TRANSNET FREIGHT RAIL, a division of

TRANSNET SOC LTD

Registration Number 1990/000900/30

[hereinafter referred to as **Transnet]**

REQUEST FOR QUOTATION [RFQ] No BFX/52982

FOR THE PROVISION OF: DETERMINE STRESS-FREE RAIL TEMPERATURE OF CONTINUOUS WELDED RAIL FROM BLOEMFONTEIN TO WOLWEHOEK

FOR DELIVERY TO : RAIL NETWORK, BLOEMFONTEIN

ISSUE DATE : 5 JUNE 2014

CLOSING DATE : 1 JULY 2014

CLOSING TIME : 10:00

FORMAL BRIEFING : 11 JUNE 2014 AT 10:00 - - A COMPULSORY PRE QUOTATION SITE MEETING AND/OR BRIEFING SESSION WILL BE CONDUCTED AT THE BOARDROOM OF THE DEPOT ENGINEER, RAIL NETWORK, NATHAN STREET, BLOEMFONTEIN

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NOTE:

TENDERERS WITHOUT A VALID TENDER DOCUMENT IN THEIR POSSESSION WILL NOT BE ALLOWED TO ATTEND THIS CLARIFICATION MEETING SITE INSPECTIONS. TENDERERS SHALL BE RESPONSIBLE FOR THEIR OWN TRAVEL ARRANGEMENTS AND COST REGARDING THE SITE MEETING AND SITE INSPECTIONS.

RFQ DOCUMENTS MAY BE OBTAINED ON AND AFTER THURSDAY, 5 JUNE 2014 AT TRANSNET FREIGHT RAIL, SUPPLY CHAIN SERVICES, ROOM 102, 1ST FLOOR, TRANSNET ENGINEERING ADMIN BUILDING, TRANSNET ROAD, BLOEMFONTEIN

LAST DATE OF ISSUE - RFQ BFX/52982 WILL ONLY BE ISSUED UNTIL 15:00 ON FRIDAY 13 JUNE 2014

FOR ENQUIRIES REGARDING COLLECTION OF DOCUMENTS, CONTACT GIDEON JOUBERT, TEL. NO. 051 – 408 2167 OR E-MAIL Gideon.Joubert@Transnet.net

Section 1

NOTICE TO BIDDERS

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

METHOD:	Courier or By hand
CLOSING VENUE:	The Secretariat
	Acquisition Council
	Admin Support Office
	Tender Box
	Office No. 2
	Real Estate Management Building
	Austen Street, Beaconsfield
	Kimberley (Contact person: Maggie Pain Tel. 053-838 3341)

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1 Responses to RFQ

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

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

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

2.1 B-BBEE Scorecard and Rating

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

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

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

When Transnet invites prospective suppliers to submit Proposals for its various expenditure programmes, it requires Respondents to have their B-BBEE status verified in compliance with the

Codes of Good Practice issued in terms of the Broad Based Black Economic Empowerment Act No. 53 of 2003.

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

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

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

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

[Refer clause19 below for Returnable Documents required]

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3 Communication

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

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

Name: **Gideon Joubert**

Email: Gideon.Joubert@Transnet.net

b) Respondents may also, at any time after the closing date of the RFQ, communicate with Supply Chain Services, 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 shortlisted Respondents.

11 Binding Offer

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

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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] 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:

YES		NO	

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:

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Criterion/Criteria	Explanation
Administrative responsiveness	Completeness of response and returnable documents
Substantive responsiveness	Prequalification criteria, if any, must be met and whether the Bid materially complies with the scope and/or specification given.
Final weighted evaluation based on 90/10 preference point system as indicated in paragraph 2	• Pricing and price basis [firm] - whilst not the sole factor for consideration, competitive pricing and overall level of unconditional discounts[1] will be critical • 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.

15 Validity Period

Transnet desires a validity period of 90 [ninety] days from the closing date of this RFQ.

This RFQ is valid until _____.

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

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 ☐

19 Returnable Documents

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

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

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

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

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

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

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

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

Essential Returnable Documents	Submitted [Yes or No]
SECTION 1 : Notice to Bidders	
- 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	
- 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	
- 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	
- Original valid Tax Clearance Certificate [Consortia / Joint Ventures must submit a separate Tax Clearance Certificate for each party]	
- SECTION 3 : Standard Terms and Conditions of Contract for the Supply of Services to Transnet	
SECTION 4 : Vendor Application Form	
- Original cancelled cheque or bank verification of banking details	
- Certified copies of IDs of shareholder/directors/members [as applicable]	
- Certified copies of the relevant company registration documents from Companies and Intellectual Property Commission (CIPC)	
- Certified copies of the company's shareholding/director's portfolio	
- Entity's letterhead	
- Certified copy of VAT Registration Certificate [RSA entities only]	
- Certified copy of valid Company Registration Certificate [if applicable]	
- A signed letter from Respondent's auditor or accountant confirming most recent annual turnover figures	
ANNEXURE A – B-BBEE Preference Points Claim Form	
- Project Specification – General Specification Part A	
- Project Specification – Special and technical Specification	
- Manual or using the lift frame to determine the stress-free rail temperature of CWR	
- Form E.4E Transnet (Jan 2004) Safety arrangements and Procedural compliance with the Occupational Health and Safety act (Act 85 of 1993 and applicable regulations	
- Mandatory form to be completed as part of quality control	
- E7/1 Specification for general work and works on, over, under or adjacent to Railway lines and near high voltage equipment	

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

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

Additional Documents	SUBMITTED [Yes or No]
Letter of Good Standing	

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Section 2

QUOTATION FORM

I/We_____

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

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

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

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

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

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Price Schedule

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

Item no	Description	Unit	Quantity	Rate (ZAR)	Total Price (ZAR)
1	**Rate per Test on Mainline**	Each	820	R.....	R.....
2	**Rate per Test on Branchline**	Each	0	R.....	R.....
Total (Excl.VAT)					R.....

SITE AGENT

Name of Site Agent / Track Master :_____

Qualification of Site Agent / Track Master :_____

ID Number of Site Agent / Track Master :_____

SUPERVISOR

Name :_____

Qualification :_____

ID Number :_____

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

Notes to Pricing:

a) All Prices must be quoted in South African Rand, exclusive of VAT

b) To facilitate like-for-like comparison bidders must submit pricing strictly in accordance with this price schedule and not utilise a different format. Deviation from this pricing schedule could result in a bid being disqualified.

c) Please note that should you have offered a discounted price(s), Transnet will only consider such price discount(s) in the final evaluation stage if offered on an unconditional basis.

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Section 3

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

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

1 SOLE AGREEMENT

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

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2 CONFORMITY WITH ORDER

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

3 DELIVERY AND TITLE

3.1 The delivery dates and addresses are those in the Order. Time shall be of the essence in respect of the Supplier's/Service Provider's obligations under the Order.

3.2 The Supplier/Service Provider will not be excused for delay in delivery or performance except due to circumstances outside its control and then only subject to the Supplier/Service Provider having notified Transnet in writing on becoming aware of such circumstances. Transnet may terminate an Order, in whole or in part, without incurring any liability to the Supplier/Service Provider if such a delay becomes, in Transnet's absolute opinion, significant.

3.3 If on delivery, the Goods/Services do not conform to the Order, Transnet may reject the Goods/Services and the Supplier/Service Provider shall promptly rectify any defects or in Transnet's opinion, supply appropriate replacement Goods/Services at the Supplier's/Service Provider's expense within the specified delivery times, without any liability due by Transnet.

4 PRICE AND PAYMENT

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

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

5 PROPRIETARY RIGHTS LIABILITY

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

a) procure for Transnet the right to continue using the infringing Goods; or

b) modify or replace the Goods/Services so that they become non-infringing,

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

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6 PROPRIETARY INFORMATION

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

7 PUBLICITY

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

8 TERMINATION OF ORDER

8.1 Transnet may cancel an Order in whole or in part at any time upon at least 7 [seven] days' written notice to the Supplier/Service Provider, or when there is a change in control of the Supplier/Service Provider or the Supplier/Service Provider commits any serious breach or any repeated or continued material breach of its obligations under these Terms and/or Order or shall have been guilty of conduct tending to bring itself into disrepute, on written notice to the Supplier/Service Provider when such work on the Order shall stop.

8.2 Transnet shall pay the Supplier/Service Provider a fair and reasonable price for justified work in progress, where such price reflects only those costs not otherwise recoverable by the Supplier/Service Provider, at the time of termination, and the Supplier/Service Provider shall give Transnet full assistance to check the extent of such work in progress. Payment of such price shall be in full and final satisfaction of any claims arising out of such termination and upon such payment the Supplier/Service Provider shall deliver to Transnet all work, including any materials, completed or in progress. The sum payable to the Supplier/Service Provider under this clause will not in any event exceed the total amount that would have been payable to the Supplier/Service Provider had the Order not been terminated.

8.3 In the event of termination the Supplier/Service Provider must submit all claims within 2 [two] months of termination after which time claims will only be met in what Transnet considers exceptional circumstances.

8.4 If the Goods or Services are not provided in accordance with an Order, the Order shall be deemed terminated and the Supplier/Service Provider shall compensate Transnet for any costs incurred in obtaining substitute goods or any damage caused due to the failure or delay in the delivery.

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9 ACCESS

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

10 WARRANTY

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

11 INSOLVENCY

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

12 ASSIGNMENT

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

13 NOTICES

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

14 LAW

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

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15 GENERAL

Completion or termination of an Order shall be without prejudice to any Term herein which by its nature would be deemed to continue after completion or termination, including but not limited to clauses 5, 6, 7 and 10. Headings are included herein for convenience only. If any Term herein be held illegal or unenforceable, the validity or enforceability of the remaining Terms shall not be affected. No failure or delay by Transnet to enforce any rights under these Terms will operate as a waiver thereof by Transnet. All rights and remedies available to either party under these Terms shall be in addition to, not to the exclusion of, rights otherwise available at law.

16 COUNTERPARTS

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

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

SIGNED at _____ on this _____ day of _____ 20____

.....

SIGNATURE OF RESPONDENT'S AUTHORISED REPRESENTATIVE

NAME: _____

DESIGNATION: _____

REGISTERED NAME OF COMPANY: _____

PHYSICAL ADDRESS:

_____

_____

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

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

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

TRANSN

Section 4

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.*

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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,

Transnet Vendor/Supplier Management .Contact person Carol tell: 021 940-3846 fax 021 940-3883.

Respondent's Signature

Date & Company Stamp

TRANSN

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)						
BEE Ownership Details						
%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						
Duly Authorised To Sign For And On Behalf Of Firm / Organisation						
Name		Designation				
Signature		Date				
Stamp And Signature Of Commissioner Of Oath						
Name		Date				
Signature		Telephone No.				

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NB: 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.

Transnet Vendor/Supplier Management .Contact person Carol tell: 021 940-3846 fax 021 940-3883

RFQ FOR THE PROVISION OF : DETERMINE STRESS-FREE RAIL TEMPERATURE OF CONTINUOUS WELDED RAIL FROM BLOEMFONTEIN TO WOLWEHOEK

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.

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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.

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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 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.

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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.

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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:

4.2

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

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4.3 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.

4.4 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.

4.5 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.

4.6 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.

4.7 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.

4.8 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.

4.9 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.

4.10 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.

4.11 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.

4.12 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.

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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 4.4 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.

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WITNESSES:

1. .....

2. .....

SIGNATURE OF BIDDER

DATE:.....

COMPANY NAME: .....

ADDRESS:.....

TRANSNET SOC LIMITED

(REGISTRATION NO.1990/000900/30)

TRADING AS TFR

REQUEST FOR QUOTATION [RFQ] No BFX/52982

PROJECT SPECIFICATION

TENDER TO DETERMINE THE STRESS-FREE RAIL TEMPERATURE OF CONTINUOUS WELDED RAIL ON THE SECTIONS OF RAILWAY LINE FROM:
THEUNISSEN - BLOEMFONTEIN (DOUBLE LINE)
(DOWN PM202438910 / UP PM202438893),
WHITES – THEUNISSEN (DOUBLE LINE)
(DOWN PM202442664 / UP PM202442668),
KROONSTAD – WHITES (DOUBLE LINE)
(DOWN PM202442654 / UP PM202442657),
WESTLEIGH – KROONSTAD (DOUBLE LINE)
(DOWN PM??? / UP PM???),
DOVER – WESTLEIGH (DOUBLE LINE)
(DOWN PM202442643 / UP PM202442650) AND
WOLWEHOEK – DOVER (DOUBLE LINE)
(DOWN PM202442641 / UP PM202442636).

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CONTENTS

PART A : GENERAL SPECIFICATION

PART B : SPECIAL and TECHNICAL SPECIFICATIONS

PART A: GENERAL SPECIFICATION

1 SCOPE OF WORK

This specification covers the general part for the **determination of the stress-free rail temperature of continuous welded rail on the sections of the railway line from Bloemfontein to Theunissen (double line), Whites to Theunissen (double line), Kroonstad to Whites (double line), Westleigh to Kroonstad (double line), Dover to Westleigh (double line) and Wolwehoek to Dover (double line)** hereinafter referred to as the "**Works**", and any other work arising out of or incidental to the above, or required of the **Contractor** for the proper completion of the **Works** in accordance with the true meaning and intent of the contract.

2 BUSINESS NAME

TRANSNET Limited will for the purpose of this contract be trading and hereinafter referred to as Transnet Freight Rail (TFR), a Business Division of TRANSNET who, through its authorised representatives, shall execute the contract on behalf of TRANSNET.

3 COMPLETION OF WORK

The contract will commence as soon as possible there after the acceptance of the tender. The whole of the **WORKS** shall be completed 50 working days after the starting date or earlier.

4 PENALTIES FOR LATE COMPLETION

A penalty for late completion of **R500, 00** per calendar day will be payable, unless additional time has been approved. In addition no extra payment will be made for delays suffered by the Contractor as a result of inclement weather and/or flooding, or delays caused by TRANSNET.

