical address) to assist in compliance with the Act and the applicable Regulations.

Your designated area/s is/are as follows :-

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

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

*Signature :-* \_\_\_\_\_

*Designation :-* \_\_\_\_\_

**ACCEPTANCE OF DESIGNATION**

I, \_\_\_\_\_ do hereby accept this Designation and acknowledge that I understand the requirements of this appointment.

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

*Signature :-* \_\_\_\_\_

*Designation :-* \_\_\_\_\_

**ANNEXURE 3**

**(COMPANY LETTER HEAD)**

**OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT 85 OF 1993) :**

**DECLARATION**

In terms of the above Act I, \_\_\_\_\_ am personally assuming the duties and obligations as Chief Executive Officer, defined in Section 1 of the Act and in terms of Section 16(1), I will, as far as is reasonably practicable, ensure that the duties and obligations of the Employer as contemplated in the above Act are properly discharged.

**Signature :-** \_\_\_\_\_

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

"PREVIEW COPY ONLY"

**ANNEXURE 4**

**(LETTER HEAD OF BUSINESS DIVISION OR UNIT OF TRANSNET LIMITED)**

**SITE ACCESS CERTIFICATE**

Access to : \_\_\_\_\_ (Area)  
Name of Contractor/Builder :- \_\_\_\_\_  
Contract/Order No.: \_\_\_\_\_

The contract works site/area described above are made available to you for the carrying out of associated works

In terms of your contract/order with  
(company) \_\_\_\_\_

Kindly note that you are at all times responsible for the control and safety of the Works Site, and for persons having access to the site.

As from the date hereof and for the duration of the contract you will be responsible for compliance with the requirements of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) as amended, and all conditions of the Contract pertaining to the site of the works as defined and demarcated in the contract documents including the plans of the site or work areas forming part thereof.

Signed : \_\_\_\_\_ Date : \_\_\_\_\_  
**TECHNICAL OFFICER**

**ACKNOWLEDGEMENT OF RECEIPT**

Name of Contractor/Builder :- \_\_\_\_\_ I,  
\_\_\_\_\_ do hereby acknowledge and accept the duties  
and obligations in respect of the Safety of the site/area of Work in terms of the Occupational Health and  
Safety Act; Act 85 of 1993.

Name : \_\_\_\_\_ Designation : \_\_\_\_\_

Signature : \_\_\_\_\_ Date : \_\_\_\_\_

**TRANSNET**



**LIMITED**

(REGISTRATION NO. 1990/000900/06)

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)

**CONTENTS**

<b><u>CLAUSE</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>PAGE NO'S</u></b>
1.	<b><u>DEFINITIONS</u></b>	3
	<b><u>PART A - GENERAL SPECIFICATION</u></b>	
2.	Authority of officers of Transnet	4
3.	Contractor's representatives	4
4.	Occupations and work permits	4
5.	Speed restrictions and protection	5
6.	Roads on Transnet property	5
7.	Clearances	5
8.	Stacking of material	5
9.	Excavation, shoring, dewatering and drainage	5
10.	Falsework for structures	6
11.	Piling	6
12.	Underground services	6
13.	Blasting	6
14.	Rail trolleys	7
15.	Signal track circuits	7
16.	Penalty for delays to trains	7
	<b><u>PART B - ADDITIONAL SPECIFICATION FOR WORK NEAR HIGH-VOLTAGE ELECTRICAL EQUIPMENT</u></b>	
17.	General	8
18.	Work on buildings of fixed structures	8
19.	Work done on or outside of rolling stock, including loading and unloading	8
20.	Use of equipment	9
21.	Carrying and handling material and equipment	9
22.	Precautions to be taken when erecting or removing poles, antennae and trees	10
23.	Use of water	10
24.	Use of construction plant	10
25.	Work performed under dead conditions under cover of a work permit	10
26.	Traction return circuits in rails	11
27.	Blasting	11
28.	High-voltage electrical equipment not maintained and/or operated by Transnet	11
	<b><u>ANNEXES</u></b>	
1.	Horizontal clearances 1 065 mm gauge	
2.	Vertical clearances 1 065 mm gauge	
3.	Clearances 610 mm gauge	
4.	Platform clearances	

## 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 Spoornet'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.

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.
- 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.

## 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.

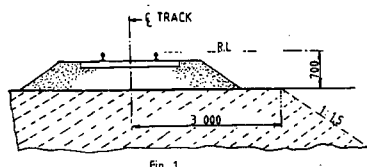


Fig. 1

- 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 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.
- 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 Spoornet'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 I, 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 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.