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5 MATERIAL

5.1 SUPPLY OF CONSUMABLES

All material of a consumable type required to perform the work as stipulated in the schedule of quantities shall be provided by the Contractor and included in his tender rates. These include:

- All fuel for small plant tools and vehicles (excluding TFR vehicles).
- All track maintenance tools such as forks, shovels, beaters, pulling bars etc.
- All tools that have to be replaced as a result of normal wear and tear.

5.2 TRANSNET FREIGHT RAIL TO SUPPLY

See Special and Technical Specifications

5.3 SAFE KEEPING

None

5.4 RELEASED MATERIAL

None

5.5 PLANT AND EQUIPMENT

- The Contractor shall supply all vehicles, machinery, small plant for the proper execution of the **Works** and related maintenance activities.
- The maintenance, leasing, hiring and insurance of the said equipment will solely rest with the Contractor.

- The Contractor shall be responsible for his own arrangements with regards to the transport and safe staging of this equipment.

6 ADVANCE PAYMENT FOR MATERIAL AND/OR PLANT AND/OR EQUIPMENT SUPPLIED BY THE CONTRACTOR

None.

7 PENALTIES FOR DELAYS TO TRANSNET TRUCKS

Not Applicable

8 CONTRACT PRICE ADJUSTMENT FACTOR

The contract shall not be subject to cost escalation or de-escalation or foreign exchange rate fluctuations. All increases in cost from whatsoever cause shall be at the Contractor's risk and all decreases in cost shall be to his benefit.

9 SAFETY REQUIREMENTS

9.1 High voltage electrical equipment:

9.1.1 The attention of the **Contractor** is drawn to the possibility of "live" electrical overhead wires in the area covered by the contract and the danger of coming into contact with such wires. All personnel under the control of the **Contractor** shall be made aware of the danger of "live" electrical wires and cables before commencement of the work.

9.1.2 The **Contractor** shall comply with all requirements of the **E7/1 (July 1998)** Specification. In particular the **Contractor** shall not be allowed to drive or move mobile equipment on or over the ballast and track-work unless the Technical Officer grants suitable permission and proper methods are employed.

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9.2 Occupations

9.2.1 Work shall be done under a between trains occupation. The Technical Officer shall apply for these occupations 2 days in advance in the order that they are needed.

The **Contractor** shall enquire from the Technical Officer, the day before the date of such occupation to ascertain whether or not any changes or cancellation has been necessitated by the operations of TRANSNET. Written confirmation of the granting of permits/occupations must be presented before work can proceed during permit/occupation times.

9.2.2 TRANSNET reserves the right to cancel an authorised occupation or work permit at any time, even during the period of such occupation or work permit. A record of permit/occupation times shall be kept by the **Contractor.**

9.2.3 Where safety of trains is affected by the work in progress, TRANSNET will provide personnel for supervision and communication with the local operating office to manage between train occupations. The **Contractor** shall provide protection for his own personnel where they would be subjected to the danger of passing trains. A communication system to perform operational duties shall be provided by the Contractor and allowed for in his tender rates.

9.2.4 The Contractor shall give TFR 7 day's written notice if an occupation is to be cancelled.

9.3 Temporary speed restrictions:

None.

9.4 Protection:

9.4.1 The Contractor shall provide all protection functions at the work area as required by the Technical Officer and according to the rules and regulations as stipulated in the **Infrastructure safety guidelines**, *page 45 to 80.*

9.4.2 The Contractor shall supply his own flagmen for the protection process. TFR shall train a minimum of 2 flagmen and maximum of 4 flagmen at no cost to the Contractor. The Contractor must indicate the number of flagmen to be trained in his tender (attach to tender). All additional training of flagmen shall be for the Contractor's account. The flagmen must be available two weeks prior to the contract commencement date for the said training. They are to report to the Depot Engineer's office Infra Maintenance Bloemfontein.

9.5 Only after the Technical Officer or other nominated competent trained TFR representative has established that the Contractor correctly sets out the protection, will he ask permission from the local operating office to commence with the occupation.

9.6 The protection staff of the Contractor shall be in radio contact with their site supervisor. The radios/walkie-talkies must be reliable with sufficient power and range for difficult mountainous terrain.

9.7 All equipment required to perform protection duties shall be provided by the Contractor and allowed for in his tender rates.

9.8 Damages consequent to neglect on the part of the Contractor

The **Contractor** shall be liable for costs incurred by TFR as a result of failure on the part of the **Contractor** or his personnel, to observe any safety and security regulations of TFR regarding the entry of personnel into all sites. TFR will determine such costs.

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10 INSURANCE OF WORKS

The Contractor shall take every precaution to protect the Works against damage of any kind and not to cause damage to property or injury to any person as a result of his execution of the Works.

The Contractor shall, in his own interest, obtain insurance of his own site establishment, materials, plant, equipment and tools as well as insurance for motor vehicles and the common law liabilities of the Contractor as an employer.

TFR will arrange insurance for Public Liability.

11 TECHNICAL REQUIREMENTS AND EXPERTISE

11.1 The **Contractor** shall have suitably qualified supervisors in charge of the contract work. The names and qualifications of the supervisors together with full details of their experience in this field of work must be furnished with the tender.

11.2 All workmen to be adequately trained to successfully complete all work.

FAILURE TO COMPLY WITH SUBCLAUSES 11.1 TO 11.2 WILL AUTOMATICALLY DISQUALIFY THE TENDERER.

11.3 The **Contractor** shall note that all members of TFR's personnel associated with the contract project are responsible for inspection only and will not render any assistance except at the instruction of the Technical Officer.

12 ADDITIONS AND OMISSIONS

The Technical Officer may add test sets or remove test sets from the contract, on recommendation from the Technical Officer.

13 INSPECTION OF WORK

13.1 During the progress of the contract all work being undertaken by the Contractor shall be subject to periodic inspection by the Technical Officer. All such workmanship shall be supplied and performed, respectively, to the entire satisfaction of the Technical Officer or his duly authorised representative.

13.2 Should at any stage in the progress of the said works, or on completion, an inspection visit reveal any defects in the processes and procedures, which are due to the part the **Contractor**, such defective workmanship shall immediately be remedied by the **Contractor** at his own expense and to the satisfaction of the Technical Officer or his duly authorised representative.

14 SITE MEETINGS

Site meetings to be scheduled by the Technical Officer if he/she feels that it is necessary. The **Contractor** will be made aware of any such meetings 7 days in advance.

15 EXISTING SERVICES

The **Contractor** shall take all reasonable precautions to protect existing services during construction and during relocation of such services.

Any pipe, cable, conduit or other services of any nature whatsoever indicated to the **Contractor** and subsequently damaged as a result of the **Contractor**'s operations, shall be repaired and reinstated forthwith by the **Contractor** or by the Authority concerned, all at the expense of the **Contractor** and to the satisfaction of the Technical Officer.

Whenever unknown services are encountered which interfere with the execution of the Works and which require to be moved and relocated, the **Contractor** shall advise the Technical Officer who will determine the extent of the work, if any, to be undertaken by the **Contractor** in removing, relocating and reinstating such services.
The sum allowed for in Schedule of Quantities shall be deemed to be full compensation for the location and protection of existing services.

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16 PROGRAMME OF WORK AND METHOD STATEMENT

A detail work program and method statement must be submitted to the Technical Officer within 7 days of acceptance of the tender. The program must indicate the line, kilometre distances, date, quantities, type of work to be performed, the estimated occupation time required, as well as other obligations and responsibilities pertaining to the **WORKS.** The program will be updated regularly and communicated to the Technical Officer. No extension of time claims will be considered without a proper work program.

17 TEMPORARY CAMPS

No campsites or accommodation will be available to the Contractor on Transnet premises. The Contractor must arrange for all facilities needed and these costs must be included in the tender price.

18 POLLUTION PREVENTION

According to the Environmental Management System of the Bloemfontein Infra Depot, pollution must be prevented as far as possible. Where pollution occurs due to the negligence of the Contractor, he/she will be responsible for corrective actions or he/she will be held liable for corrective actions required.

19 SITE DIARY AND INSTRUCTION BOOKS

The Contractor shall supply and have available on the site at all times two A4 size triplicate carbon copy books. In one book, site instructions will be recorded. The other book shall be

used by the contractor as a diary for recording day by day the state of the weather, the work done each day and full details of any circumstance which may affect the progress of the work. The original sheet of each set of three pages will be removed from both books and retained by the Technical Officer. The Contractor may remove the second sheet but the third sheet shall be retained on the site until completion of the work, when it shall be handed over to the Technical Officer.

20 SAFETY

20.1 The Contractor shall comply with requirements of safety legislation and regulations in all respects. The contractor shall in particular comply with the following Acts:

- The Compensation for Occupational Injuries and Diseases Act, No.130 of 1993.
- The Occupational Health and Safety Act, 1993(Act 85 of 1993).

20.2 The Contractor is reminded that working adjacent to railway lines is extremely hazardous and has to be treated as such. The Contractor is responsible to make sure that no workers and equipment are within 3 meters of the railway line. The Contractor is not allowed to work within 3 meters of any high voltage, with ladders or any other equipment. The Contractor must make sure that all workers are equipped **with luminous vests or jackets and safety boots or shoes.** See attached specifications for works on, over, under or adjacent to railway lines and near high voltage equipment. The Contractor must also inform the people under his control not to use objects like sticks, poles, etc. to remove nests or any other objects from high- voltage equipment.

20.3 All reasonable steps to effectively prevent the occurrence of veldt fires shall be required from the Contractor. Such firefighting equipment and resources deemed necessary to effectively fight any veldt fire, which may occur as a result of the work, shall be required at each relay site and shall form part of this contract. The cost to provide such firefighting equipment and resources shall be deemed to be included in the rates tendered and no separate payment shall be made for this. Open fires are not allowed on site. Any claims due to fire caused by Contractor will be for his account.

20.4 The contractor will ensure that a competent supervisor will oversee the safe running and completion of the works and related activities.

20.5 The contractor will issue all workers employed by him with the necessary protection clothing and PPE applicable to the type of work being performed.

20.6 No separate payment shall be made for the safety measures and the costs hereof will be deemed to be included in the rates tendered.

20.7 It is further required of the Contractor to submit to the Project Manager a Safety Plan and Risk Assessment covering all the aspects of safety on site and safe working methods within 1 (One) calendar week of receiving his letter of appointment.

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PART B: SPECIAL AND TECHNICAL SPECIFICATIONS

1 SCOPE OF WORK

This specification covers the technical part for the **determination of the stress-free rail temperature of continuous welded rail on the sections of the railway line from BLOEMFONTEIN - THEUNISSEN (DOUBLE LINE), WHITES – THEUNISSEN (DOUBLE LINE), KROONSTAD – WHITES (DOUBLE LINE), WESTLEIGH – KROONSTAD (DOUBLE LINE), DOVER – WESTLEIGH (DOUBLE LINE) AND WOLWEHOEK – DOVER (DOUBLE LINE)**. The number of tests to be completed is **820**. The work has to comply with the guidelines set out in the manual for **Using the Lift Frame to Determine the Stress-Free Rail Temperature of CWR** compiled by the Track Testing Centre, George Goch.

2 WORK AREA

The work area will be on the main lines and in the geographical area of the Depot Engineer Bloemfontein. The lines involved are as follow:

- BLOEMFONTEIN - THEUNISSEN (DOUBLE LINE)
- WHITES – THEUNISSEN (DOUBLE LINE)
- KROONSTAD – WHITES (DOUBLE LINE)
- WESTLEIGH – KROONSTAD (DOUBLE LINE)
- DOVER – WESTLEIGH (DOUBLE LINE)
- WOLWEHOEK – DOVER (DOUBLE LINE)

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3 WORK CONDITIONS TO BE ENCOUNTERED

Different type of sleepers, rails and their associated fastening types will be encountered which require different planning, resources and work techniques to effectively perform the **Works**. Material that will be encountered is as follow:

Rails: Continuous welded rail
- 40kg
- 48kg
- 57kg

Sleepers:
- Pandrol: P2/PY
- Fist: F4 /FY

4 TO BE SUPPLIED BY TFR

4.1 TFR TO SUPPLY

TFR will supply the lift frame to successfully complete the tests. The said frame will be calibrated and has to be returned with all of the components it is handed over to the contractor with. TFR will also provide a trackmaser for occupational purposes.

5 CONTRACTOR'S RESPONSIBILITIES

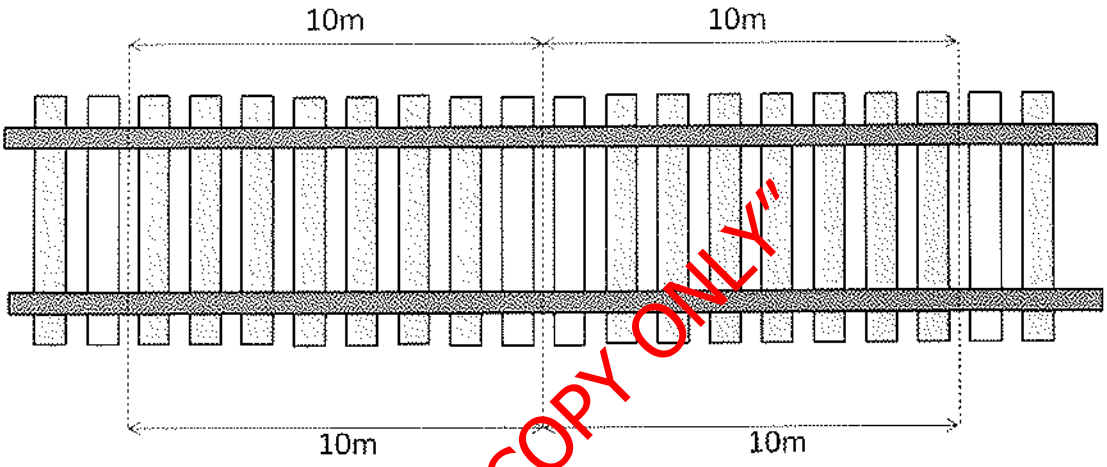
5.1.1 The Contractor shall take all reasonable care to prevent damage to plant supplied by TFR. Any damage through neglect shall be made good, in accordance with the instructions of the technical officer, at the cost of the Contractor.

5.1.2 The Contractor may have full use of the Test Frame for work associated with the contract, provided that he adheres to the structural, mechanical and safety limitations laid down by the Technical Officer.

5.1.3 Transport to and from the work site for Contractor's personnel. It is the **Contractor**'s responsibility to gain access to test sites and TFR cannot guarantee the condition of service roads to site.

5.1.4 After successfully performing the test at every site, the contractor is to paint the following 4 (four) sleepers with a coat of Plascon Bonding Liquid followed by a coat of White Plascon Wall & All:

- the 2 (two) sleepers, 1 (one) on either side, of the exact position the test was performed, and also
- the 2 (two) sleepers at the end of the loosened fastenings so that every fastening, within the 20m needed to perform the test, is within these two farthest sleepers.
- This is to be done after the sleepers have been cleaned and only the top face of the sleeper needs to be painted.
- The following illustrates what is expected to be painted White:



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6 LIST FOR LIFTING FRAME TESTS

The following list indicates where the Contractor shall do the Stress Tests. A set includes both legs to be tested. The left leg of the railway line shall be regarded as the rail on the left hand side when one is facing in the direction of increasing kilometres. Kilometres indicated as 82/02 refer to kilometre 82, mast pole 2.

Wolwehoek - Dover UP MAIN

Test Nr	Kilometer	Leg Tested
1 & 2	30/03	Left & Right
3 & 4	31/01	Left & Right
5 & 6	33/01	Left & Right
7 & 8	35/01	Left & Right
9 & 10	36/01	Left & Right
11 & 12	38/01	Left & Right
13 & 14	40/01	Left & Right
15 & 16	42/01	Left & Right
17 & 18	44/01	Left & Right
19 & 20	45/01	Left & Right

Wolwehoek - Dover DOWN MAIN

Test Nr	Kilometer	Leg Tested
21 & 22	30/03	Left & Right
23 & 24	31/01	Left & Right
25 & 26	33/01	Left & Right
27 & 28	35/01	Left & Right
29 & 30	36/01	Left & Right
31 & 32	38/01	Left & Right
33 & 34	40/01	Left & Right
35 & 36	42/01	Left & Right
37 & 38	44/01	Left & Right
39 & 40	45/01	Left & Right

Dover - Westleigh UP MAIN

Test Nr	Kilometer	Leg Tested
41 & 42	48/1	Left & Right
43 & 44	49/1	Left & Right

Dover - Westleigh DOWN MAIN

Test Nr	Kilometer	Leg Tested
145 & 146	48/1	Left & Right
147 & 148	49/1	Left & Right

45	&	46	50/1	Left & Right
47	&	48	51/1	Left & Right
49	&	50	53/1	Left & Right
51	&	52	55/1	Left & Right
53	&	54	57/1	Left & Right
55	&	56	58/3	Left & Right
57	&	58	60/1	Left & Right
59	&	60	61/6	Left & Right
61	&	62	64/1	Left & Right
63	&	64	66/1	Left & Right
65	&	66	68/1	Left & Right
67	&	68	71/1	Left & Right
69	&	70	73/5	Left & Right
71	&	72	74/1	Left & Right
73	&	74	75/1	Left & Right
75	&	76	75/13	Left & Right
77	&	78	76/1	Left & Right
79	&	80	76/3	Left & Right
81	&	82	77/7	Left & Right
83	&	84	79/1	Left & Right
85	&	86	80/1	Left & Right
87	&	88	80/8	Left & Right
89	&	90	82/5	Left & Right
91	&	92	82/10	Left & Right
93	&	94	83/2	Left & Right
95	&	96	84/6	Left & Right
97	&	98	86/1	Left & Right
99	&	100	89/13	Left & Right
101	&	102	90/4	Left & Right
103	&	104	92/1	Left & Right
105	&	106	95/1	Left & Right
107	&	108	97/1	Left & Right
109	&	110	101/7	Left & Right
111	&	112	102/8	Left & Right
113	&	114	103/1	Left & Right
115	&	116	104/15	Left & Right
117	&	118	105/13	Left & Right
119	&	120	104/1	Left & Right
121	&	122	104/17	Left & Right
123	&	124	105/13	Left & Right
125	&	126	106/12	Left & Right
127	&	128	108/13	Left & Right
129	&	130	109/5	Left & Right
131	&	132	111/1	Left & Right
133	&	134	113/1	Left & Right

149	&	150	50/1	Left & Right
151	&	152	51/1	Left & Right
153	&	154	53/1	Left & Right
155	&	156	55/1	Left & Right
157	&	158	57/1	Left & Right
159	&	160	58/3	Left & Right
161	&	162	60/1	Left & Right
163	&	164	61/6	Left & Right
165	&	166	64/1	Left & Right
167	&	168	66/1	Left & Right
169	&	170	68/1	Left & Right
171	&	172	71/1	Left & Right
173	&	174	73/5	Left & Right
175	&	176	74/1	Left & Right
177	&	178	75/1	Left & Right
179	&	180	75/13	Left & Right
181	&	182	76/1	Left & Right
183	&	184	76/3	Left & Right
185	&	186	77/7	Left & Right
187	&	188	79/1	Left & Right
189	&	190	80/1	Left & Right
191	&	192	80/8	Left & Right
193	&	194	82/5	Left & Right
195	&	196	82/10	Left & Right
197	&	198	83/2	Left & Right
199	&	200	84/6	Left & Right
201	&	202	86/1	Left & Right
203	&	204	89/13	Left & Right
205	&	206	90/4	Left & Right
207	&	208	92/1	Left & Right
209	&	210	95/1	Left & Right
211	&	212	97/1	Left & Right
213	&	214	101/7	Left & Right
215	&	216	102/8	Left & Right
217	&	218	103/1	Left & Right
219	&	220	104/15	Left & Right
221	&	222	105/13	Left & Right
223	&	224	104/1	Left & Right
225	&	226	104/17	Left & Right
227	&	228	105/13	Left & Right
229	&	230	106/12	Left & Right
231	&	232	108/13	Left & Right
233	&	234	109/5	Left & Right
235	&	236	111/1	Left & Right
237	&	238	113/1	Left & Right

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135	&	136	115/1	Left & Right
137	&	138	117/1	Left & Right
139	&	140	118/4	Left & Right
141	&	142	120/1	Left & Right
143	&	144	122/7	Left & Right

239	&	240	115/1	Left & Right
241	&	242	117/1	Left & Right
243	&	244	118/4	Left & Right
245	&	246	120/1	Left & Right
247	&	248	122/7	Left & Right

Westleigh - Kroonstad UP MAIN

Test Nr			Kilometer	Leg Tested
249	&	250	122/1	Left & Right
251	&	252	123/14	Left & Right
253	&	254	123/16	Left & Right
255	&	256	125/15	Left & Right
257	&	258	127/14	Left & Right
259	&	260	129/2	Left & Right
261	&	262	130/1	Left & Right
263	&	264	130/6	Left & Right
265	&	266	133/8	Left & Right
267	&	268	134/1	Left & Right
269	&	270	135/1	Left & Right

Westleigh - Kroonstad DOWN MAIN

Test Nr			Kilometer	Leg Tested
271	&	272	122/1	Left & Right
273	&	274	123/14	Left & Right
275	&	276	123/16	Left & Right
277	&	278	125/15	Left & Right
279	&	280	127/14	Left & Right
281	&	282	129/2	Left & Right
283	&	284	130/1	Left & Right
285	&	286	130/6	Left & Right
287	&	288	133/8	Left & Right
289	&	290	134/1	Left & Right
291	&	292	135/1	Left & Right

Gunhill South - Whites UP MAIN

Test Nr			Kilometer	Leg Tested
293	&	294	6/15	Left & Right
294	&	295	11/1	Left & Right
295	&	296	17/4	Left & Right
296	&	297	21/18	Left & Right
297	&	298	27/1	Left & Right
298	&	299	32/1	Left & Right
299	&	300	37/1	Left & Right
300	&	301	42/1	Left & Right
301	&	302	47/1	Left & Right

Gunhill South - Whites DOWN MAIN

Test Nr			Kilometer	Leg Tested
303	&	304	6/15	Left & Right
305	&	306	11/1	Left & Right
307	&	308	17/4	Left & Right
309	&	310	21/18	Left & Right
311	&	312	27/1	Left & Right
313	&	314	32/1	Left & Right
315	&	316	37/1	Left & Right
317	&	318	42/1	Left & Right
319	&	320	47/1	Left & Right

Whites - Theunissen UP MAIN

Test Nr			Kilometer	Leg Tested
321	&	322	52/1	Left & Right
323	&	324	52/14	Left & Right
325	&	326	57/1	Left & Right
327	&	328	59/1	Left & Right
329	&	330	61/1	Left & Right
331	&	332	61/5	Left & Right
333	&	334	62/2	Left & Right
335	&	336	63/2	Left & Right
337	&	338	68/1	Left & Right
339	&	340	70/1	Left & Right
341	&	342	73/3	Left & Right

Whites - Theunissen DOWN MAIN

Test Nr			Kilometer	Leg Tested
375	&	376	52/1	Left & Right
377	&	378	52/14	Left & Right
379	&	380	57/1	Left & Right
381	&	382	59/1	Left & Right
383	&	384	61/1	Left & Right
385	&	386	61/5	Left & Right
387	&	388	62/2	Left & Right
389	&	390	63/2	Left & Right
391	&	392	68/1	Left & Right
393	&	394	70/1	Left & Right
395	&	396	73/3	Left & Right

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343	&	344	75/16	Left & Right	397	&	398	75/16	Left & Right
345	&	346	78/8	Left & Right	399	&	400	78/8	Left & Right
347	&	348	81/1	Left & Right	401	&	402	81/1	Left & Right
349	&	350	82/1	Left & Right	403	&	404	82/1	Left & Right
351	&	352	83/1	Left & Right	405	&	406	83/1	Left & Right
353	&	354	83/10	Left & Right	407	&	408	83/10	Left & Right
355	&	356	87/1	Left & Right	409	&	410	87/1	Left & Right
357	&	358	88/1	Left & Right	411	&	412	88/1	Left & Right
359	&	360	88/11	Left & Right	413	&	414	88/11	Left & Right
361	&	362	92/1	Left & Right	415	&	416	92/1	Left & Right
363	&	364	93/1	Left & Right	417	&	418	93/1	Left & Right
365	&	366	93/6	Left & Right	419	&	420	93/6	Left & Right
367	&	368	96/1	Left & Right	421	&	422	96/1	Left & Right
369	&	370	97/1	Left & Right	423	&	424	97/1	Left & Right
371	&	372	97/11	Left & Right	425	&	426	97/11	Left & Right
373	&	374	98/1	Left & Right	427	&	428	98/1	Left & Right

Theunissen - Bloemfontein UP MAIN

Test Nr			Kilometer	Leg Tested
429	&	430	100/1	Left & Right
431	&	432	100/12	Left & Right
433	&	434	101/6	Left & Right
435	&	436	101/12	Left & Right
437	&	438	103/1	Left & Right
439	&	440	104/1	Left & Right
441	&	442	105/9	Left & Right
443	&	444	106/1	Left & Right
445	&	446	106/11	Left & Right
447	&	448	107/9	Left & Right
449	&	450	108/5	Left & Right
451	&	452	109/5	Left & Right
453	&	454	110/10	Left & Right
455	&	456	111/11	Left & Right
457	&	458	112/8	Left & Right
459	&	460	113/14	Left & Right
461	&	462	114/17	Left & Right
463	&	464	116/14	Left & Right
465	&	466	117/5	Left & Right
467	&	468	117/11	Left & Right
469	&	470	118/5	Left & Right
471	&	472	119/1	Left & Right
473	&	474	119/8	Left & Right
475	&	476	120/12	Left & Right
477	&	478	122/4	Left & Right
479	&	480	122/13	Left & Right

Theunissen - Bloemfontein DOWN MAIN

Test Nr			Kilometer	Leg Tested
625	&	626	100/1	Left & Right
627	&	628	100/12	Left & Right
629	&	630	101/6	Left & Right
631	&	632	101/12	Left & Right
633	&	634	103/1	Left & Right
635	&	636	104/1	Left & Right
637	&	638	105/9	Left & Right
639	&	640	106/1	Left & Right
641	&	642	106/11	Left & Right
643	&	644	107/9	Left & Right
645	&	646	108/5	Left & Right
647	&	648	109/5	Left & Right
649	&	650	110/10	Left & Right
651	&	652	111/11	Left & Right
653	&	654	112/8	Left & Right
655	&	656	113/14	Left & Right
657	&	658	114/17	Left & Right
659	&	660	116/14	Left & Right
661	&	662	117/5	Left & Right
663	&	664	117/11	Left & Right
665	&	666	118/5	Left & Right
667	&	668	119/1	Left & Right
669	&	670	119/8	Left & Right
671	&	672	120/12	Left & Right
673	&	674	122/4	Left & Right
675	&	676	122/13	Left & Right