- 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 Spoornet 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.

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 taken 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.

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.

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: -

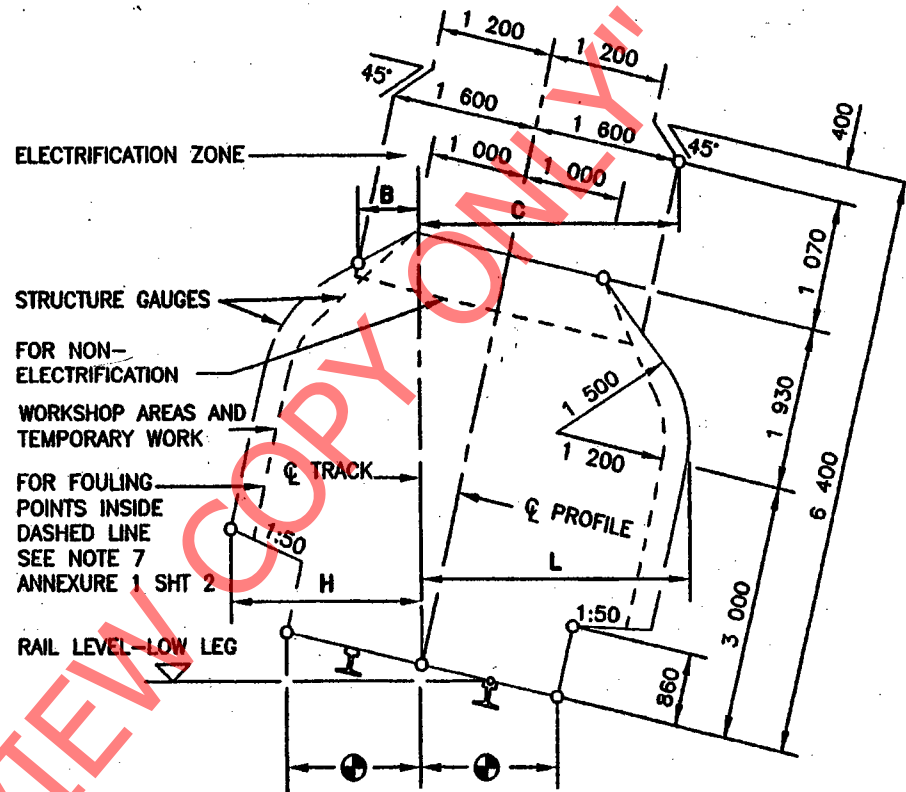
- (i) Eskom and municipal equipment;
- (ii) the Contractor's own power supplies; and
- (iii) electrical equipment being installed but not yet taken over from the Contractor.

"PREVIEW COPY ONLY"



ANNEXURE 1  
SHEET 1 of 5  
AMENDMENTHORIZONTAL CLEARANCES :  
1 065mm TRACK GAUGE

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	1 760
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