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481	&	482	123/4	Left & Right	677	&	678	123/4	Left & Right
483	&	484	124/3	Left & Right	679	&	680	124/3	Left & Right
485	&	486	125/2	Left & Right	681	&	682	125/2	Left & Right
487	&	488	125/12	Left & Right	683	&	684	125/12	Left & Right
489	&	490	126/10	Left & Right	685	&	686	126/10	Left & Right
491	&	492	127/5	Left & Right	687	&	688	127/5	Left & Right
493	&	494	127/11	Left & Right	689	&	690	127/11	Left & Right
495	&	496	128/12	Left & Right	691	&	692	128/12	Left & Right
497	&	498	129/1	Left & Right	693	&	694	129/1	Left & Right
499	&	500	130/1	Left & Right	695	&	696	130/1	Left & Right
501	&	502	130/19	Left & Right	697	&	698	130/19	Left & Right
503	&	504	132/12	Left & Right	699	&	700	132/12	Left & Right
505	&	506	134/4	Left & Right	701	&	702	134/4	Left & Right
507	&	508	135/4	Left & Right	703	&	704	135/4	Left & Right
509	&	510	136/6	Left & Right	705	&	706	136/6	Left & Right
511	&	512	136/14	Left & Right	707	&	708	136/14	Left & Right
513	&	514	137/5	Left & Right	709	&	710	137/5	Left & Right
515	&	516	138/13	Left & Right	711	&	712	138/13	Left & Right
517	&	518	140/11	Left & Right	713	&	714	140/11	Left & Right
519	&	520	141/7	Left & Right	715	&	716	141/7	Left & Right
521	&	522	142/9	Left & Right	717	&	718	142/9	Left & Right
523	&	524	143/1	Left & Right	719	&	720	143/1	Left & Right
525	&	526	144/4	Left & Right	721	&	722	144/4	Left & Right
527	&	528	145/6	Left & Right	723	&	724	145/6	Left & Right
529	&	530	147/1	Left & Right	725	&	726	147/1	Left & Right
531	&	532	148/1	Left & Right	727	&	728	148/1	Left & Right
533	&	534	149/2	Left & Right	729	&	730	149/2	Left & Right
535	&	536	150/1	Left & Right	731	&	732	150/1	Left & Right
537	&	538	151/1	Left & Right	733	&	734	151/1	Left & Right
539	&	540	152/1	Left & Right	735	&	736	152/1	Left & Right
541	&	542	153/1	Left & Right	737	&	738	153/1	Left & Right
543	&	544	153/16	Left & Right	739	&	740	153/16	Left & Right
545	&	546	155/10	Left & Right	741	&	742	155/10	Left & Right
547	&	548	156/7	Left & Right	743	&	744	156/7	Left & Right
549	&	550	157/3	Left & Right	745	&	746	157/3	Left & Right
551	&	552	158/1	Left & Right	747	&	748	158/1	Left & Right
553	&	554	159/13	Left & Right	749	&	750	159/13	Left & Right
555	&	556	160/14	Left & Right	751	&	752	160/14	Left & Right
557	&	558	161/11	Left & Right	753	&	754	161/11	Left & Right
559	&	560	162/11	Left & Right	755	&	756	162/11	Left & Right
561	&	562	163/1	Left & Right	757	&	758	163/1	Left & Right
563	&	564	163/12	Left & Right	759	&	760	163/12	Left & Right
565	&	566	164/15	Left & Right	761	&	762	164/15	Left & Right
567	&	568	165/12	Left & Right	763	&	764	165/12	Left & Right
569	&	570	167/11	Left & Right	765	&	766	167/11	Left & Right

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571	&	572	168/13	Left & Right	767	&	768	168/13	Left & Right
573	&	574	169/5	Left & Right	769	&	770	169/5	Left & Right
575	&	576	170/1	Left & Right	771	&	772	170/1	Left & Right
577	&	578	171/7	Left & Right	773	&	774	171/7	Left & Right
579	&	580	172/13	Left & Right	775	&	776	172/13	Left & Right
581	&	582	173/9	Left & Right	777	&	778	173/9	Left & Right
583	&	584	174/13	Left & Right	779	&	780	174/13	Left & Right
585	&	586	175/9	Left & Right	781	&	782	175/9	Left & Right
587	&	588	176/10	Left & Right	783	&	784	176/10	Left & Right
589	&	590	177/1	Left & Right	785	&	786	177/1	Left & Right
591	&	592	178/1	Left & Right	787	&	788	178/1	Left & Right
593	&	594	179/1	Left & Right	789	&	790	179/1	Left & Right
595	&	596	180/7	Left & Right	791	&	792	180/7	Left & Right
597	&	598	181/7	Left & Right	793	&	794	181/7	Left & Right
599	&	600	182/1	Left & Right	795	&	796	182/1	Left & Right
601	&	602	182/14	Left & Right	797	&	798	182/14	Left & Right
603	&	604	183/12	Left & Right	799	&	800	183/12	Left & Right
605	&	606	184/5	Left & Right	801	&	802	184/5	Left & Right
607	&	608	185/1	Left & Right	803	&	804	185/1	Left & Right
609	&	610	186/1	Left & Right	805	&	806	186/1	Left & Right
611	&	612	187/1	Left & Right	807	&	808	187/1	Left & Right
613	&	614	188/4	Left & Right	809	&	810	188/4	Left & Right
615	&	616	189/1	Left & Right	811	&	812	189/1	Left & Right
617	&	618	190/2	Left & Right	813	&	814	190/2	Left & Right
619	&	620	191/1	Left & Right	815	&	816	191/1	Left & Right
621	&	622	192/1	Left & Right	817	&	818	192/1	Left & Right
623	&	624	193/1	Left & Right	819	&	820	193/1	Left & Right

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A total number of tests to be performed are 820, all of which are to be done on main lines.

7 RAIL STRESS-FREE DETERMINATION PRINCIPLES

In addition to what is stipulated in the guidelines set out in the manual for **Using the Lift Frame to determine the Stress-Free Rail Temperature of CWR (ANNEXURE A)** the Contractor shall comply with all the following principles.

- The Contractor shall be allowed to do preparation work to improve productivity of the work's team. Typical preparation tasks such as boxing out of ballast can be carried out provided it is done under the correct protection circumstances and confirmed with the Technical Officer. It is advisable that such preparation work will be done between trains, which do not cause additional speed restrictions.
- Boxing out of the ballast must be done in such a manner that the risk for kick-outs does not increase
- Loosening of the sleeper fastenings will only be done by the correct equipment as not to damage them.
- All fastening components that will be re-used or inserted must be properly set aside as not to get lost or damaged.
- The Contractor shall use 2 (two) approved, accurate and reliable digital thermometers during the stress testing.

- Rail temperatures will be measured by measuring on the shade side of the web of the rail, shading it from direct sunlight. The average of the two readings to be taken as the rail temperature.
- The Contractor shall do stress measurements with the lifting frame and the results will be presented to the Technical Officer. The Technical Officer will interpret the results.
- The Contractor shall keep a complete record of the stress measurements information on the ***Stress free rail temperature calculation sheet.*** **(ANNEXURE B)**
- The Contractor shall ensure that the sleepers and fastenings are clear from ballast or other materials as not to damage the fastenings/sleepers when the rails are lowered into position.
- Fastening of the sleeper fastenings will only be done by the correct equipment as not to damage them.
- It will be expected of the Contractor to give each test a number, TFR will provide the Contractor with the appropriate number. These markings must be made on the inside of the rail. The Contractor to use white paint and an appropriate paintbrush. Costs to be included in rates tendered.
- Rail Temperature when testing has to be between 5 °C and 20 °C.

8 NORMAL WORKING HOURS

- Work will not commence earlier than 06h00.
- A workday will be no longer than nine hours, the nine hours will be taken from the time work commences.

9 FINALISATION OF TESTING WORK AREA

After a track panel has been tested and before hand over can take place the Contractor shall ensure that:

- All sleeper fastenings are correctly fastened.
- All ballast is properly boxed in and the ballast profile conforms to the specification applicable to the particular radius or tangent track.

10 QUALITY CONTROL

- All work performed by the Contractor shall be subjected to various quality control checks. Payment of work performed will be based on the successful outcome of the quality checks.
- Any deviations will be reported to the Contractor in writing.

10.1 VISUAL INSPECTIONS

All work will be visually inspected for conformance to the applicable specifications.

10.1.1 COMPLETION OF MANDATORY FORMS

- All specified forms shall be completed by the TFR Trackmaster and will form part of the quality control process.
- See **ANNEXURE B** for example of mandatory forms to be completed.

10.1.2 RANDOM TESTS

- TFR reserves the right to do additional random tests as specified in this document to ensure that the standard of workmanship is according to the specifications.
- The random tests include visual, lifting frame stress measurements or any physical measurements taken.
  A minimum of six Quality tests will be conducted each month. If one of the tests reveals a stress free temperature which differ by more than five

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degrees from the Contractors stress free temperature an additional fourteen (14) tests will be conducted at random. The data collected from the twenty (6 + 14 = 20) tests will be used to calculate the quality factor as follows:

Quality control factor Referring to clause **10.1.2**.

- Where the minimum of six monthly Quality tests revealed no difference (within the 5° C S.F.T.) the contractor would be paid the number of test claimed (per month) multiplied by 1.
- In the event that there is a difference (more than 5° C S.F.T.) the payment will be as follows:
  Twenty divides the number of Quality tests within five degrees of the Contractor's values. The number of tests claimed for that month then multiplies this factor.

Payment= Number of tests within Five (5) degrees * Total number of tests done for the month * rate
20

11 MEASUREMENTS AND PAYMENT

11.1 Rail Stress Testing

11.1.1 Item 1: Includes all preparation work and finalisation of the track to the satisfaction of the Technical officer or his appointed deputy.

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11.1.2 Site Establishment and Preliminary and General

No separate payment will be made for:

- Site Establishment
- Preliminary and General

These costs to be included in the rates tendered.

11.1.3 Minimum requirements for payment

Should the Contractor fail to have his full strength team, of minimum 10 people, on site to perform the tests at a productive rate no payment will be made. If for any reason the TFR Trackmaster proves unavailable on a specific day and the Contractor fails to complete the minimum of 6 tests for that day, the Contractor will be paid the fee of the 6 tests which had to be completed. In the event that a Trackmaster is unavailable the Contractor has to prove that this was the case by means of an entry into the site diary.

12 SITE INSPECTION

A site meeting will be held at the Depot Engineers Office, Bloemfontein if necessary. The Project Manager for this contract will be Mr Johan Jonker and he can be contacted on this cell-phone number 083 400 7746 or 051 408 2678.

REQUEST FOR QUOTATION [RFQ] No BFX/52982

DECLARATION BY PROJECT MANAGER

TENDER FOR: Determine stress-free rail temp of continuous welded rail from Bloemfontein to Theunissen (double line), Whites to Theunissen (double line), Kroonstad to Whites (double line), Westleigh to Kroonstad (double line), Dover to Westleigh (double line)

I have acquainted myself with all the technical requirements/details of the contract documents in respect of the abovementioned tender correctness, completeness & confirm that the following are in order.

(Please indicate Yes/no) **Estimated Value** R

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Respondents`s Signature

Date & Company stamp

ANNEXURE A

Manual for using the lift frame to determine the Stress-Free rail temperature of CWR

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USING THE LIFT FRAME TO DETERMINE THE STRESS-FREE RAIL TEMPERATURE OF CWR

TRACK TESTING CENTRE
GEORGE GOCH

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Table of contents

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1 Introduction

The lift frame was developed at the Track Testing Centre (TTC) at George Goch. This frame can be used on 48, 57, S 60 and UIC 60 kg/m rails on concrete sleepers with Fist or Pandrol fasteners.

The lift frame is used to determine the stress-free rail temperature of rails used in continuous welded sections.

The TTC does not take any responsibility for faulty readings or injuries if the lift frame is used in any other way than explained in this document.

2 The lift frame

The safe working load of the frame is 5 tons. The load frame consists of a basic frame of 38 mm square tubing, wall thickness of 2 mm, a hydraulic pump and ram with a gauge indicating tons. Fitted to the ram is a set of grips that hook to the foot of the rail. See figure 1.

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Figure 1. Lift frame

3. The gauge

Figure 2 shows the gauge. The short sub division indicates 0,04 tons, medium subdivisions 0,2 tons and long subdivisions 1 ton.

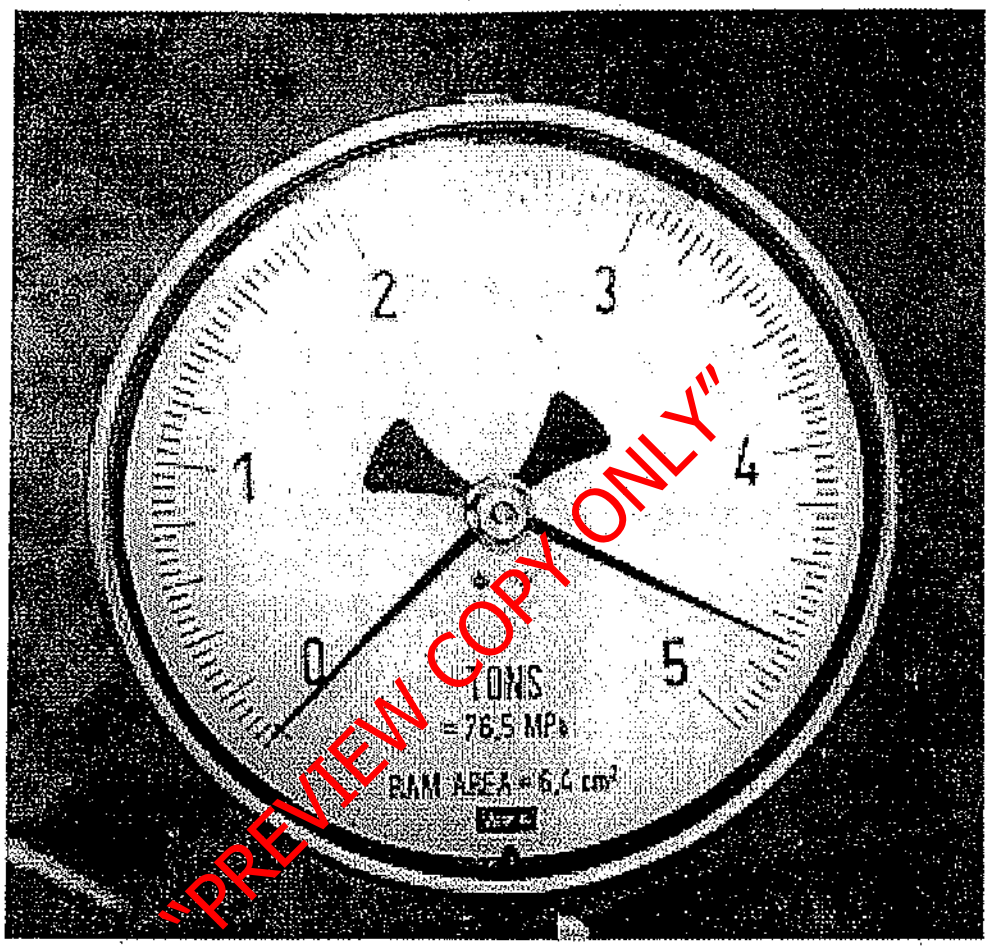

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Figure 2. The gauge of the lift frame

4. Basic principle

The frame can only be used when the rail is in tension. The frame is used to lift the rail 70 mm while measuring the force needed to lift the rail. This reading is obtained from the gauge. The higher the tension force in the rail, the greater the force to lift the rail.

The reason why the rail is lifted 70 mm is to overcome the mass of the rail first before the tension force comes into account. Because the 48, 57, S 60 and UIC 60 kg/m rails have different masses per metre they are handled separately when the stress-free rail temperature is determined.

5. Additional parts of the frame

A rectangular steel block and spacer plates are supplied with the frame. This block and spacer plates are used when the frame is used on Pandrol fastenings. The block is necessary to take up the gap from the grips to the base of the rail on a Pandrol fastening system. On a Fist system the block is not necessary. The ram can extent only 85,5 mm and therefore the block must be used with Pandrol fastenings to make up the gap between the grips and the base of the rail.

6. The 70 mm measuring plate

On the cross bar at the top of the frame, a thin steel plate is fixed with a wing nut. This plate can move up or down. From the bottom of the plate 70 mm up, a thin line is marked. This is used to determine when the rail is lifted 70 mm.

7. Tables for determining the stress-free temperature of a rail

Attached to this document tables are given for the 48, 57, S 60 and UIC 60 kg/m rails to be used with the lift frame.

8. Working procedure

8.1 The place where the stress-free temperature of the rail must be determined is marked. This must be between sleepers.

8.2 From this mark 10 m is marked out in each direction along the rail. This totals 20 m with the point where the stress-free rail temperature is to be determined, in the middle. When a 10 m mark falls between two sleepers, the next sleeper must be marked (furthest from the middle).

8.3 Two thermometers are placed on the inner and outside of the web of the rail to determine the rail temperature. The average between the two readings is taken as the rail temperature.

8.4 After arrangement and conformation for sufficient time between trains (15 min) the 20 m rail is loosened. The rail must be loosened in such a way to make sure that the rail is lifted freely. The lift frame is positioned as depicted in figure 1 above the rail. For Pandrol fastenings the steel block must be placed on the grips.

8.5 The grips are lifted with the hand pump until they touch the base of the rail. The 70 mm measuring plate is then positioned such that the bottom of the plate is lined up with the top cross bar of the grips, and then locked with the wing nut.

8.6 The rail then is lifted by means of the hand pump until the top of the cross bar of the grips is in line with the 70 mm reference line. The rail is then lowered into its original position by regulating the valve on the hand pump. This is to distribute the stresses in the rail evenly over the 20 m length of rail. The grips are again lifted until they touch the base of the rail and the 70 mm measuring plate is positioned as mentioned in 8.5.

8.7 The rail is again lifted until the top of the cross bar of the grips is in line with the 70 mm reference line. The needle on the gauge is noted. It will tend to drop backwards and stabilise after a few seconds. When it has stabilised the reading is noted.

8.8 The rail temperature is obtained from the average of the two thermometers.

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8.9 The tables are used to establish the stress-free rail temperature . The following example is given:

Rail temperature:	19 °C
Rail mass:	57 kg/m
Gauge reading:	1,6 tons

The stress-free rail temperature from the table will be 34 °C.

8.10 The different rails will experience the following forces / °C.

48 kg/m	1,42 tons / °C
57 kg/m	1,73 tons / °C
S60 kg/m	1,82 tons / °C
UIC60 kg/m	1,82 tons / °C

8.11 The following equations can be used if tests is analysed with a spread sheet program:

$$\text{Stress-free rail temp.} = \left(\frac{r - 1{,}312334}{1{,}82 * 0{,}012294}\right) + \text{rail temperature} \qquad \text{(S60 kg/m)}$$

$$\text{Stress-free rail temp.} = \left(\frac{r - 1{,}432184}{1{,}82 * 0{,}012171}\right) + \text{rail temperature} \qquad \text{(UIC60 kg/m)}$$

$$\text{Stress-free rail temp.} = \left(\frac{r - 1{,}282537}{1{,}73 * 0{,}012113}\right) + \text{rail temperature} \qquad \text{(57 kg/m)}$$

$$\text{Stress-free rail temp.} = \left(\frac{r - 1{,}009323}{1{,}42 * 0{,}015719}\right) + \text{rail temperature} \qquad \text{(48 kg/m)}$$

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9 Safety

9.1 If the load frame is used in a curve the radius of the curve must not be less than 500 m.

9.2 The frame must be positioned in such a way that the hand pump is on the outside of the curve. This is to prevent injury if the forces in the rail are so high that the rail will tend to straighten if it is lifted. It is recommended that the rail temperature must be between 5 °C and 20 °C when tests on curves are done.

9.3 According to Transnet safety personnel it is not necessary to check the frame annually. The gauge will be check annually by this office for calibration.

9.4 At all times when the load frame is stored or moved precaution must be taken to make sure that the gauge is not damaged. This will lead faulty readings.

STRESS-FREE TEMPERATURE (48 kg/m)

		RAIL TEMPERATURE (^{o}C)																	
		5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39
P (ton)	1.10	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43
	1.15	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45
	1.20	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47
	1.25	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49
	1.30	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51
	1.35	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54
	1.40	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56
	1.45	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58
	1.50	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60
	1.55	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62
	1.60	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64
	1.65	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66
	1.70	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68
	1.75	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70
	1.80	39	41	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73
	1.85	41	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73	75
	1.90	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73	75	77
	1.95	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73	75	77	79
	2.00	47	49	51	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81
	2.05	49	51	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83
	2.10	51	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85
	2.15	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87
	2.20	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87	89
	2.25	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92
	2.30	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94
	2.35	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96
	2.40	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98

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P = Force to lift rail 70 mm

STRESS-FREE RAIL TEMPERATURE (57 kg/m)

		RAIL TEMPERATURE (°C)																	
		5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39
P (ton)	1.35	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42
	1.40	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45
	1.45	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47
	1.50	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49
	1.55	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52
	1.60	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54
	1.65	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56
	1.70	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59
	1.75	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61
	1.80	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63
	1.85	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66
	1.90	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68
	1.95	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70
	2.00	39	41	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73
	2.05	41	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73	75
	2.10	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73	75	77
	2.15	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80
	2.20	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82
	2.25	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84
	2.30	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87
	2.35	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87	89
	2.40	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87	89	91

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P = Force to lift rail 70 mm

STRESS-FREE RAIL TEMPERATURE (S 60)

P (ton)	RAIL TEMPERATURE (^{0}C)																	
	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39
1.40	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43
1.44	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45
1.48	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46
1.52	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
1.56	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50
1.60	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52
1.64	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54
1.68	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55
1.72	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57
1.76	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59
1.80	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61
1.84	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63
1.88	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64
1.92	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66
1.96	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68
2.00	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70
2.04	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72
2.08	39	41	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73
2.12	41	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73	75
2.16	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73	75	77
2.20	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73	75	77	79

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P = Force to lift rail 70 mm

STRESS-FREE RAIL TEMPERATURE (UIC 60)

P (ton)	RAIL TEMPERATURE (°C)																	
	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39
1.44	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39
1.48	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41
1.52	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42
1.56	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44
1.60	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46
1.64	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47
1.68	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49
1.72	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50
1.76	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52
1.80	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54
1.84	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55
1.88	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57
1.92	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58
1.96	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60
2.00	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62
2.04	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63
2.08	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61	63	65
2.12	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66
2.16	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68
2.20	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70
2.24	37	39	41	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71
2.28	39	41	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73
2.32	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74
2.36	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76
2.40	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78
2.44	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73	75	77	79
2.48	47	49	51	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81
2.52	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82
2.56	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84
2.60	51	53	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85

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P = Force to lift rail 70 mm

ANNEXURE B

Mandatory form to be completed as part of quality control

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FRAME TEST REPORT

Tested by: _____

Line Code: _____

Section: _____

Destressing Ranges [°C]		
Through Lines		
Yard Tracks		

Date [dd/mm/yy]	Kilometer		Rail Type 30,40,48,57	Temperature [°C]			Force [Tons]			S.F.T. [°C]	Tens. / Comp.	L&R 5°C
				1	2	avg	1	2	avg			
		L										
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Comments: _____

TRANSNET SOC LIMITED

(Registration no. 1990/000900/30)

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

1. General

1.1 The Contractor and Transnet Limited (hereinafter referred to as "Transnet") are individual employers, each in its own right, with their respective duties and obligations set out in the Occupational Health and Safety Act, Act 85 of 1993 (the Act) and applicable Regulations.

1.2 The Contractor accepts, in terms of the General Conditions of Contract and in terms of the Act, his obligations as an employer in respect of all persons in his employ, other persons on the premises or the Site or place of work or on the work to be executed by him, and under his control. He shall, before commencement with the execution of the contract work, comply with the provisions set out in the Act, and shall implement and maintain a Health and Safety Plan as described in the Construction Regulations, 2003 and as approved by Transnet, on the Site and place of work for the duration of the Contract.

1.3 The Contractor accepts his obligation to complying fully with the Act and applicable Regulations notwithstanding the omission of some of the provisions of the Act and the Regulations from this document.

1.4 Transnet accepts, in terms of the Act, its obligations as an employer of its own employees working on or associated with the site or place of work, and the Contractor and Technical Officer or his deputy shall at all times, co-operate in respect of the health and safety management of the site, and shall agree on the practical arrangements and procedures to be implemented and maintained during execution of the Works.

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

2. Definitions

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

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

(a) the erection, maintenance, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure;

(b) the installation, erection, dismantling or maintenance of fixed plant where such work includes the risk of a person falling;

(c) the construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure; or

(d) the moving of earth, clearing of land, the making of an excavation, piling, or any similar type of work;

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

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

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

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

2.7 **"Health and Safety Plan "** means a documented plan which addresses the hazards identified and include safe work procedures to mitigate, reduce or control the hazards identified;

2.8 **"Risk Assessment"** means a programme to determine any risk associated with any hazard at a construction site, in order to identify the steps needed to be taken to remove, reduce or control such hazard;

2.9 **"the Act"** means the Occupational Health and Safety Act No. 85 of 1993.

3. Procedural Compliance

3.1 The Contractor who intends to carry out any construction work shall, before carrying out such work, notify the Provincial Director in writing if the construction work:-

(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:-

(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, 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 and deliver copies thereof to the 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 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 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 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 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.

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5. Health and Safety Programme

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

(i) The provision, as far as is reasonably practical, of a working environment that is safe and without risk to the health of his employees and subcontractors in terms of section 8 of the Act;

(ii) the execution of the contract work in such a manner as to ensure in terms of section 9 of the Act that persons other than those in the Contractor's employment, who may be directly affected by the contract work are not thereby exposed to hazards to their health and safety;

(iii) ensuring, as far as is reasonably practical, in terms of section 37 of the Act that no employee or subcontractor of the Contractor does or omits to do any act which would be an offence for the Contractor to do or omit to do.

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

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

(a) The identification of the risks and hazards that persons may be exposed to;

(b) the analysis and evaluation of the hazards identified;

(c) a documented Health and Safety Plan, including safe work procedures to mitigate, reduce or control the risks identified;

(d) a monitoring and review plan.

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

(a) The safety management structure to be instituted on site or place of work and the names of the Contractor's health and safety representatives and members of safety committees where applicable;

(b) the safe working methods and procedures to be implemented to ensure the work is performed in compliance with the Act and Regulations;

(c) the safety equipment, devices and clothing to be made available by the Contractor to his employees;

(d) the site access control measures pertaining to health and safety to be implemented;

(e) the arrangements in respect of communication of health and safety related matters and incidents between the Contractor, his employees, subcontractors and the Technical Officer with particular reference to the reporting of incidents in compliance with Section 24 and General Administrative Regulation 8 of the Act and with the pertinent clause of the General Conditions of Contract forming part of the Contract and

(f) the introduction of control measures for ensuring that the Safety Plan is maintained and monitored for the duration of the Contract.

5.4 The Health and Safety programme shall be subject to the Technical Officer's approval and he may, in consultation with the Contractor, order that additional and/or supplementary practical arrangements and procedures be implemented and maintained by the Contractor or that different working methods or safety equipment be used or safety clothes be issued which, in the Technical Officer's opinion, are necessary to ensure full compliance by the Contractor with his obligations as an employer in terms of the Act and Regulations. The Technical Officer or his deputy shall be allowed to attend meetings of the Contractor's safety committee as an observer.

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5.5 The Contractor shall take reasonable steps to ensure that each subcontractor's Health and Safety Plan is implemented and maintained on the construction site: Provided that the steps taken, shall include periodic audits at intervals mutually agreed to between the them, but at least once every month.

5.6 The Contractor shall stop any subcontractor from executing any construction work, which is not in accordance with the Contractor's, and/or subcontractor's Health and Safety Plan for the site or which poses a threat to the health and safety of persons.

5.7 The Contractor shall ensure that a copy of the Health and Safety Plan is available on site for inspection by an inspector, Technical Officer, agent, subcontractor, employee, registered employee 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 health and safety induction pertaining to the hazards prevalent on the site and shall be provided with the necessary personal protective equipment.

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6. Fall Protection Plan

6.1.1 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;

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

6.3 The fall protection plan shall include:-

(a) A Risk Assessment of all work carried out from an elevated position;

(b) the procedures and methods to address all the identified risks per location;

(c) the evaluation of the employees physical and psychological fitness necessary to work at elevated positions;

(d) the training of employees working from elevated positions; and

(e) the procedure addressing the inspection, testing and maintenance of all fall protection equipment.

7. Hazards and Potential Hazardous Situations

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

8. Health and Safety File

8.1 The Contractor shall ensure that a health and safety file is opened and kept on site and shall include all documentation required as per the Act and applicable regulations, and made available to an inspector, the Technical Officer, or subcontractor upon request.