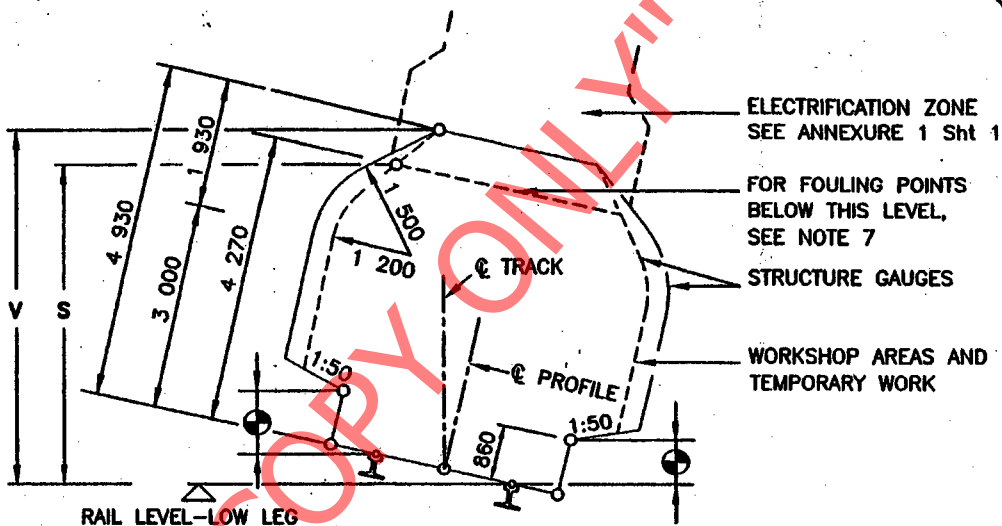


## REMARKS:

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

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

65

ANNEXURE 1  
 SHEET 3 of 5  
 AMENDMENT

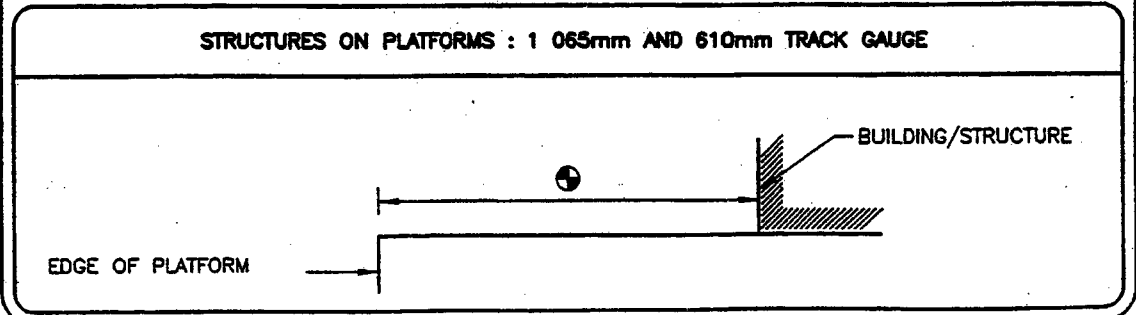
CLEARANCES : PLATFORMS

**PLATFORMS : TRACK GAUGE 1 065mm**

PASSENGERS					GOODS
					<p>(NO CANT)</p>
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:**

1. NO CANT TO BE APPLIED EXCEPT WHEN THE GOODS PLATFORM IS ON A RUNNING LINE.
2. INTERMEDIATE VALUES MAY BE INTERPOLATED BY THE ENGINEER IN CHARGE.
3.  $\ominus$  8m TO MAIN STATION-BUILDINGS AND 3m TO ALL OTHER STRUCTURES.
4. TOLERANCES : SEE CLAUSE 8.0.10.

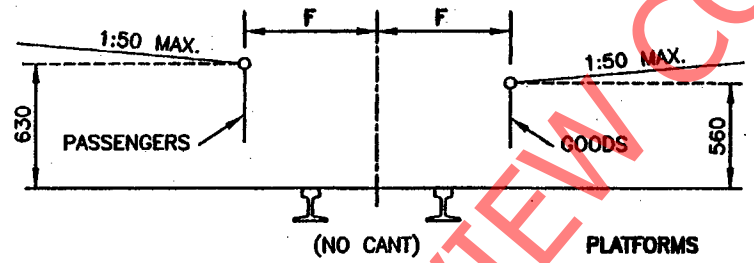
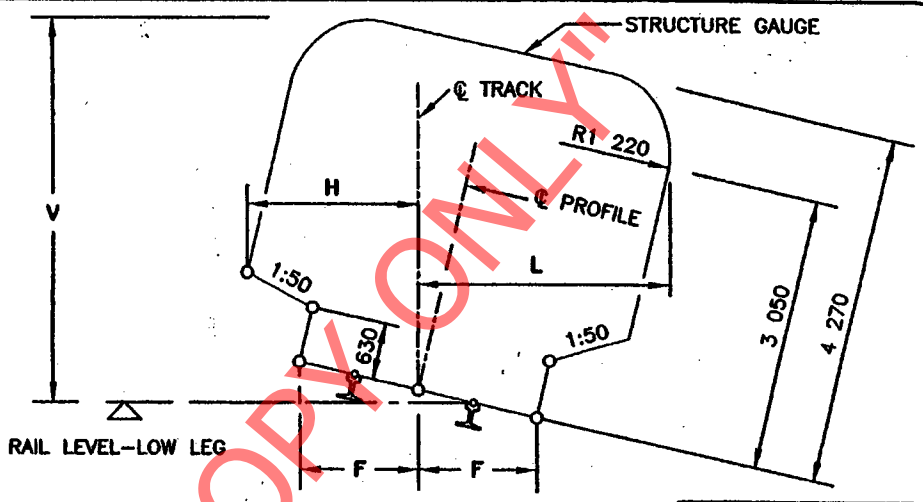


66

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.

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

67