8.2 The Contractor shall ensure that a copy of the both his Health and Safety Plan as well as any subcontractor's Health and Safety Plan is available on request to an employee, inspector, contractor or the Technical Officer.

8.3 The Contractor shall hand over a consolidated health and safety file to the Technical Officer upon completion of the Construction Work and shall in addition to documentation mentioned in the Act and applicable Regulations include a record of all drawings, designs, materials used and other similar information concerning the completed structure.

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ANNEXURE 1

OCCUPATIONAL HEALTH AND SAFETY ACT, 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: _____

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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.

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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 :- _____

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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 : _____

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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 under your control having access to the site.

As from the date hereof 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.

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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

Transnet SOC Limited Registration Number 1990/00900/06

TRANSNET SPECIFICATION

E7/1 - SPECIFICATION FOR GENERAL WORK AND WORKS ON, OVER, UNDER OR ADJACENT TO RAILWAY LINES AND NEAR HIGH VOLTAGE EQUIPMENT

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(This specification shall be used in network operator contracts)

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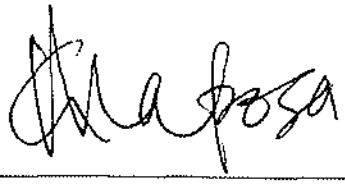
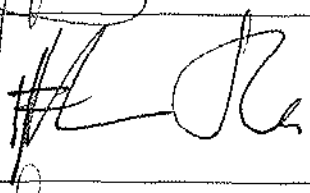
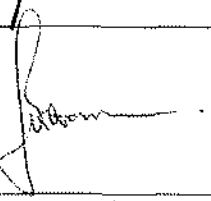
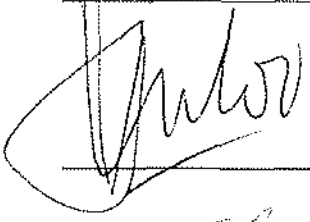
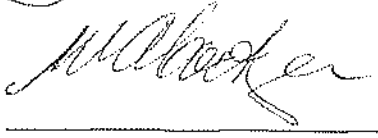
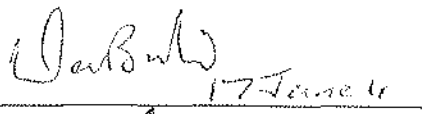
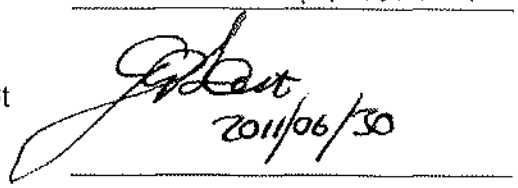
SPECIFICATION FOR GENERAL WORK AND WORKS ON, OVER, UNDER OR ADJACENT TO RAILWAY LINES AND NEAR HIGH VOLTAGE EQUIPMENT

Author:	Project Manager Capital Program (Electrical)	G. Maposa	
Approved:	Senior Engineer Infra Engineering (Train Authorisation Systems)	J. van den Berg	
"	Principal Engineer Infra Engineering (Track)	M. Marutla	
"	Principal Engineer Infra Engineering (Structures)	J. Homan	
"	Principal Engineer Infra Engineering (Electrical)	J. Vosloo	
"	Principal Engineer Technology Management (Electrical)	W. Coetzee	
"	Chief Engineer Transport Telecoms	D. Botha	
Authorised:	Chief Engineer Infrastructure Engineering	J. van Aardt	

Date: May 2011

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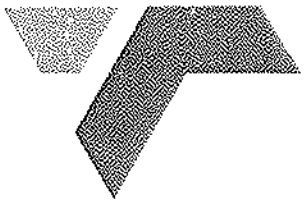

Transnet SOC Limited Registration Number 1990/00900/06

TRANSNET SPECIFICATION

E7/1 - SPECIFICATION FOR GENERAL WORK AND WORKS ON, OVER, UNDER OR ADJACENT TO RAILWAY LINES AND NEAR HIGH VOLTAGE EQUIPMENT

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1.0 SCOPE

1.1 This specification covers the network operator's requirements for general work and works on, over, under or adjacent to railway lines and near high voltage equipment.

2.0 DEFINITIONS

The following definitions shall apply:

"Authorised Person" - A person whether an employee of the network operator or not, who has been specially authorised to undertake specific duties in terms of Transnet' publication Electrical Safety Instructions, 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 the network operator to carry out work on its behalf.

"Contract Supervisor" - The person or juristic person appointed by the network operator from time to time as the Contract Supervisor, to administer the Contractor's performance and execution of the Works according to the powers and rights held by and obligations placed upon the Contract Supervisor in terms of the Contract.

"Dead" - Isolated and earthed.

"Electrical Officer (Contracts)" - The person appointed in writing by the Project Manager in terms of this specification 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 the network operator 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 1000 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 the network operator 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.

"Optical Fibre Cable" - Buried or suspended composite cable containing optical fibres used in:

- telecommunication networks for transmission of digital information and
- safety sensitive train operations systems.

"Project Manager" – As defined in the special conditions of the contract. The person or juristic person appointed by the network operator 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 (general or direct) staff under his control who perform general work or to work on, over, under or adjacent to railway lines and in the vicinity of high-voltage electrical equipment.

"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.

"Works" – The contractual intent for the work to be done as defined in the contract at a defined work site.

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PART A - GENERAL SPECIFICATION

3.0 AUTHORITY OF OFFICERS OF TRANSNET

3.1 The Contractor shall co-operate with the officers of the network operator and shall comply with all instructions issued and restrictions imposed with respect to the Works which bear on the existence and operation of the network operator's railway lines and high-voltage equipment.

3.2 Without limiting the generality of the provisions of clause 3.1, any duly authorised representative of the network operator, having identified himself, may stop the work if, in his opinion, the safe passage of trains or the safety of the network operator's assets or any person is affected. **CONSIDERATIONS OF SAFETY SHALL TAKE PRECEDENCE OVER ALL OTHER CONSIDERATIONS.**

4.0 CONTRACTOR'S REPRESENTATIVES AND STAFF

4.1 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 Contract Supervisor with the names, addresses and telephone numbers of the representatives.

4.2 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.

4.3 The Contractor shall ensure that all contractor staff receives relevant awareness, educational and competence training regarding safety as prescribed.

5.0 OCCUPATIONS AND WORK PERMITS

5.1 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 Contract Supervisor and at times to suit the network operator requirements.

5.2 The Contractor shall organise the Works in a manner which will minimise the number and duration of occupations and work permits required.

5.3 The network operator 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.

5.4 The Contractor shall submit to the Contract Supervisor, in writing, requests for occupations or work permits together with details of the work to be undertaken, at least 21 days before they are required. The network operator does not undertake to grant an occupation or work permit for any particular date, time or duration.

5.5 The network operator 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 5.6 to 5.8.

5.6 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.

5.7 When the Contractor is notified less than 2 hours before the scheduled 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.

5.8 Reimbursement of the Contractor for any loss of working time in terms of clause 5.6 and 5.7, 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 Contract Supervisor certifies that no other work on which the labour and plant could be employed was immediately available.

5.9 Before starting any work for which an occupation has been arranged, the Contractor shall obtain from the Contract Supervisor written confirmation of the date, time and duration of the occupation.

5.10 Before starting any work for which a work permit has been arranged, the Responsible Representative shall read and sign portion C of the Work Permit, signifying that he is aware of the work boundaries within which work may be undertaken. After the work for which the permit was granted has been completed, or when the

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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 Work Permit, thereby acknowledging that he is aware that the electrical equipment is to be made "live". The Contractor shall advise all his workmen accordingly.

6.0 SPEED RESTRICTIONS AND PROTECTION

6.1 When speed restrictions are imposed by the network operator 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.

6.2 When the Contract Supervisor 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 the network operator's and the Contractor's personnel and assets, the public and including trains.

6.2.1 The network operator will provide training free of charge of the Contractor's flagmen and other personnel performing protection duties. The Contractor shall consult with the Contract Supervisor, whenever he considers that protection will be necessary, taking into account the minimum permissible clearances set out in the Manual for Track Maintenance (Document no. BBB0481):

- Drawing no. BE-97 Sheet 1: Horizontal Clearances: 1065mm gauge (Annexure 1 sheet 1)
- Drawing no. BE-97 Sheet 2: Vertical Clearances: 1065mm gauge (Annexure 1 sheet 2)
- Drawing no. BE-97 Sheet 3: Clearances: Platform (Annexure 1 sheet 3)
- Drawing no. BE-97 Sheet 5: Clearances: 610mm Gauge (Annexure 1 sheet 5)

6.3 The Contractor shall appoint a Responsible Representative to receive and transmit any instruction which may be given by the network operator personnel providing protection.

7.0 ROADS AND ROADS ON THE NETWORK OPERATOR'S PROPERTY

7.1 The Contractor shall take every reasonable precaution to prevent damage to any roads or bridges used to obtain access to the site, and shall select routes, use vehicles, and restrict loads so that any extraordinary traffic as may arise from the moving of plant or material to or from the site shall be limited as far as is reasonably possible.

7.2 The Contractor shall not occupy or interfere in any way with the free use of any public or private road, right-of-way, path or street unless the Contract Supervisor has obtained the approval of the road authority concerned.

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8.0 CLEARANCES

8.1 No temporary works shall encroach on the appropriate minimum clearances set out in the Manual for Track Maintenance (Document no. BBB0481):

- Drawing no. BE-97 Sheet 1: Horizontal Clearances: 1065mm gauge (Annexure 1 sheet 1)
- Drawing no. BE-97 Sheet 2: Vertical Clearances: 1065mm gauge (Annexure 1 sheet 2)
- Drawing no. BE-97 Sheet 3: Clearances: Platform (Annexure 1 sheet 3)
- Drawing no. BE-97 Sheet 5: Clearances: 610mm Gauge (Annexure 1 sheet 5)

9.0 STACKING OF MATERIAL

9.1 The Contractor shall not stack any material closer than 3m from the centre line of any railway line without prior approval of the Contract Supervisor.

10.0 EXCAVATION, SHORING, DEWATERING AND DRAINAGE

10.1 Unless otherwise approved by the Contract Supervisor any excavation adjacent to a railway line shall not encroach on the hatched area shown in Figure 1.

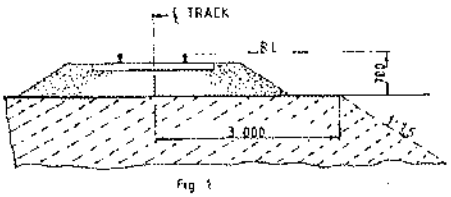

Fig 1

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

10.3 Where required by the Contract Supervisor, 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.

10.4 The Contractor shall prevent ingress of water to the excavation but where water does enter, he shall dispose of it as directed by the Contract Supervisor.

10.5 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.

11.0 FALSEWORK FOR STRUCTURES

11.1 Drawings of falsework for the construction of any structure over, under or adjacent to any railway line shall be submitted to the Contract Supervisor 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.

11.2 After the falsework has been erected and before any load is applied, the Contractor shall submit to the Contract Supervisor 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 Contract Supervisor to proceed, the Contractor shall be entirely responsible for the safety and adequacy of the falsework.

12.0 PILING

12.1 The Contract Supervisor will specify the conditions under which piles may be installed on the network operator's property.

13.0 UNDERGROUND SERVICES

13.1 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.

13.2 Any damage shall be reported immediately to the Contract Supervisor, or to the official in charge at the nearest station, or to the traffic controller in the case of centralised traffic control.

14.0 BLASTING AND USE OF EXPLOSIVES

14.1 When blasting within 500m of a railway line, the Contractor shall observe the requirements stipulated in this specification.

14.2 No blasting shall be carried out except with the prior written permission of the Contract Supervisor and under such conditions as he may impose.

14.3 On electrified lines the Contractor shall also obtain the permission of the Electrical Officer (Contracts) before blasting, and shall give at least 21 days notice of his intention to blast. No blasting shall be done in the vicinity of electrified lines unless a member of the network operator's electrical personnel is present.

14.4 The Contractor shall arrange for the supply, transport storage and use of explosives.

14.5 The Contractor shall have labour, tools and plant, to the satisfaction of the Contract Supervisor, available on the site to clear immediately any stones or debris deposited on the track or formation by blasting, and to repair any damage to the track or formation immediately after blasting. Repairs to the track shall be carried out only under the supervision of a duly authorised representative of the network operator.

14.6 The Contractor shall notify the Contract Supervisor of his intention to blast at least 21 days before the commencement of any blasting operations.

14.7 Before any blasting is undertaken, the Contractor and the Contract Supervisor shall jointly examine and measure up any buildings, houses or structures in the vicinity of the proposed blasting to establish the extent of any existing cracking or damage to such structures, etc. The Contractor, shall, subject to the provisions stipulated in the Contract Insurance Policy, make good any deterioration of such buildings, houses, or structures, which, in the opinion of the Contract Supervisor, was directly caused by the blasting.

14.8 After completion of the blasting the Contractor shall obtain a written clearance from each landowner in

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the vicinity of the blasting operations to the effect that all claims for compensation in respect of damage caused by the blasting operations to their respective properties, have been settled.

14.9 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).

14.10 Blasting within 500m of a railway line will only be permitted during intervals between trains. A person appointed by the Contract Supervisor, 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.

14.11 The flagmen described in clause14.10, where provided by the network operator, are for the protection of trains and the network operator's 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.

14.12 The person described in clause 14.10 will record in a book provided and retained by the network operator, 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.

14.13 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 Contract Supervisor and the person who will do the blasting shall both sign the book whenever an entry described in clause 14.12 is made.

15.0 RAIL TROLLEYS

15.1 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 Contract Supervisor and under the conditions stipulated by him.

15.2 All costs in connection with trolley working and any train protection services requested by the Contractor shall, be borne by the Contractor, unless otherwise agreed.

16.0 SIGNAL TRACK CIRCUITS

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

16.2 No signal connections on track-circuited tracks shall be severed without the Contract Supervisor's knowledge and consent.

17.0 PENALTY FOR DELAYS TO TRAINS

17.1 If any trains are delayed by the Contractor and the Contract Supervisor is satisfied that the delay was avoidable, a penalty will be imposed on the Contractor as stipulated in the contract, for the period and number of trains delayed.

18.0 SURVEY BEACONS AND PEGS

18.1 The Contractor shall not on any account move or damage any beacon, bench mark, reference mark, signal or trigonometrical station in the execution of the Works without the written approval of the Contract Supervisor.

Should the Contractor be responsible for any such occurrence, he shall report the circumstances to the Contract Supervisor who will arrange with the Director-General of Surveys for replacement of the beacon or mark at the cost of the Contractor.

18.2 The Contractor shall not move or damage any cadastral or mining beacon without the written approval of the Contract Supervisor and before it has been referenced by a registered land surveyor. Any old boundary beacon, which becomes an internal beacon on creation of new boundaries, shall not be moved without the written approval of the Contract Supervisor.

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Should the Contractor move or damage any cadastral or mining beacon without authority, he shall be responsible for having it replaced, at his cost, by a land surveyor.

18.3 The Contractor shall preserve all pegs and bench marks. Such survey points shall not be removed without the written approval of the Contract Supervisor. Should any peg or benchmark be removed without authority, the Contract Supervisor will arrange for its replacement and the cost will be recovered from the Contractor. No claim will be considered for delay in replacing any such peg or bench mark. Each peg replaced shall be checked by the Contractor.

18.4 Where a new boundary has been established, beacons on the fence line shall not be disturbed, and fence posts or anchors may not be placed or excavations made within 0,6 m of any beacon without the prior written approval of the Contract Supervisor.

19.0 TEMPORARY LEVEL CROSSINGS

19.1 The Contract Supervisor may, on request of the Contractor, and if necessary for the purpose of execution of the Works, permit the construction of a temporary level crossing over a railway a line at a position approved by the Contract Supervisor and at the Contractor's cost. The period for which the temporary level crossing is permitted will be at the discretion of the Contract Supervisor.

19.2 The Contractor will provide protection and supervise the construction of the road over the track(s) and within the railway servitude at the level crossing, as well as the erection of all road signs and height gauges. All cost to be borne by the applicant.

The Contractor shall exercise extreme caution in carrying out this work, especially in respect of damage to tracks, services, overhead power and communications routes and prevent contact with "live" overhead electrical equipment.

Unless otherwise agreed, the Contractor will provide the service deviations or alterations to the network operator's track-, structure-, drainage-, electrical-, telecommunications- and train authorisation systems to accommodate the level crossing.

19.3 The Contractor shall take all necessary steps including the provision of gates, locks and, where necessary, watchmen to restrict the use of the temporary level crossing to himself and his employees, his subcontractors and their employees, the staff of the network operator and to such other persons as the Contract Supervisor may permit and of whose identity the Contractor will be advised. If so ordered by the Contract Supervisor, the Contractor shall provide persons to control road traffic using the temporary level crossing. Such persons shall stop all road traffic when any approaching train is within seven hundred and fifty (750) metres of the temporary level crossing, and shall not allow road traffic to proceed over it until the lines are clear.

19.4 The Contractor shall maintain the temporary level crossing within the railway servitude in good condition for the period it is in use. A temporary agreement with the road authority to be concluded for the maintenance of the level crossing outside the railway servitude.

19.5 When the temporary level crossing is no longer required by the Contractor, or permitted by the network operator, the Contractor shall at his own cost remove it and restore the site and the network operator's track-, structure-, drainage-, electrical-, telecommunications- and train authorisation systems to its original condition. Work over the tracks and within the railway servitude will be supervised by the network operator.

20.0 COMPLETION OF THE WORKS

20.1 On completion of the works, the Contractor shall remove all the remaining construction plant and material from the site, other than material which is the property of the network operator, and leave the site in a clean, neat and tidy condition. If material and plant is required for the liability and maintenance period the Contract supervisor must authorise it's retention on site.

21.0 PROTECTION OF PERSONS AND PROPERTY

21.1 The Contractor shall provide and maintain all lights, guards, barriers, fencing and watchmen when and where necessary or as required by the Contract Supervisor or by any statutory authority, for the protection of the Works and for the safety and convenience of the public.

Red, yellow, green or blue lights may not be used by the Contractor as they can be mistaken for signals. Red, yellow, green or white flags shall only be used for protection by the Contractor. Within the precincts of a port the Contractor shall obtain the permission of the Port Captain before installing any light.

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21.2 The Contractor shall take all the requisite measures and precautions during the course of the Works to:

(i) protect the public and property of the public,

(ii) protect the property and workmen of both the network operator and the Contractor,

(iii) avoid damage to and prevent trespass on adjoining properties, and

(iv) ensure compliance with any instruction issued by the Contract Supervisor or other authorised person, and with any stipulation embodied in the contract documents which affects the safety of any person or thing.

21.3 The network operator will provide, at its own cost, protection for the safe working of trains during such operations as the Contract Supervisor may consider necessary. Protection by the network operator for any purpose whatsoever, does not absolve the Contractor of his responsibilities in terms of the Contract.

21.4 The Contractor shall take all precautions and appoint guards, watchmen and compound managers for prevention of disorder among and misconduct by the persons employed on the Works and by any other persons, whether employees or not, on the work site and for the preservation of the peace and protection of persons and property in the direct neighbourhood. Any relocation of camps because of disorder shall be at the Contractor's expense.

21.5 All operations necessary for the execution of the Works, including the provision of any temporary work and camping sites, shall be carried out so as not to cause veldt fires, ground and environmental pollution, soil erosion or restriction of or interference with streams, furrows, drains and water supplies.

If the original surface of the ground is disturbed in connection with the Works, it shall be made good by the Contractor to the satisfaction of the land owner, occupier or responsible authority.

21.6 The Contractor shall take all reasonable steps to minimise noise and disturbance when carrying out the Works, including work permitted outside normal working hours.

21.7 Dumping of waste or excess materials by the Contractor shall, in urban areas, be done under the direction and control of, and at sites made available by the local authority. Dumping outside local authority boundaries shall be done only with the express permission and under the direction and control of the Contract Supervisor.

21.8 The Contractor shall comply with environmental protection measures and specifications stipulated by the Contract Supervisor and/or local and environmental authorities.

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22.0 INTERFERENCE WITH THE NETWORK OPERATOR'S ASSETS AND WORK ON OPEN LINES

22.1 The Contractor shall not interfere in any manner whatsoever with an open line, nor shall he carry out any work or perform any act which affects the security, use or safety of an open line except with the authority of the Contract Supervisor and in the presence of a duly authorised representative of the network operator.

22.2 The Contractor shall not carry out any work or operate any plant, or place any material whatsoever nearer than three metres from the centre line of any open line except with the written permission of the Contract Supervisor and subject to such conditions as he may impose.

22.3 Care must be taken not to interfere with or damage any services such as overhead wire routes, cables or pipes and optical fibre cable, except as provided for the work specified. The Contractor will be held responsible for any damage to or interruption of such services arising from any act or omission on his part or of any of his employees, or persons engaged by him on the Works. The cost of repairing, replacing or restoring the services, as well as all other costs arising from any damage to services, shall be borne by, and will be recovered from the Contractor.

22.4 Authority granted by the Contract Supervisor and the presence of an authorised representative of the network operator in terms hereof, shall not relieve the Contractor of his duty to comply with this specification.

23.0 ACCESS, RIGHTS-OF-WAY AND CAMPSITES

23.1 Where entry onto the network operator's property is restricted, permission to enter will be given only for the purpose of carrying out the Works and will be subject to the terms and conditions laid down by the network operator.

23.2 The Contractor shall arrange for campsites, workplaces and access thereto as well as for any right-of-

way over private property to the site of the Works, and for access within the boundaries of the network operator's property. The owners of private property to be traversed shall be approached and treated with tact and courtesy by the Contractor, who shall, if necessary, obtain a letter of introduction to such property owners from the Contract Supervisor.

The Contractor shall be responsible for the closing of all gates on roads and tracks used by him or his employees. Except with the prior approval of the Contract Supervisor and the owner or occupier of any private land to be traversed, the Contractor shall not cut, lower, damage, remove or otherwise interfere with any fence or gate which is either on the network operator's property or on private property and which restricts access to the Works. Where such approval has been given, the Contractor shall prevent entry of animals or unauthorised persons onto the network operator's or private property, and shall make the fences safe against trespass at the close of each day's work.

23.3 The Contractor shall take all reasonable steps to confine the movement of vehicles and plant to the approved right-of-way to minimise damage to property, crops and natural vegetation.

23.4 When access is no longer required, and before completion of the Works, the Contractor shall repair, restore or replace any fence or gate damaged during execution of the Works to the satisfaction of the Contract Supervisor and shall furnish the Contract Supervisor with a certificate signed by the owner and occupier of land over which he has gained access to a campsite, workplace and the Works, certifying that the owner and occupier have no claim against the Contractor or the network operator arising from the Contractor's use of the land. Should the Contractor be unable to obtain the required certificate, he shall report the circumstances to the Contract Supervisor.

24.0 SUPERVISION

24.1 The Contract Supervisor will provide overall technical superintendence of the Works, and may direct the Contractor in terms of the provisions of the Contract or in respect of any measures which the Contract Supervisor may require for the operations of the network operator, the safety of trains, property and workmen of the network operator, and for the safety of other property and persons. The Contractor shall carry out the directions of the Contract Supervisor. The superintendence exercised by the Contract Supervisor, including any agreement, approval, refusal or withdrawal of any approval given, shall not relieve the Contractor of any of his duties and liabilities under the Contract, and shall not imply any assumption by the network operator or by the Contract Supervisor of the legal and other responsibilities of the Contractor in carrying out the Works.

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24.2 The Contract Supervisor may delegate to any deputy or other person, any of his duties or functions under the Contract. On receiving notice in writing of such delegation, the Contractor shall recognise and obey the deputy or person to whom any such duties or functions have been delegated as if he were the Contract Supervisor.

24.3 The Contractor shall exercise supervision over the Works at all times when work is performed or shall be represented by an agent having full power and authority to act on behalf of the Contractor. Such agent shall be competent and responsible, and have adequate experience in carrying out work of a similar nature to the Works, and shall exercise personal supervision on behalf of the Contractor. The Contract Supervisor shall be notified in writing of such appointment which will be subject to his approval.

24.4 The Contractor or his duly authorised agent shall be available on the site at all times while the Works are in progress to receive the orders and directions of the Contract Supervisor.

25.0 HOUSING OF EMPLOYEES

25.1 The Contractor shall, where necessary, make his own arrangements for suitable housing of his employees. Where temporary housing is permitted by the Contract Supervisor on any part of the site, the Contractor shall provide suitable sanitation, lighting and potable water supplies in terms of the requirements of the local authority or the current network operator's specification; Minimum Communal Health Requirements in Areas outside the Jurisdiction of a Local Authority - E.4B, as applicable.

25.2 Fouling the area inside or outside the network operator's boundaries shall be prevented. The Contractor will be called upon by the Contract Supervisor to dispose of any foul or waste matter generated by the Contractor.

26.0 OPTICAL FIBRE CABLE ROUTES

26.1 The Contractor shall not handle, impact, move or deviate any optical fibre cable without prior approval.

26.2 Works that in any way affect the optical fibre cable requires prior approval from the Contract Supervisor

who will determine the work method and procedures to be followed.

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

27.0 GENERAL

27.1 This specification is based on the contents of Transnet's publication ELECTRICAL SAFETY INSTRUCTIONS, 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 the network operator, and the onus rests on the Contractor to ensure that he obtains a copy.

27.2 This specification must be read in conjunction with and not in lieu of the Electrical Safety Instructions.

27.3 The Contractor's attention is drawn in particular to the contents of Part I, Sections 1 and 2 of the Electrical Safety Instructions.

27.4 The Electrical Safety Instructions 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).

27.5 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.

27.6 The Contractor shall regard all high-voltage equipment as "live" unless a work permit is in force.

27.7 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 the network operator's staff where this is necessary.

27.8 No barrier shall be removed unless authorised by the Electrical Officer (Contracts).

28.0 WORK ON BUILDINGS OR FIXED STRUCTURES

28.1 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.

28.2 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.

28.3 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.

29.0 WORK DONE ON OR OUTSIDE OF ROLLING STOCK, INCLUDING LOADING OR UNLOADING

29.1 No person may stand, climb or work, whilst on any platform, surface or foothold:

29.1.1 higher than the normal unrestricted access way, namely -

29.1.1.1 external walkways on diesel, steam and electric locomotives, steam heat vans, etc. and

29.1.1.2 walkways between coaches and locomotives.

29.1.2 of restricted access ways in terms of the Electrical Safety Instructions namely -

29.1.2.1 the floor level of open wagons

29.1.2.2 external walkways or decks of road-rail vehicles, on-track maintenance machines and material trains.

29.1.3 Unauthorised staff working on these platforms must be directly supervised by duly authorised persons in terms of clause 607.1.3 of the Electrical Safety Instructions. These persons must attend the relevant electrical safety module training. A letter of training must then be issued by an accredited training authority. A Category C Certificate of Authority must be obtained from the

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local depot examining officer.

29.2 When in the above positions no person may raise his hands or any equipment he is handling above his head.

29.3 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.

29.4 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.

29.5 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.

29.6 Where the conditions in clauses 30.1 to 30.4 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 the network operator and at the Contractor's cost, 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 of the network operator.

30.0 USE OF EQUIPMENT

30.1 Measuring Tapes and Devices

30.1.1 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.

30.1.2 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.

30.1.3 Special measuring devices longer than 2 metres such as survey sticks and rods may be used if these are of non-conducting material and approved by the Responsible Electrical Engineer of the network operator, but these devices must not be used within 3 metres of "live" high-voltage equipment in rainy or wet conditions.

30.1.4 The assistance of the Electrical Officer (Contracts) shall be requested when measurements within the limits defined in clauses 31.1.1 to 31.1.3 are required.

30.1.5 The restrictions described in 31.1.1 to 31.1.3 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.

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30.2 Portable Ladders

30.2.1 Any type of portable ladder longer then 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.

31.0 CARRYING AND HANDLING MATERIAL AND EQUIPMENT

31.1 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 such material should be carried by two or more persons so as to maintain it as nearly as possible in a horizontal position. The utmost care must be taken to ensure that no part of the material comes within 3 metres of any "live" high-voltage equipment.

31.2 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.

31.3 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.

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

32.1 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.

32.2 The cost of supervision by an Authorised Person and the provision of earthing shall, unless otherwise agreed, be borne by the Contractor.

32.3 The provisions of clauses 33.1 and 33.2 shall also apply to the erection or removal of columns, antennae, trees, posts, etc.

33.0 USE OF WATER

33.1 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.

34.0 USE OF CONSTRUCTION PLANT

34.1 "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.

34.2 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.

34.3 The cost of any supervision by an Authorised Person and the provision of earthing shall, unless otherwise agreed, be borne by the Contractor.

34.4 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.

34.5 Clauses 35.1 to 35.4 shall apply *mutatis mutandis* to the use of maintenance machines of any nature.

35.0 WORK PERFORMED UNDER DEAD CONDITIONS UNDER COVER OF A WORK PERMIT

35.1 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.

35.2 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.

36.0 TRACTION RETURN CIRCUITS IN RAILS

36.1 DANGEROUS CONDITIONS CAN BE CREATED BY REMOVING OR SEVERING ANY BOND.

36.2 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 the network operator personnel.

36.3 The Contractor shall not break any permanent bonds between rails or between rails and any structure. He shall give the Contract Supervisor at least 7 days written notice when removal of such bonds is necessary.

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36.4 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.

37.0 HIGH-VOLTAGE ELECTRICAL EQUIPMENT NOT MAINTAINED AND/OR OPERATED BY THE NETWORK OPERATOR

Where the work is undertaken on or near high-voltage electrical equipment which is not maintained and/or operated by the network operator, 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.

END

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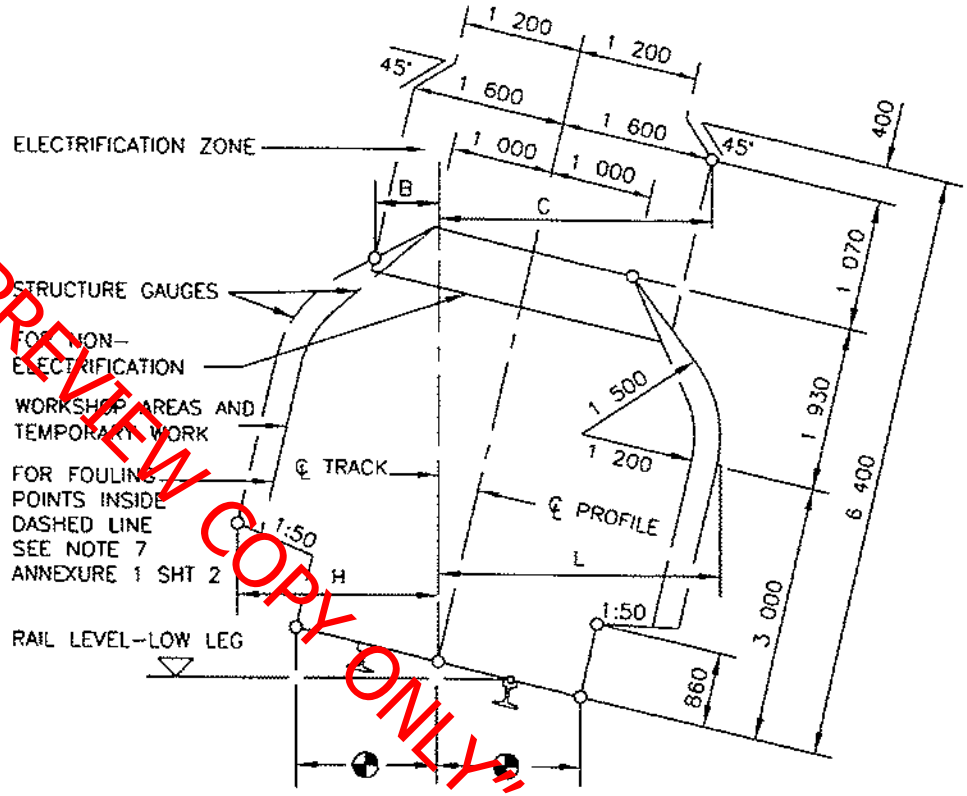
HORIZONTAL CLEARANCES : 1 065mm TRACK GAUGE

ANNEXURE 1
SHEET 1 of 5

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



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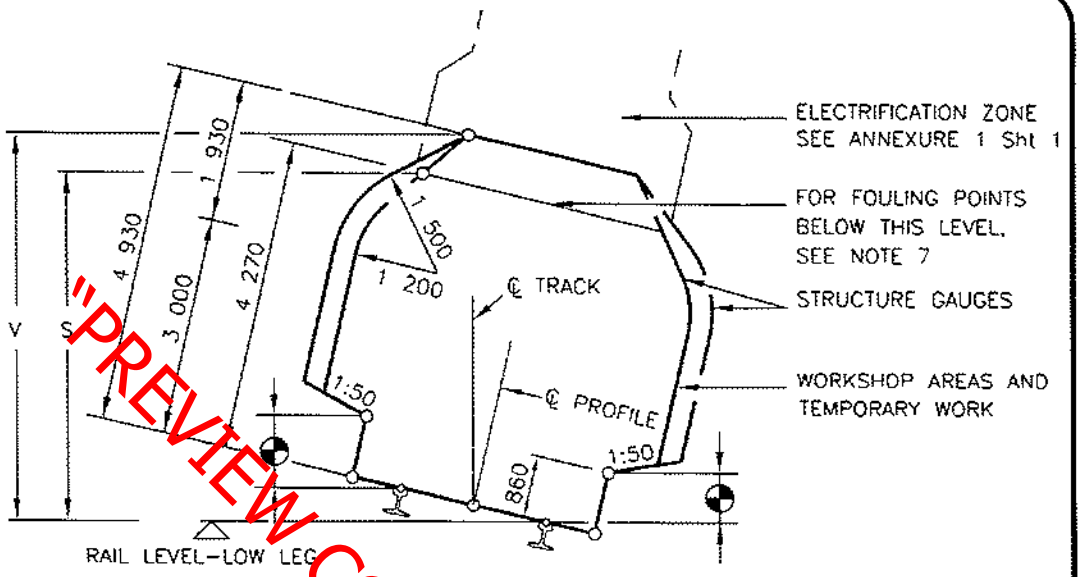
REMARKS:

1. H AND $_{B}$ IS THE REQUIRED HORIZONTAL CLEARANCE ON THE HIGH LEG OF THE CURVE BASED ON MINIMUM CANT.
2. L AND $_{C}$ IS THE REQUIRED HORIZONTAL CLEARANCE ON THE LOW LEG OF THE CURVE BASED ON MAXIMUM CANT.
3. INTERMEDIATE VALUES MAY BE INTERPOLATED BY THE ENGINEER IN CHARGE.
4. FOR WORKSHOP AREAS AND TEMPORARY WORK, CLEARANCES $_{H}$ AND $_{L}$ MAY BE REDUCED BY 300mm.
5. ⊕ SEE ANNEXURE 1 SHEET 3 FOR PLATFORM CLEARANCES.
6. ALSO REFER TO REMARKS 4 TO 8 OF ANNEXURE 1 SHEET 2.
7. USE SMALLER RADIUS IF RADIUS INBETWEEN

VERTICAL CLEARANCES : 1 065mm TRACK GAUGE

LOCATION		NOT ELECTRIFIED	ELECTRIFIED (PRESENT OR FUTURE)	
			3kV & 25kV	50kV
	RADIUS (mm)	S (mm)	V (mm)	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



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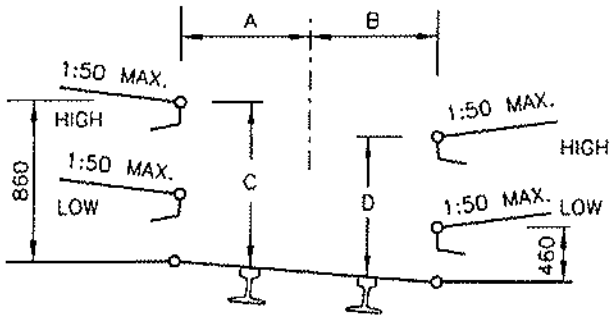
REMARKS:

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 VECHILE BODY LENGTH.
9. ◒ SEE ANNEXURE 1 SHEET 3 FOR PLATFORM CLEARANCES.

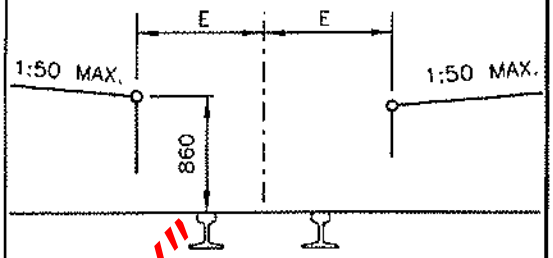
CLEARANCES : PLATFORMS

PLATFORMS : TRACK GAUGE 1 065mm

PASSENGERS



GOODS



(NO CANT)

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

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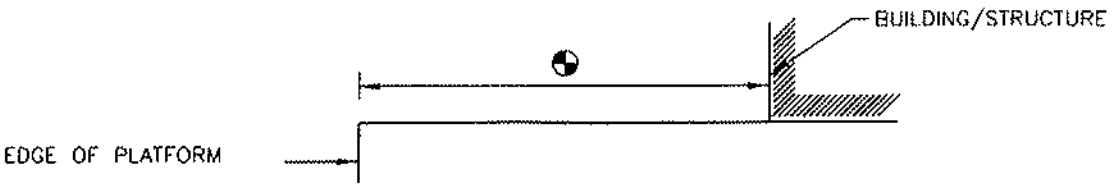
REMARKS:

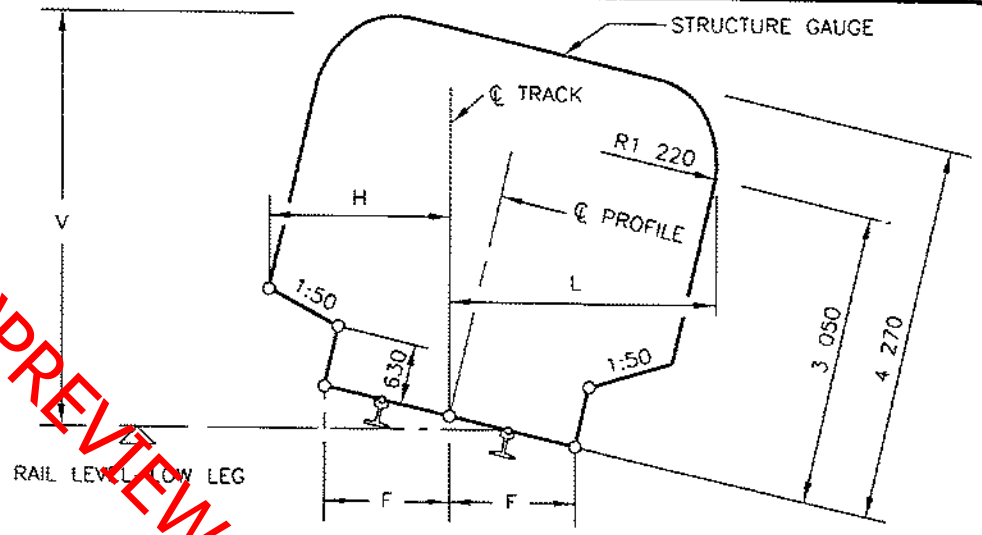
1. NO CANT TO BE APPLIED EXCEPT WHEN THE GOODS PLATFORM IS ON A RUNNING LINE.
2. INTERMEDIATE VALUES MAY BE INTERPOLATED BY THE ENGINEER IN CHARGE.
3. ⊕ 8m TO MAIN STATION-BUILDINGS AND 3m TO ALL OTHER STRUCTURES.
4. TOLERANCES : SEE CLAUSE 8.0.10.
5. ALWAYS USE THE SMALLEST RADIUS

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

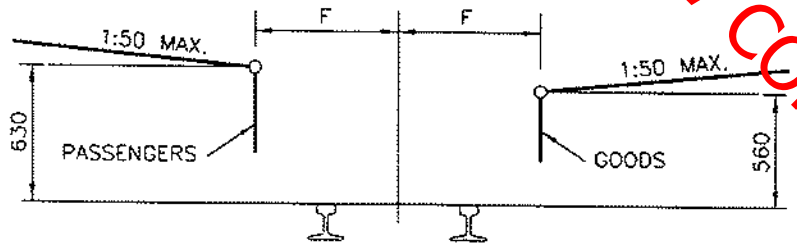


CLEARANCES : 610mm TRACK GAUGE

RADIUS (m)	WITH CANT H (mm)	WITH CANT L (mm)	NO CANT H & L (mm)	V (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



CLEARANCES



(NO CANT) PLATFORMS

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:

1. H IS THE MINIMUM HORIZONTAL CLEARANCE ON THE OUTSIDE OF THE CURVE BASED ON MINIMUM CANT.
2. L IS THE MINIMUM HORIZONTAL CLEARANCE ON THE INSIDE OF THE CURVE BASED ON MAXIMUM CANT.
3. V IS THE MINIMUM VERTICAL CLEARANCE.
4. 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.
5. INTERMEDIATE VALUES MAY BE INTERPOLATED BY THE ENGINEER IN CHARGE.
6. ALSO REFER TO REMARKS 5, 6 AND 7 OF ANNEXURE 1 SHEET 2.
7. CLEARANCES ARE BASED ON 9 700mm BOGIE CENTRES AND 13 700mm VEHICLE BODY LENGTH.
8. SEE ANNEXURE 1 SHEET 3 FOR STRUCTURES ON PLATFORMS.

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